

—Make the felling or back cut at least two inches higher than the horizontal notching cut. The felling cut should be kept parallel with the horizontal notch cut. Cut it so that the wood fibers are left to act as a hinge, keeping the tree from twisting and falling in the wrong direction or making a kickback on the stump.

—Keep the guidebar in the middle of the cut (perfectly horizontal) so the cutters returning in the top groove don't recut. Guide the saw into the tree — don't force it. The rate of feed will depend on the size and type of timber being cut. Whenever possible, work with the tree between your body and the saw to minimize the possibility of accidents.

—Remove the saw from the cut and shut it off before the tree falls. Do not cut through the hinge because this may cause the tree to fall in any direction, possibly on the retreating operator.

"After the tree is on the ground, take a look at each limb before making the cut to be sure that cutting the limb off will not bind the saw blade or cause the trunk to roll toward the operator," Heiligmann says.

Do not face the limb squarely. Stand at approximately a 45 degree angle so that if the saw blade slips or makes the cut sooner than expected, it will not strike the shins.

"Avoid sawing with the point of the blade. This greatly increases chances of kickback because the chain guides can easily snag, possibly causing the chain to be thrown," Heiligmann says.

Never make cuts with the saw between the legs or straddle the limb to be cut. Always be aware of the direction the chain will go if it breaks and stay clear of this area.

"Whenever any cuts are being made, make sure the thumb is locked under the bar atop the saw, not laid along side the index finger on the bar. This will prevent the hand from slipping into the chain," Heiligmann says.

Periodically check the chain for proper tension. Consult the owner's manual for the proper distance the chain should be from the bottom of the chain guide.

"While limbing or cutting the trunk, make sure the saw blade does not touch the ground. An operator

can cut 40 trees and not do the damage to the chain that striking the ground with it once can do," Heiligmann says.

If the trunk is supported along its entire length, make cuts from the top (called overbuck), one-third the diameter of the log deep, the length of the trunk. When this is completed, roll it over and make the final cut. This prevents pinching the guidebar.

When the log is supported from both ends, cut one-third the diameter from the top (overbuck) then complete the cut by cutting upward from the underside (underbuck) to meet the first cut.

If the log is supported on one end, make the first cut (underbuck) one-third the diameter then complete from topside by overbucking the upper two-thirds to meet the underbuck. □

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

Meet the Green Machine—the heavy-duty nylon cord weed and grass trimmer made for professionals. It zips through heavy grass and weeds like no other cutter. Nylon filaments spinning at over 5000 rpm cut neat swaths in seconds, even into nooks and crannies. And—here's news—the Green Machine's rugged 22.5cc gas engine can be used with five optional attachments...

### BRUSH CUTTER

Tackle tough brush and ground cover with this Green Machine brush-blade attachment. Cut vines up to 1/2" in diameter — do it effortlessly!

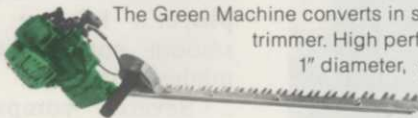


### TREE PRUNER

Trim, thin or prune with ease! Zip through saplings up to 2" in diameter. Cut in any position, even overhead — and do it safely — with the Green Machine saw-blade attachment.

### HEDGE TRIMMER

The Green Machine converts in seconds to a husky 30" hedge trimmer. High performance blades cut stems to 1" diameter, yet sculpts hedges precisely.



### TWO SPEED DRILL/AUGER

Drill holes 1" to 6" in diameter for tree fertilization, post holes, whatever. Save on costly rentals. Converts in moments to a powerful wood, steel or concrete drill!

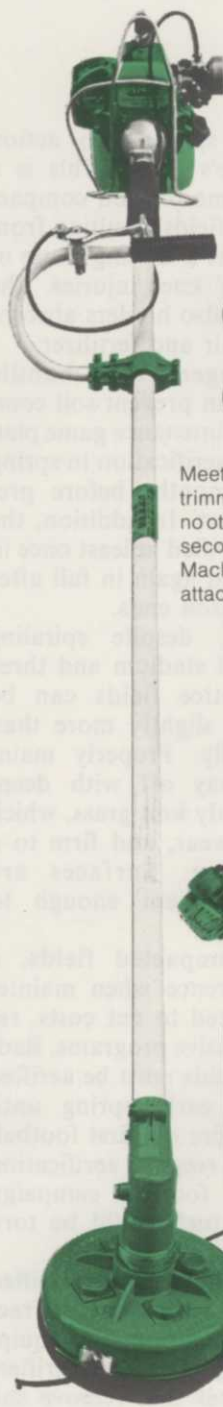


### SEE THE GREEN MACHINE NOW!

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.



