
Even Hurricane Alicia couldn't budge more than 1,000 large oaks in a housing development moved by the Texas Tree Shovel.

Tired of the labor costs and tedious root pruning associated with tree transplants? So was Al Korenek, who decided it was time to make transplanting easier for everyone.

Everyone would like to transplant full-grown trees and enjoy their aesthetic and protective values right away. But it's been easier to move younger specimens and wait for them to grow than moving mature trees with a huge ball of earth.

Korenek sat down and designed an all-hydraulic tree transplanter that can dig a cone-shaped hole 14 feet in diameter and 6 1/2 feet deep. The giant tree transplanter, dubbed the "Texas Tree Shovel," can handle 24-inch trunk diameters for trees 60 to 70 feet tall.

The patented system handles those massive root systems by pulling 10 pointed blades into the ground with hydraulic cylinders. The blades form a cone at the bottom of the hole and hold in roots and earth while three large hydraulic cylinders lift the tree and earth high enough for transport.

The shovel carries about 55,000 pounds of earth (not counting the tree) to the new site. A Mack tandem R 600 tractor powers the hydraulic cylinders and pulls the entire unit to the new planting site. In wet or unstable conditions the unit can be towed with a bulldozer or crawler loader coupled to a special tandem dolly using a fifth wheel.

Vermeer Manufacturing of Pella, IA, built and marketed the first shovel last January. It was put to the test that same month on Texas Arbor Day in Houston, where the Texas firm of Instant Shade Trees, Inc., moved a 20-inch caliper live oak tree.

The Texas Tree Shovel then moved on to Hanna-Barbera Land, where it transplanted several mature trees from neighboring property to strategic locations throughout the park. Ground conditions were so unstable in some areas that bulldozers were used to position the unit, but the results were successful.

The Texas Tree Shovel has also been used successfully to transplant 1,000 5-1/2 to 6-inch caliper live oak trees in a housing development. To date, all the trees survived and thrived after the move. Even Hurricane Alicia couldn't touch the new plantings, as they all withstood the high winds without support lines or other precautions.

While the first projects proved Korenek's invention worked, he also designed it to work anywhere. The 27-foot wide shovel can be dismantled and transported on two trailer trucks to any site in the country. The unit can also be assembled and used on the same day.

WT&T

And more golf courses.

The toughest battle on the golf course doesn't always involve the players. Sometimes it's the golf course itself versus weeds. Fortunately, turf managers and superintendents have an ally—Balan® preemergence herbicide.