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



# Soil Compaction

## Now Is the Time to Fight It

***Turf managers that handle athletic fields can prevent soil compaction with a maintenance plan including timed aerification, proper fertilization, mowing, watering and pesticide use.***

by W. W. Sanderson



*Sanderson is director of plant at University of Hartford, West Hartford, Conn. His responsibilities include maintenance for the 200-acre campus plus the university's athletic fields. He has more than 30 years experience, part of it helping plan the grounds for the 1938 World's Fair in New York.*

It is time to spring into action against "athlete's foot." This is a suitable nickname for soil compaction of athletic fields resulting from heavy use, and is a leading cause of football players' knee injuries. The hard turf crust also hinders absorption of water, air and fertilizer.

Turf managers that handle athletic fields can prevent soil compaction by a maintenance game plan beginning with aerification in spring at least four months before pre-season drills start. In addition, the field must be aerified at least once in mid-summer and again in fall after the gridiron season ends.

Surprisingly, despite spiraling costs, a football stadium and three multi-use practice fields can be maintained for slightly more than \$20,000 annually. Properly maintained fields pay off with deep-rooted and tightly knit grass, which is resistant to wear, and firm to a player's footing. Surfaces are smooth and resilient enough to minimize injuries.

Severely compacted fields, a common occurrence when maintenance is restricted to cut costs, require more intensive programs. Badly compacted fields must be aerified monthly from early spring until three weeks before the first football game. Do not resume aerification until after the football campaign since loosened turf would be torn out more readily.

A field normally can be aerified in one-half day with a Ryan Tracaire or similar automatic equipment pulled by tractor. Aerifiers have hollow tines that remove soil cores and form tiny reservoirs where

air, water or fertilizer can collect. Pass over the field twice with an aerifier to achieve maximum results. Ground pressure ultimately closes core holes.

Let soil cores lay on the ground until partially dry. Then drag the field with a chain-link fence drag or a steel mat. Dragging will break up cores, help fill in low spots in the field, and bury crown (growing points) of the grass.

A mass of new white-colored grass roots will be visible in core holes two weeks after aerification. This helps develop a wear-resistant turf capable of withstanding heavy use. Aerification also assures a "cushioned" surface and improves infiltration to help level the field.

You can further increase playing surface resiliency, protect crowns from being damaged by football cleats and improve soil structure by top-dressing the field with peat or other organic matter. This allows soil and peat to be mixed easily during dragging and expedites breakdown of organic matter.

If there are barren spots in spring, overseed them before every home game. Cleat action will then work seed into the soil.

However, overseeding or sodding provides best results when conducted just ahead of the grasses most favorable growing period. For southern grasses this means spring. But bluegrass, fescue and bentgrass should be sodded right after the last football game.

Fertilization is another key to the field's playing condition. Fertilize at least in spring and early fall immediately after aerification to encourage penetration deep into the root zone. Spring fertilization helps grass break dormancy faster and fall applications nourish grass throughout the football season. A third application can be applied in mid-October.

Put down three to six pounds of actual nitrogen per 1,000 square feet annually no matter how many times you fertilize. Select a fertilizer high in nitrogen, low in phosphorous and medium in potassium. Suggested fertilizer analysis include 30-3-10, 18-5-9 and 22-5-8. The analysis obviously can vary depending upon soil, weather or usage conditions.



Heavy spring fertilization is suggested in the south. Heavier fall applications are favored in the north to help cool-season grasses mask over the brown.

Granular fertilizers with slow-release nitrogen sources minimize grass leaf burn (dehydration) and assure long-term feeding. Soluble forms force rapid greening and are ideal when cold temperatures limit fertilizer responsiveness. Always water after each application to avoid foliage burn.

Spring is the time to apply lime if the pH factor shows acidity below 6.0. Soil samples can be sent to county extension agents to get pH readings. The pH expresses soil acidity or alkalinity with values 7 or below falling into the acid range.

Grass grows best in slightly acid soils and lime is seldom needed in the Midwest. In contrast, soils in the south and New England, often need lime. Usually one application of 50 pounds of lime per 1,000 square feet is sufficient.

Avoid tendencies to overwater. It is better to underwater than to water too much. Saturation shortens roots and shallow-rooted grass plants are torn out easily during games or practice. Fields should be slightly dry on gamedays to allow for rain, provide fast surfaces and minimize turf damage.

Check moisture content with a soil probe after watering. Soil should be moist at least six inches deep. Don't rewater until the reservoir has been depleted. In summer, when cool-season grasses go dormant, water only if turf shows signs of wilting. Water it when grass blades turn a bluish color and begin rolling up.