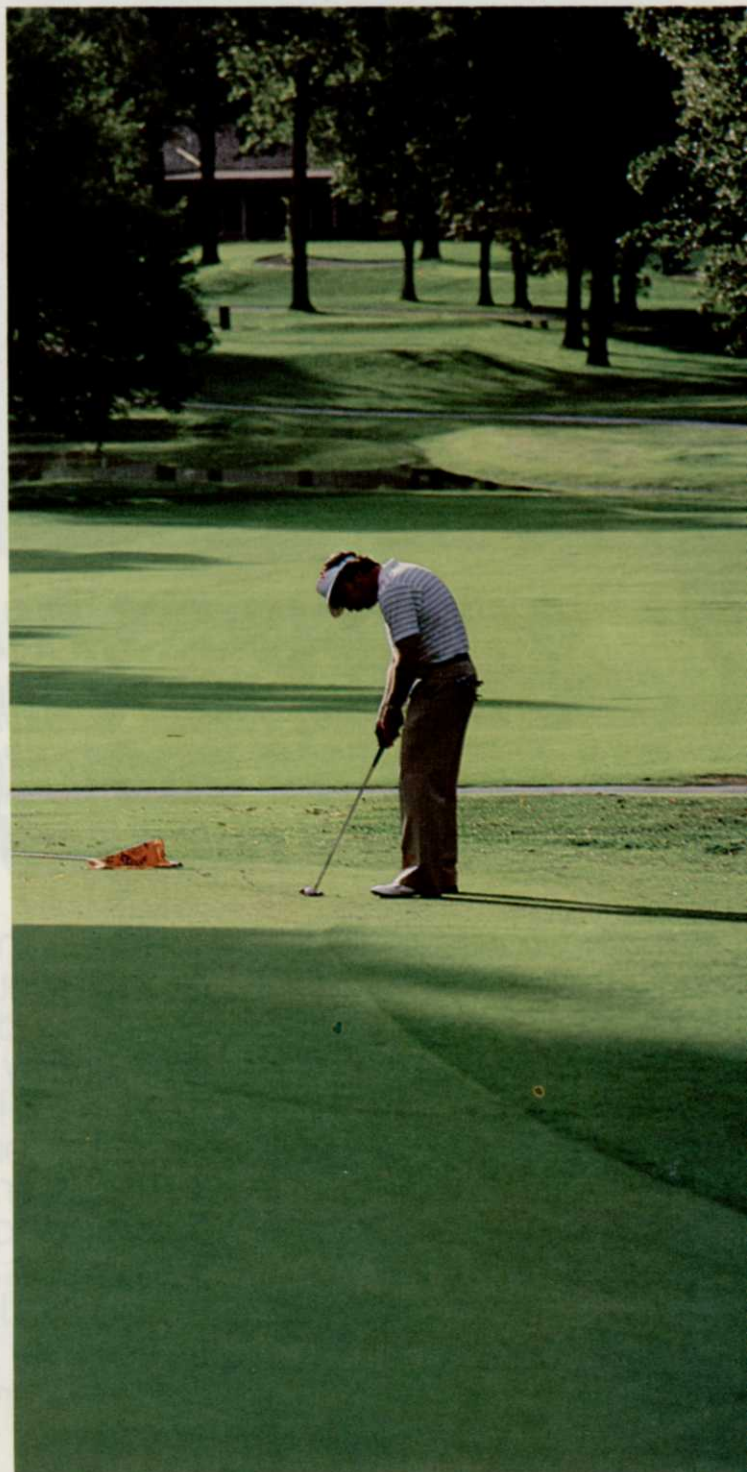
Balan takes on the toughest annual weedgrasses like crabgrass, goosegrass, poa annua, and foxtail as well as any herbicide around. Yet it's still one of the most economical. And it's gentle to your turf. With those kind of credentials, it's easy to see why Balan's popularity continues to grow each year.

Golf course management isn't complete without economical, effective weedgrass control. And with Balan, that's par for the course.

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they need it.

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For the name of your nearest distributor and information on the GT-7 or any other E-Z-GO vehicle, write or call:

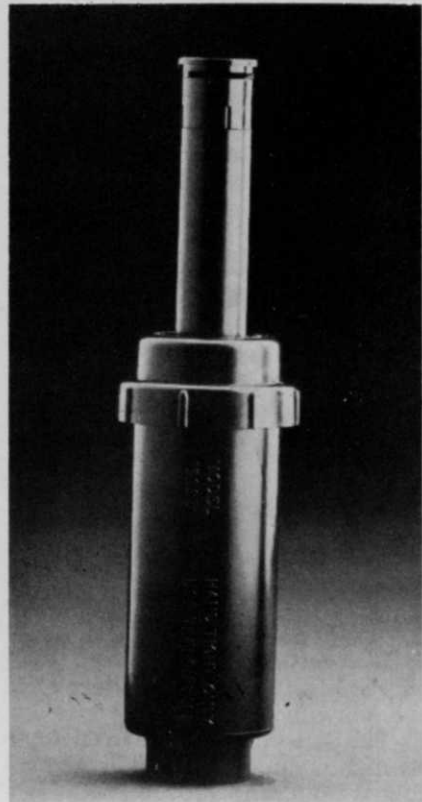
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PRODUCTS

Spring-loaded sprinklers replace spray heads

The Royal Coach/Buckner 132 series of spring-loaded plastic pop-up sprinklers is designed to replace spray heads and risers. The 3, 6 and 12-inch sizes can be easily installed in most lawns, ground covers and grasses. The



taller models can be used in place of risers and are in view only when operating. This can reduce the chance for vandalism to the sprinkler system. The sprinklers also include a filter that can be cleaned by removing only the nozzle instead of the entire assembly. They are available with either

brass or plastic balanced flow nozzles with a flow adjustment screw for water conservation.