No task is more mundane than mowing, but an athletic field can be damaged by improper cutting. Mow frequently enough that you never cut more than one-half the leaf per cutting. Higher mowing generally favors deeper roots, provides drought tolerance and permits fewer weeds.

Fescue and bluegrasses can be cut at 2 or 2½ inches. Southern grasses, including Bermuda and zoysia, can be cut one-half to three-fourths inches high. The ideal time to mow — especially during summer



*An athletic field normally can be aerified in one-half day with automatic equipment pulled by a tractor. It restores a soft springiness to previously compacted ground by removing soil cores so air, water and fertilizer can penetrate the rootzones.*

— is late afternoon when grass is dry and humidity is lower.

Pesticide application rounds out any solid athletic maintenance program. The three groups of pesticides normally used include herbicides for weed control, fungicides to fight disease and pesticides.

Crabgrass, foxtail and other annual grasses can be controlled in early spring by applying pre-emergent chemicals before germination. The application can be granular or liquid. If you fail to kill dormant crabgrass seedlings, put down two applications of a selective post-emergent (organic arsenicals) five to seven days apart. Applications will vary depending upon local conditions.

Another option is to co-exist with crabgrass until early fall by letting grass grow higher to block out sunlight needed by weeds. Infrequent watering also discourages additional crabgrass sprouting. Broadleaf weeds such as dandelions

are best treated in early to mid-summer.

Chinch bugs, grubs and sod webworms can damage turf. Leaf hoppers are no threat to grass but distract players by getting in their eyes, noses and mouths. Insects can be controlled by chemicals. Apply the chemicals beyond visibly damaged areas because insects extend operations around margins of damaged turf.

Chemicals used against grubs or other below-surface insects must be applied to the surface and watered in to be effective. For above-ground insects, including chinch bugs, water the field before applying chemicals. Don't mow or water for three days and then spray again in a few weeks.

A preventive application of fungicides keeps disease in check. For example, on leaf spot in bluegrass, four applications annually can virtually eliminate damage. Preventive, rather than curative programs, are less time-consuming and costly in the long run. □

# People on the Move

Stan Zontek has replaced Lee Record as **United States Golf Association Green Section** representative for the mid-continent region. He joined the USGA's eastern region staff in 1971 as an agronomist.

Officers of the **Long Island Arborist Association** are: John Dougal, Dougal Tree Specialist, Huntington, N.Y., president; Bill Abrams, Prudent Controls Corp., Copiague, N.Y., vice president; Jon Hickey, Parr & Hanson, Hicksville, N.Y., secretary; and James Jordan, Lauchner Motors Corp., Huntington, N.Y., treasurer.



Van Hemert



Kroes

**Vermeer Manufacturing Co.**, Pella, Iowa, has announced a number of promotions: Keith Van Hemert is sales manager of Irrigation Products; Jaap Kroes has been named to head up Vermeer's corporate advertising department as advertising manager; George A. Wassenaar is sales manager of the company's Industrial Division; Doug Wilson is service manager.



Wassenaar



Wilson

**Rhodia, Inc.**, Monmouth Junction, N.J., recently made two appointments to its agricultural division: George W. Hamilton, former manager of industrial sales for Ciba-Geigy Corp., has named market supervisor for non-crop, industrial and turf markets; Robert E. Cum-

mins has been promoted from traffic manager to distribution and product planning manager of the division's operations department.

Doug Myers, former assistant to Oscar Miles at **Broadmoor Country Club** in Indiana, has accepted the superintendent position at **Youche Country Club** in Crown Point, Ind.

Officers of the **Illinois Landscape Contractors Association** are: Richard Price, president; Joseph Sidari, treasurer; Chuck Carren, secretary; Walter Tybon, sergeant-at-arms; new board members, Ralph Little, Walter Clauss, Jim Bussey, Phil Schaafsma and Jim Davids.

Officers of the **Iowa Golf Course Superintendents Association** are: Richard Louvar, St. Andrews Golf Club, Cedar Rapids, president; Steve Tyler, Pheasant Ridge Golf Club, Cedar Falls, vice president; Richard Wynn, Wildwood Golf Club, Charles City, secretary-treasurer.

The Agricultural Division of **Ciba-Geigy Corp.**, Greensboro, N.C. has announced job changes: Gerry Harrison is registration specialist in the registration and toxicology department; Bob Sasser is district sales manager in southeast Texas and Louisiana; John Perrin is planning and procurement supervisor; Mike Fargher is sales training specialist; Gary Gosztonyi is planning and evaluation coordinator.

New officers of the **Nursery Growers Association of California** are: Jack Eddy, Keeline-Wilcox Nurseries, East Irvine, president; Bruce Usrey, Monrovia Nursery Co., Azusa, vice president; Peter Groot, El Modeno Gardens, Santa Ana, secretary; Harry Oda, Oda Nursery, Westminster, treasurer.

The Rocky Mountain Golf Course Superintendents Association has had a number of job changes among its membership: Rollie Cahalane is superintendent at **Columbine Country Club**; Ed Novotny is at **Meadow Hills Country Club**; Stan Rivedal is

at **Ranch Course**; and Bill Jewel is at **Park Hill Golf Course**.



Garrett



Baker

**Elanco Products Co.**, Indianapolis, has announced a number of job changes: Richard W. Garrett has been promoted to director of market research and information services; John W. Demaree is agricultural chemicals district sales manager, working out of Columbus, Ohio and covering the Northeast; D. Michael Baker is chemical district sales manager and he will manage the Minneapolis district; J. William Bland, Jr. is agricultural chemicals district sales manager, working out of Atlanta; Larry L. Harris is manager of agricultural market studies; and Richard C. Lindstaedt is director of market research.



Bland



Lindstaedt

**Mallinckrodt, Inc.**, St. Louis, directors accepted the resignation of Stanley H. Anonsen as president and chief operating officer and named Harold E. Thayer to succeed him as president.

**Chemagro Agricultural Division**, Kansas City, Mo., of Mobay Chemical Corp. has announced three appointments: Heinz Wehner is director of marketing, succeeding Stan Adams, who will assume the position of president and general manager of Chemagro Limited in Canada; Dieter Rappsilber, formerly general manager of Chemagro Limited, has accepted a post with the parent company, Bayer AG, as sales manager for western Europe of the Agricultural Division of Bayer.

*please turn page*



Is your new bluegrass plagued with weeds?

# FYLKING IS PURE.

The famous Swedish beauty, Fylking Kentucky bluegrass seed contains no annual bluegrass (*Poa annua*), bentgrass or short-awned foxtail. Strict controls and countless inspections guarantee the physical purity and genetically true seed typical of Fylking Kentucky bluegrass. These procedures make your seed dollars go farther. Fylking is one of the lowest priced elite bluegrass seeds on the market.

Fylking, used as the backbone of your seed mix, will produce a lawn that will make you proud. Fast germination and growth, development of a dense, compact rhizome and root system, make Fylking a natural choice. Low-growing, low-mowing (low as 1/2 inch), more disease, drought, smog and traffic resistant. Fylking is persistent, brilliant green from early spring to late fall.

For a purely beautiful, tough turf, specify Fylking Kentucky bluegrass. Available at your local wholesale seed or sod distributor.



**FYLKING  
KENTUCKY  
BLUEGRASS**

U.S. Plant Patent 2887

Another fine quality product  
of Jacklin Seed Company.



Fylking plants started from "original" breeder's seed in sterile greenhouse media are transplanted to fumigated soil in isolated breeders block for seed increase.



Individually harvested, progeny seed from each original "mother plant" is cross tested for genetic purity. Physical and genetic purity are carefully maintained by constant evaluation, chemical spot roguing and physical removal.

## PEOPLE *continued*

Officers of the **Michigan Association of Nurserymen** are: John M. Miller, Green Ridge Nursery Inc., Northville, president; Jud Alford, Landscape Supply Inc., Gross Ile, first vice president; John Versluys, Twin Lakes Nursery, Grand Rapids, second vice president.

Ted Zeller has been appointed general manager of **Target Chemical Co.**, Cerritos, Calif. His responsibilities will include branch operations in San Jose, Calif., and Phoenix, Ariz.



Zeller



Hunter

**Toro Co.**, Minneapolis, has announced job changes: In the Outdoor Power Equipment Group, Charles T. Willey is director of sales for turf products; David P. Thompson is director of governmental sales; Ralph D. Murray is director of sales for consumer products; Robert W. Orthey is director of sales for national accounts; Mary Elliott is corporate director of public affairs; **Raincat Irrigation Systems**, Greeley, Colo., a wholly owned subsidiary of Toro, has appointed Richard Hunter vice president and director of operations.

Officers of the **Delaware Association of Nurserymen** are: Jay Windsor, Windsor's Flowers, Plants and Shrubs, Rehoboth Beach, president; Gardner Bunting, Buntings' Nurseries, Inc., Selbyville, vice president; John Weist, John T. Weist Landscaping Service, Laurel, secretary-treasurer.

Don Johnson, formerly superintendent at **Candlewood Country Club** in Whittier, Calif., is now superintendent at **Arrowhead Country Club** in San Bernardino, Calif.