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Olathe introduces portable spot sprayer

The Olathe Model 10 Portable DC powered spot sprayer is ideal for spraying herbicides and insecticides. It can be attached to any 12-volt vehicle. Specifications are: Chemical resistant 10-gallon tank; 12-volt DC Pump (5 to 7 amp) 2.5 gallon/min at 30 psi. EPDM Rubber Hose 10 ft. std. Eighteen-inch hand gun with adjustable tip. Dimensions are 36 inches long, 12 inches wide and 15 inches high.

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Trojan golf batteries are pounds lighter

New golf cart batteries from Trojan Battery Co. improve cart performance with no loss of charging capacity due to new design standards. The heavy-



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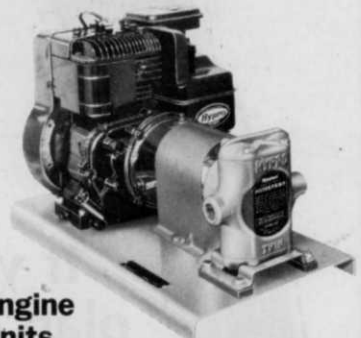
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Hypro pumps deliver the pressure to put spray where the pests are. The output to help you work fast. A choice of pumps to match your equipment. And the reliability to keep your equipment in business.

If that's the kind of performance you want, get in touch with America's pump leader. Send for your free Hypro pump catalog now.

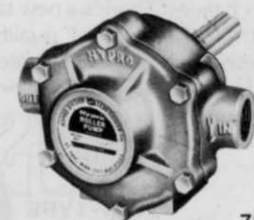
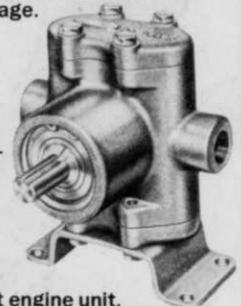


Engine Units

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Piston Pumps

For high pressure applications, pick the Series 5200: pressures to 400 psi, outputs to 10 gpm, with or without engine unit. Or get the Series 5300 for 1800 rpm drive, pressures to 500 psi and outputs to 3 gpm.



Roller Pumps

For high output, get the Series 7560 or Series 6500 with or without engine unit. You'll get outputs to 22 gpm, pressures ranging up to 300 psi. For lower output, pick the Series 4000/4100: maximum output is 9 gpm, maximum pressure to 150 psi.

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duty T-105 saves 6 lbs. of weight while the standard T-90 is 2 lbs. lighter than its predecessor. Advanced plate design provides more surface area for a longer lasting charge. New separators better retain active material in positive plates to prevent shedding and antimony transfer, two major causes of battery failure. A polypropylene case with fused cover seal makes the unit more crack and leak-resistant and an extra-large water reservoir reduces maintenance.

Circle No. 177 on Reader Inquiry Card

New herbicide handles wide weed spectrum

Weedone DPC post-emergent herbicide has just received EPA label clearance for use on turf. It combines two of the best-known broadleaf killers, 2,4-D and dichlorprop (2,4-DP) for broad spectrum control of both annuals and perennials. According to Union Carbide, Weedone DPC is also highly effective for controlling ground ivy, oxalis, chickweed and poison ivy as well as more common



weeds like dandelion, plantain and wild garlic. The new herbicide will be marketed as Clean Crop Weedone DPC through Balcom Special Products and Lesco Weedone DPC through Lakeshore Equipment and Supply Co.

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If you don't plan on seeding with MUSTANG, you may need this.

Why take chances? There's a new tall fescue whose superior turf quality, disease resistance and dark green color make it a breed apart from the others.

Mustang's high seedling vigor and excellent heat and drought resistance make it the one you can bet on. So, don't try your luck—try Mustang.

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Sidewinder 848 gives maximum serviceability

FMC Corporation has introduced the Sidewinder 848, a heavy duty cutter which requires minimum maintenance and provides maximum ser-



viceability. It is the only cutter on the market without a gearbox.

The Sidewinder comes in 66, 72 or 84 inch width in lift or pull versions and is built with proven FMC engineering and performance.

Circle No. 179 on Reader Inquiry Card

Doggett introduces five new tree fertilizers

The Doggett Corporation has introduced five different tree foods.