Officers of the **Indiana Golf Course Superintendents Association** are: John L. Morris, Highland Golf and

Country Club, president; Jack L. Keidel, Country Club of Terre Haute, vice president; Charles Smith, Brookshire Golf Club, secretary-treasurer.

Dean Gore is superintendent at **Claycrest Golf Course** in Liberty, Kan. He succeeds George Smith who is retiring from full-time duty as pro-superintendent. Gore was formerly assistant superintendent at **St. Andrews Golf Course**, Overland Park, Kan.

Officers of the **Miami Valley Golf Course Superintendents** are: Richard L. Boehm, Wright Patterson Air Force Base Military Golf Course, Fairborn, Ohio, president; Paul Froning, Mercer Country Elks Club, Celina, Ohio, vice president; Thomas Streiff, Weatherwax Golf Course, Middletown, Ohio, secretary-treasurer.

Officers of the **National Arborist Association** are: Boyd Haney, president; Gerald Farrans, first vice president; Kenneth Kirk, second vice president; Larry Holkenborg, secretary; Bruce Walgren, treasurer; and directors, Earl Sinnamon, George Tyler, Walter Money and Erik Haupt.

Officers of the **Georgia Golf Course Superintendents Association** are: Bobby D. McGee, Atlanta Athletic Club, Duluth, president; George J. Burgin, Atlanta Country Club, Marietta, vice president; George M. Kozelnicky, Department of Plant Pathology and Plant Genetics at University of Georgia, executive secretary; Le Roy E. Conard, Capital City Country Club, Atlanta, treasurer.

Ron Roth has been named regional sales representative for northern California and Nevada for **Pen-Gro Corp.**, South San Francisco, Calif.

Tom Gwinn is sales manager for **Bill Hoffman Wholesale Nurseries**, Hollywood, Fla. and also for **Apopka Foliage Nursery**, Florida.

Philip G. Hodges has been named national sales manager and Roland L. Cargill named project leader in herbicide development for the Agri-

cultural Division of **Rhodia, Inc.**, Monmouth Junction, N.J.

C. J. DeBiase has been appointed vice president for Pipe and Pipe Systems, Industrial Products Division, **Johns-Manville Corp.** In his new position, he is responsible for the coordination and direction of manufacturing operations for the company's industrial products, pipe and pipe systems.

Two golf course superintendent job changes in Illinois are: Craig Manfia is superintendent at **Lincolnshire Country Club**, Crete; and Tom Blunk is superintendent at **Hickory Hills Golf Course**, Oak Lawn.

Kenneth P. Krings has been promoted to the position of regional sales manager for the eastern United States by the Outdoor Power Equipment Division, **J I Case Co.**, Winnebago, Wis. The promotion was announced by sales manager Jack Zeigler.

John Bridal has been named manager of special accounts for **Ditch Witch**, a division of Charles Machine Works, Perry, Okla. Bridal will manage the new program directed toward national users of Ditch Witch underground construction equipment.



Bridal



McWhirter

**Rain Bird Sprinkler Manufacturing Corp.**, Glendora, Calif., has announced a number of job changes: Rodney McWhirter is district manager for the northern Florida and Georgia area; Robert Fragala is special products manager; Jim Craft is turf market manager; John Swanson is district manager covering the southern Florida area.

James E. Cook has been appointed special assistant to the vice president of sales and advertising at **Hypro Division**, St. Paul, Minn., of Lear Siegler, Inc. He will report directly to Hypro sales and advertising vice president Conrad E. Letourneau as



part of an expanded customer contact program.

New Officers of the **Western New York Superintendents Association** are Lynn Davis, Brookfield Country Club, president; Chet Kurczab, Stafford Club, vice president; Larry Felt, Hamburg Municipal Golf Club, treasurer; Paul Bukaty, South Shore Country Club, secretary; and Wayne Lamb, Transit Valley Country Club; Ed Cichuniec, Wanakh Country Club; Ray Martelli, Niagara-Frontier Country Club; Jack Stellrecht, Lancaster Country Club, directors.

Robert J. Hayes has been promoted to the position of manager of dealer business services for the Agricultural Equipment Divisions of **Allis-Chalmers Corp.**, Milwaukee. He will be responsible for training, financing, location and continued strengthening of the entire agricultural equipment dealer organization in the area of sales, service, parts management and business management.



Jacks



Hayes

**Thompson-Hayward Chemical Co.**, Kansas City, Kan. has announced job changes: Larry D. Jacks is branch manager of the Denver distribution center; Lawrence S. Norton, Jr. is an agricultural sales representative covering North and South Carolina; Desmond H. Greene III is an agricultural sales representative, covering southeast Arkansas and northeast Louisiana; Russell Cook is branch manager of the Beaumont, Texas distribution center; Charles D. White is an agricultural sales representative covering southern portions of Arkansas.