XL-Injecto Feed 32-7-7 is a high nitrogen analysis with 59 percent of the nitrogen slow release in the form of Powder Blue Nitroform. The remainder of nitrogen is 100 percent soluble and immediately available to the tree. Recommended use is in early spring at bud break through early-middle summer.

XL-Injecto Feed 12-24-24 is a low nitrogen product with 50 percent of the nitrogen from Powder Blue Nitroform; the remainder, 100 percent soluble. It is higher in phosphorous and potash. This formulation was designed to be applied at that time of the year when the tree or shrub is

continued on page 78

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HUSTLER'S famous drive-wheel steering outmaneuvers all of the rest and increases productivity by reducing time, labor and fuel costs!

Productivity is the key in today's economy. And productivity is why HUSTLER's drive-wheel steering feature has become so famous.

Pioneered by Excel engineers, HUSTLER dual hydrostatics and drive-wheel steering have proven to be the best drive system concept in the industry for maneuverability, traction and serviceability.

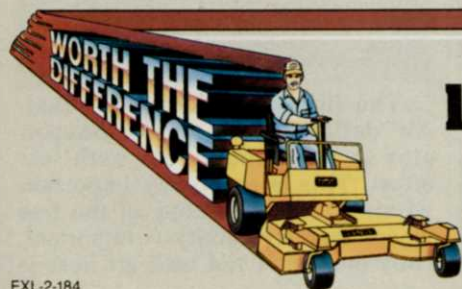
Dual hydrostatics provide better control for a quick, smooth response to your command for forward, reverse, turning, braking and speed requirements.

Independently driven drive-wheels counter-rotate, permitting a HUSTLER to actually turn 360° within its own radius! Now that's maneuverability you can't find on conventional steering wheel models. And, with that kind of maneuverability, you can easily mow around obsta-

cles, make square corner turns or speed down straight-aways and never miss a blade of grass.

On a HUSTLER, you sit over the pivotal axis of the drive-wheels where **weight distribution** is best for balance, comfort and traction. You'll never suffer the **fatigue** normally associated with the body twisting and tossing of conventional mowers. This position also gives you 20/20 vision of both the attachment and terrain.

Yes, **HUSTLER's drive-wheel steering is what maneuverability** is all about. A HUSTLER lets you get the job done faster and better. A HUSTLER reduces operator fatigue and trimming requirements. A HUSTLER saves you additional labor and fuel costs. **In a word, that's productivity!** And productivity is what makes HUSTLER...worth the difference!



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approaching dormancy. This fertilizer is low in nitrogen to avoid forcing new growth that would not harden off before winter, causing burn and die-back.

XL-Injecto Feed 5-30-30 is very low in nitrogen and very high in phosphorous and potash. This product was designed for situations where there is a very high deficiency of those two elements and for root stimulation in stressed situations or transplanting. It should be used only under extreme conditions. The manufacturer warns

the full usefulness and effectiveness of this product still holds some question and applications of it are under observation.

XL-Spray-Fol 30-10-10 is one product designed for the tree care industry that is 100 percent soluble, having no slow release. The manufacturer suggests using this product in the spring and summer in conjunction with insecticide spray applications. It will enhance the appearance of these applications through quick green-up, from nitrogen being absorbed directly

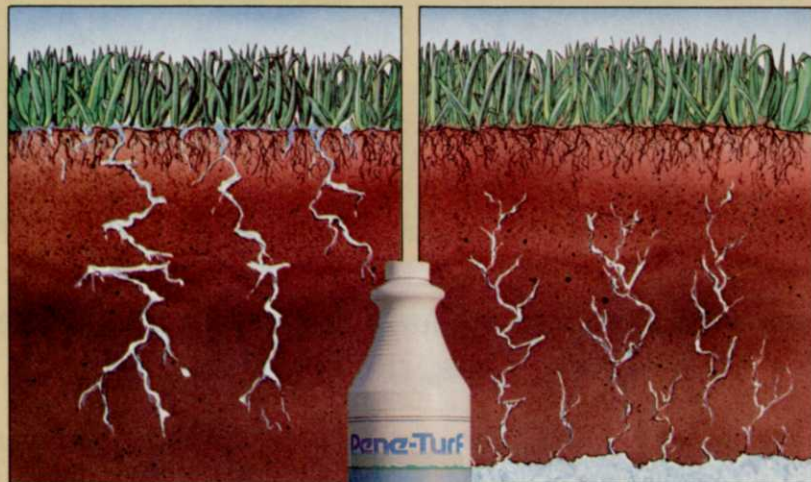
through the leaf. See manufacturer's directions before applying.

XL-Evergreen Special 30-7-10 was designed for evergreen trees, plants and shrubs. It is a soil acidifier with additional iron added for good color and health. It is for soil injection at the root area and contains approximately 30 percent slow release nitroform in its 30 units of nitrogen. This fertilizer is chloride free, low salt and has micronutrients.

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Wet or Dry

Get the Pene-Turf Advantage For Less Than Half the Cost.



IN WET WEATHER, Pene-Turf makes soil more permeable, aiding drainage and reducing runoff.

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Hundreds of professional turf managers across the nation know the benefits of Pene-Turf Soil Treatment...improved permeability and aeration in the soil...better rooting, drainage and chemical incorporation...elimination of isolated wet and dry spots and protection against erosion.

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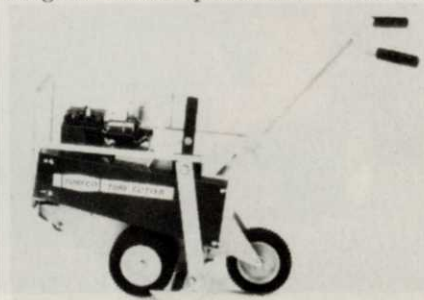
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New turf cutter has one-third fewer parts

A self-propelled sod cutter powered by a 3-HP industrial/commercial engine is now available from Turfco Mfg. of Minneapolis. The Model A



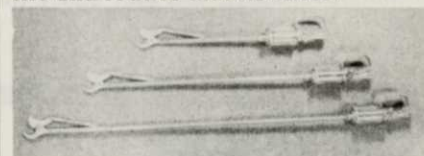
cuts 12-inch wide and 3/4-inch thick sod at speeds up to 75 feet-per-minute. Weighing 140 lbs. and operated by a single clutch lever, the sod cutter has one-third fewer parts for simplified maintenance. A removable handle makes storage and transportation easy.

Circle No. 181 on Reader Inquiry Card

Bud-Air pruner sports '84 improvements

The new "Bud-Air" air-powered pruner from Friend features an all new handle guard in addition to numerous strength improvements.

The specially-hardened blade and hook hold a sharp edge longer. Power shaft and link arm design extend tool life and reduce maintenance.



The lightweight compact "Bud-Air" design makes it easy for the operator to make more cuts with less effort. This is especially important within the main canopy of the tree where maneuverability is important. Only one small 1/4 inch air hose is

What's your professional I.Q.?

Grab a pen and take this quick quiz of your professional knowledge.



1. You're faced with a variety of insect problems in the same location. Sod webworms are attacking turf. Beetles are destroying flower beds. And tent caterpillars are defoliating trees. What should you do?

- Use three pest-specific insecticides, making sure to clean your spray tank between applications;
- Spray a pesticide specifically formulated for tent caterpillars and hope it controls the other insects, too;
- Apply a broad-spectrum insecticide that's labeled to control these and more than 210 other problem pests.

2. A wooded lot is being attacked by elm leaf beetles. But this area is also home for several species of birds and other wildlife. What's your best course of action?

- Use a highly toxic chemical, but exercise caution when spraying;
- Refrain from spraying and hope the defoliation is minimal;
- Spray a selective insecticide that's highly toxic to target pests, yet registered for insect control on pests, poultry and even game birds.



3. During hot summer weather, your employees don't like to wear bulky safety equipment while applying insecticides. What can you do?

- Demand that they wear respirators and other protective gear, even if it is uncomfortable;
- Allow them to apply highly toxic chemicals without these safeguards;
- Use an effective insecticide that can be applied without special protective clothing.

4. It's late summer, and fall webworms have become a serious problem. But in the area you're spraying are some sensitive flowers and shrubs. How would you handle this situation?

- Use an insecticide labeled for use on trees, hoping that any run-off does not injure the flowers and shrubs;
- Take time to cover the flowers and shrubs with plastic sheeting, then proceed with your spraying;
- Apply an insecticide that's broadly registered and phytotoxic to only three types of plants (Boston ivy, Virginia creeper and Maidenhair fern).