New officers of the **Western Pennsylvania Golf Course Superin-**

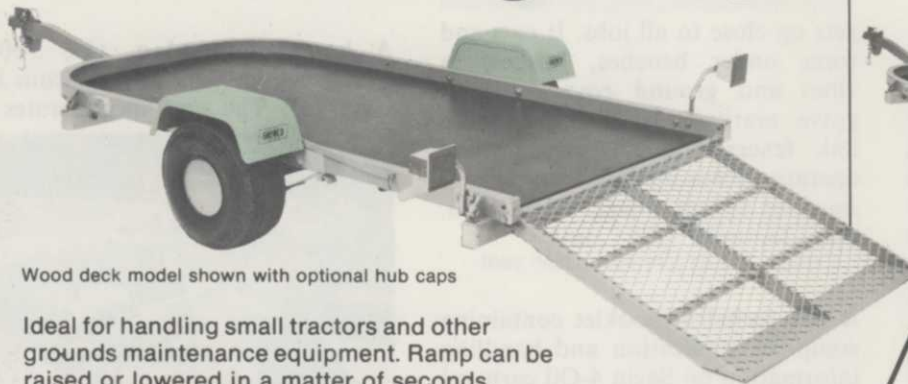
**tendents Association** are: Veo Blackwood, Armco Park Golf Club, president; George Ord, Sewickley Heights Golf Club, first vice president; Ray Dean, Monongahela Valley Country Club, second vice president; and Bart Cornali, West Moreland Country Club, treasurer.

In the state of Washington, Dave Gianoli has left the **Lewis River Golf Course**, near Woodland, to become superintendent at **Green Meadows Golf Club**, Vancouver. John Rogers has left Green Meadows to become superintendent of the **Twin Lakes Golf Club**, at Federal Way, about halfway between Seattle and Tacoma.

Joe Lump is director of facility operations of the **Sun River** complex South of Bend, Ore.

New officers of the **Central Illinois Golf Course Superintendents Association** are Dave Ferris, president; Jay Strasma, vice president; Bill Bonnett, secretary; and Marvin Laird, new director.

## Now...Three New Utility Trailers with Loading Ramps



Wood deck model shown with optional hub caps

Ideal for handling small tractors and other grounds maintenance equipment. Ramp can be raised or lowered in a matter of seconds.

Model No. 20-003 with wood deck. Capacity 1,150 pounds; deck width 48"; deck length 96".

Model No. 20-004 with perforated steel deck. Capacity and dimensions same as Model No. 20-003.

Model No. 20-005 with perforated steel deck. Capacity 2,000 pounds; deck width 72"; deck length 120".

Snowco also offers eight tilt deck models and two solid deck models with stake pockets. Capacities 900 to 3,500 pounds.



### THE SNOW COMPANY

Division of Beatrice Foods Co.  
4386 McKinley Street • Omaha, NE 68112



Please send information on Utility Trailers

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

**SEND COUPON TODAY**

Circle 113 on free information card

# Products

A tree replanter accessory for loaders and tractors has been introduced by Del Zotto Mfg. Inc. The "Hydra-Brute" features a curved-spade design that makes maximum use of available hydraulic power. Other features of the unit, according



to the manufacturer, include an ability to be attached or detached in minutes, quick-couple to available hydraulic-accessory circuits, operate at maximum without outriggers or other accessories, exert more than four tons of pressure to dig in the hardest earth, ball a tree for basket or burlap sacking and load or unload trees from truck-bed heights.

Circle 701 on free information card

An edger attachment is new for the "Hustler" mower from Excel Industries, Inc. The edger is fast, clean, quiet, easy to use, maintain and store and can be mounted on the mower deck, according to the manufacturer. Because the edger does not hang over the trimming



side of the deck, it is safer than most power edgers, the company said. The broom/scrapper attachment for the edger makes trimming tough grasses and weeds easy.

Circle 702 on free information card

New tee markers on the market from Lesco Products are made of cyclolac plastic, the same material used for



football helmets. The markers are standard five-inch diameter and cemented with epoxy glue. They float and come in red, white and blue colors.

Circle 703 on free information card

TRIM-IT, a new weed-cutting, grass-trimming machine, utilizes a flexible filament of nylon and stainless steel. It offers total safety — and



gets up close to all jobs. It cuts and trims under benches, bushes, in vines and ground cover, around grave markers, sand traps, chain link fences and any area where operator needs upclose trimming. It operates vibration-free. Gielow Co. manufactures the unit.