5. It's the peak of the insect season and you have to protect a wide variety of trees, turf, shrubs, ornamentals and flowers from damage. But how can you control insects on all these plants?

- Use several different insecticides, each formulated for specific plants;
- Treat everything with a tree and shrub spray, hoping that this product does an adequate job on turf, flowers and other plants;

6. You're scheduled to spray for Japanese beetles today, but there's a problem. A church gathering will be held near the spray site. What can you do to minimize offensive odor?

6. You're scheduled to spray for Japanese beetles today, but there's a problem. A church gathering will be held near the spray site. What can you do to minimize offensive odor?

- Proceed with the spraying and hope the odor of your insecticide dissipates before the church function begins;
- Postpone your application until later in the week and run the risk of further insect damage;
- Use an insecticide that's virtually odorless, but also highly effective against Japanese beetles and other damaging pests.

7. As a grounds maintenance professional, you have access to a number of different insecticides. But what criteria should you use in selecting these products?

- Use agricultural insecticides, since these chemicals are formulated for large-volume users;
- Opt for home and garden products, since many of the pests you encounter are also found in residential areas;
- Choose a compound that was developed and labeled for use by grounds maintenance professionals.

8. Due to a warm, wet winter, infestations of several insect species are expected to be severe. How can you control all these pests and inventory costs, too?

- Stock several pest-specific insecticides;
- Wait until an outbreak occurs to order your insecticide;
- Make sure you have a broad-spectrum insecticide on hand to handle most of your pest problems.

As a grounds maintenance professional, many factors affect your choice of pesticides. Broad-spectrum insect control. Environmental protection. Your workers' safety. Phytotoxicity of pesticides to various plants. The offensive odor of many chemicals. Versatility of the products you buy. How an insecticide answers your specific needs. And the high cost of inventory.

These important factors make "C" the right answer to all eight questions. And all these features make SEVIN carbaryl insecticide the right answer to your insect problems.

So when it's time to order your pesticides, ask for the all-in-one professional insecticide from Union Carbide.

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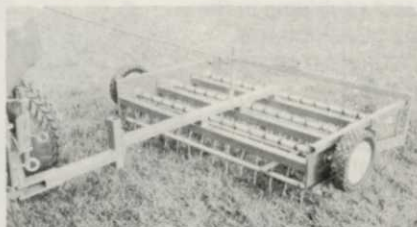
Circle No. 153 on Reader Inquiry Card

required to power the pruners. Using recommended operating pressure of 90-130 psi, the "Bud Air" uses three to four CFM air (under average use).

The simple strong design allows the operator to perform his own adjusting and maintenance on the job. "Bud Air" tools are available in 26 inch, 36 inch, 54 inch, 72 inch and 96 inch overall lengths. "Bud Air" 3-point tractor mount PTO driven and engine driven air compressors are available in 8 cfm, 18 cfm and 30 cfm. **Circle No. 182 on Reader Inquiry Card**

Tine Rake boasts approved efficiency

A patented design based on the hand rake makes the Tine Rake more effi-



cient than other methods of dethatching, aerating and loosening imbedded mulch, according to the Tine Rake Co. of Rayton MO. The tines face in the direction of travel, placing tension on them to control raking depth. Available in both front- and rear-mount models, the device attaches easily to riding mowers and tractors with 8-HP or more power.

Circle No. 183 on Reader Inquiry Card

Vibratory plow from Ditch-Witch

A compact lawn plow that can travel through a 36-inch gate is now avail-



able from Ditch-Witch for burying service lines without trenching. The V252 has four-wheel drive and power steering and features a four-weight vibrator plow with unitrolly assembly. Blade options allow installations with cover from 10 to 13 inches for electric, telephone and television cable and plastic pipe.

Circle No. 184 on Reader Inquiry Card

Farmtrim 450 handles the slopes

Grass, brush and shrub up to 1-1/2 inches thick are no problem with the new Farmtrim 450. Designed for municipal use, the reach-type mower attaches directly to the three-point



linkage of tractors with 35 or more horsepower without special brackets. A hydracushion flotation system helps the cutting head follow uneven ground and guaranteed-unbreakable flails are standard equipment.

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