Circle 704 on free information card

A new technical booklet containing complete application and handling information on Sevin 4-Oil carbaryl insecticide is now available from the manufacturer, Union Carbide Corp. The bulletin describes the product's uses, chemical and physical properties, toxicology and special characteristics of importance to users. Sevin 4-Oil is a new oil-based dispersion of Sevin carbaryl insecticide which provides longer residual insect control and affords certain application advantages, according to Union Carbide.

Circle 705 on free information card

Metal chemical containers for insecticides or herbicides should be



crushed, according to the National Agricultural Chemicals Association. Richway Products is now manufacturing a can crusher that crushes all kinds of metal containers. The unit operates hydraulically and flattens a five-gallon can down to about two inches in a single stroke.

Circle 706 on free information card

A backhoe/loader, the 580C Construction King, is new from J I Case Co. The unit incorporates a

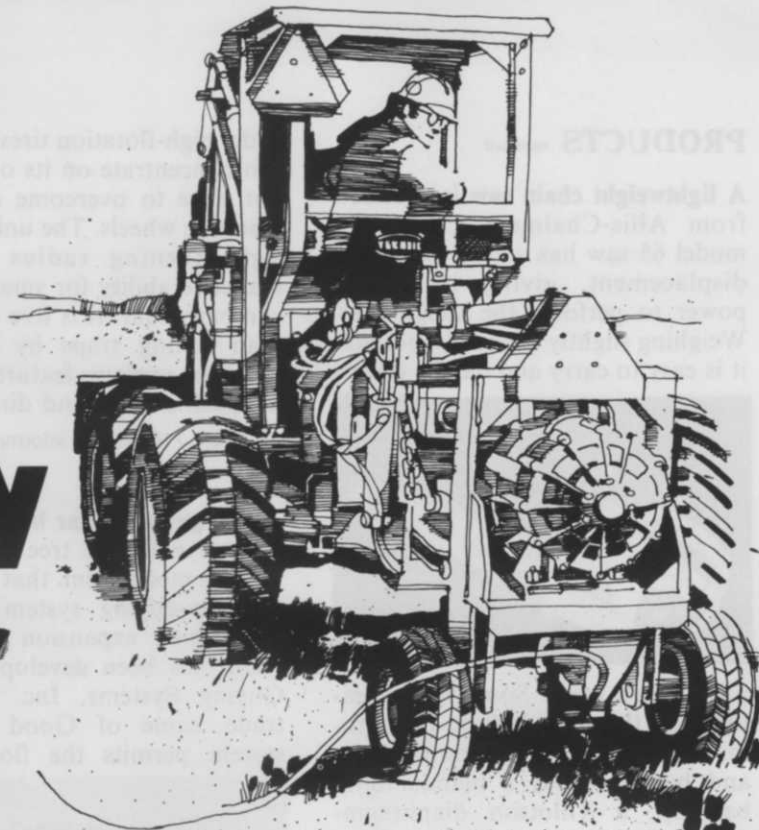


number of features to improve productivity and serviceability, according to the manufacturers. Two of the most significant are a shock-absorbing unitized main frame and a componentized power train, which permit servicing of individual components without disturbing the rest of the drive line.

Circle 707 on free information card



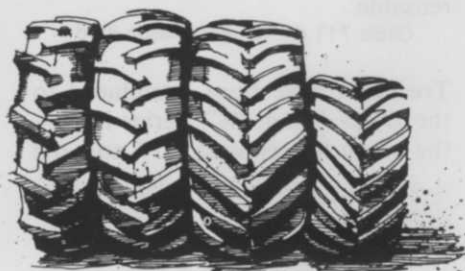
# How to choose the right vibratory plow



If vibratory plows fit into your next equipment purchase, get the facts before you buy. **Look for a versatile, multi-purpose machine** that handles not just plow-in work, but a variety of underground jobs . . . combos, rock cutters, loaders, backhoe-blades and reel carriers can save you a bundle in equipment costs alone. Compare construction features like machine weight, plow weight, blade options, tire options, balance and hydraulics. They not only show you how versatile a machine is, but also, how well it's built. **Make sure the unit concentrates vibratory action on the plow blade . . .** and that it can regulate blade angle and depth for maximum efficiency in various soil

conditions. **Finally, and most important, ask for a FREE demonstration.** It not only lets you compare equipment under various plowing conditions, but also gives you a chance to meet the people who will service the equipment after you own it. Why does Vermeer offer these important buying hints?

Because, chances are, after you've done your homework on buying vibratory plow equipment, you'll find Vermeer did theirs in building 'em. You'll



also find they back you up with a nationwide network of sales and service dealers who have helped thousands customize and maintain equipment for various underground conditions. Find out for yourself why those who own Vermeer equipment keep buying Vermeer. Write, or better yet, call for complete information and a **FREE demonstration** on Vermeer Trenchers, Vibratory Plows, Rock Cutters, Combos or any Vermeer equipment. It's the world's most complete line.



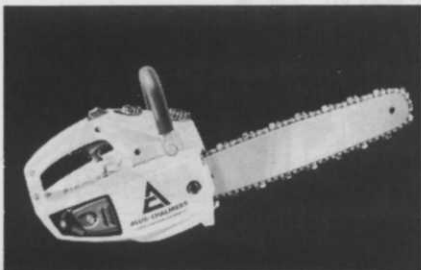
# Vermeer

7205 NEW SHARON RD. • PELLA, IOWA 50219 • (515) 628-3141

THE DIGGIN' DUTCHMAN

## PRODUCTS *continued*

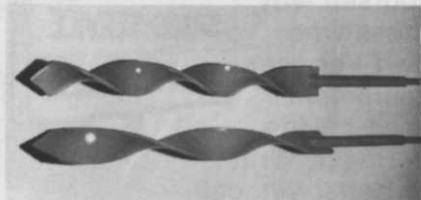
A **lightweight chain saw** is available from Allis-Chalmers Corp. The model 65 saw has a 1.86 cubic inch displacement, giving it enough power to perform the tough jobs. Weighing slightly over eight pounds, it is easy to carry and handle during



a full day's work. Some of the features of the unit include an automatic oiler to help prolong chain and bar life, plus a manual oiler back-up; a Tillotson diaphragm-type carburetor that allows cutting in any position without stalling.

Circle 708 on free information card

**The Earth Worm**, from Haupt Tree Co., is a new concept in tree-feeding equipment developed in the field by commercial arborists because of dissatisfaction with conventional augers. Combining a metal treat-



ment which survives abrasive soils with a simplicity of design, the unit will last more than twice as long as conventional augers. Available in two models for either sandy or clay soils and with a variety of shanks for different power heads, the unit will provide years of dependable service because of its unique properties and high wear factors.

Circle 709 on free information card

**The Trap King** from Jacobsen Manufacturing Co. is featured in a new brochure put out by the company. The brochure explains the unit breaks up sand trap compaction and puts a smooth finish on the trap when done. The unit has

wide, high-flotation tires so the rake can concentrate on its own job and not have to overcome compaction from the wheels. The unit also has a tight turning radius and high maneuverability for small traps, the company said. It is five times faster than raking traps by hand. The brochure explains features of the unit, specifications and dimensions.

Circle 710 on free information card

A **tree-guying collar** having minimal contact with the tree trunk and a release mechanism that disengages the tree-guying system after predetermined expansion of the tree trunk has been developed by Tree Guying Systems, Inc. Under the trade name of Good Guy, this system permits the flow of tree-



growing fluids along the cambium layer of the tree and automatically detaches itself from the tree after the tree has attained a self-supporting size. Thus the physiological functions of the tree are both preserved and utilized. The units come in collars only, or in complete systems including collar, turnbuckles, cables and anchors. Collars are available in rubber, for smaller-caliper trees, aluminum for medium trees and steel for large trees. They are reusable.

Circle 711 on free information card

**Trenchers** have been introduced to the Ditch Witch "C" series line — the seven-horsepower C77 and the



nine-horsepower C99. These compact trenchers are designed and manufactured to provide ease of

maintenance, operating convenience, durability and dependable productivity. Both units will dig ditches from four to six feet wide and to depths of two feet with the rugged 24,000-pound test digging chain. Their compact width and easy maneuverability permit them to be driven through a standard yard gate and easily loaded into a compact pick-up or service van. New design features are a bolt-on pivot assembly, adjustable-height handle bars, wider deck cover, heavy duty bearings on the fully enclosed boom depth control, idler sprocket for drive chain to provide easy and accurate adjustments and convenient controls for the operator.

Circle 712 on free information card

A **grounds maintenance** equipment brochure is now being offered by the Lawn Equipment Division of Hesston Corp. The brochure is free. It includes features and attachments on its Front Runner GMT, Front Runner Turf Truck and the Front Runner Three Wheeler. The units are designed from the ground up,



with up-front features and attachments for a variety of grounds maintenance chores in every season. All three models are available in either a 19.8 or 23 horsepower engine. Attachments include three choices of mowers, two vacuum pickup units, snowblower, two angle backfill blades, cab, spreader and sprayer. The units handle a variety of pull-type allied turf attachments.

Circle 713 on free information card