



AGRO-CHEM, INC. is



**YOUR PROFESSIONAL APPROACH TO
LAWN MANAGEMENT IN 3 EASY
AND POSITIVE STEPS:**

- 1. TEST YOUR SOIL**
- 2. PRESCRIPTION FORMULATE YOUR FERTILIZER TO THE REQUIREMENTS OF YOUR SOIL TESTS**
- 3. PROGRAM YOUR MANAGEMENT TO YOUR REQUIREMENTS**

**SOIL TESTS CONSOLIDATED FOR PRACTICAL
& ECONOMICAL TREATMENT**

YOUR TOTAL SOURCE FOR PROFESSIONAL MANAGEMENT

SOIL TESTING—The most positive and effective approach — developed through 30 years of Research & Development. This information is now available to you to guide you in the proper and most effective way of managing your lawn areas.

FREE SOIL TEST & RECOMMENDATIONS for those attending our Lawn Management Training Clinics. Soil Samples must be submitted at least 60 days prior to reserved clinic date. Complete Soil Sampling Kit with instructions will be sent upon receipt of payment for reserved seat. Your Soil Test Results will then be explained in detail at the clinic so you will have full, first hand knowledge of what you should do on your grounds.

PRESCRIPTION FORMULATING—Putting your soil test recommendations to work for you in the exact manner required by your soil and lawn. In the past, Soil Testing was almost useless because very few people could obtain the exact materials required. Now, due to our computerized prescription blending plant, we formulate exactly to soil test recommendations or to your specifications. These formulations can contain the Primary Nutrients (NPK), the Secondary and Micro Nutrients (Ca, Mg, S, Fe, Zn, Mn, Cu, Bo) along with Soil Looseners, and/or Rebuilders, Mat and Thatch Decomposers and other required products — all can usually be formulated into one easy to use product.

APPLICATION EQUIPMENT—Specially designed application equipment that is inexpensive to purchase, and most important, easy to use.

MATERIALS—A most complete line of Specialty Fertilizers, Herbicides, Fungicides, Insecticides and Special Purpose Products and Seed Mixes.

LAWN MANAGEMENT TRAINING CLINICS—Designed especially for the man in charge of programing, purchasing and directing the maintenance of lawn areas of industrial and commercial property's. These clinics are designed to provide the manager with the understandable and useable knowledge so that he will be able to spot problems, understand their cause, correct and prevent

them, plus select the best products, equipment and method to use for the individuals own area.

These clinics are based on scientific and proven facts that are applied to the practical approach to managing grounds.

Special purpose products for solving problems (and preventing recurrence) are introduced as are new types of equipment and techniques. Individual questions and problems are answered and solved.

All aspects are thoroughly covered in a totally understandable, "Eyeball to Eyeball" basis. A total concept you can't afford to miss.

Subject Matter includes:

Grass and Plant Growth Characteristics

Fertilizers—Primary, Secondary, and Micro Nutrients.

Their function in soils and plants. Raw Material Sources — Natural and Synthetic

Soils—Problems and Solutions

Soil Testing—Testing Methods Available - Understanding the value and interpretation of results - value of research - programing according to recommendations. Review of your soil test.

Lawn Care—Listing problems, objectives, budgets and programing to meet the requirements of the area. Using nature's rhythm as a positive aid.

Weed Control—Lawns, Post and Preventative Procedures, Contact, Systemic, and Soil Sterilants, Industrial Weed Control, Aquatic Weed Control.

TREE, ORNAMENTAL AND SHRUB CARE—Root Feeding, Spraying.

Equipment—Selection, Calibrating, and operation.

Application Techniques—Mixing and applying materials Planning and programing. Plus much, much more.

These 3 day clinics will be presented in January, February and March, 1979. Seating is limited; therefore make your reservations early.

Call Mr. Joseph for details, costs, and dates. 312-455-6900.



11150 Addison
Franklin Park, Ill. 60131

FLCRA from page 8

The contractor must prove to the satisfaction of the Secretary of Labor the existence of a liability insurance policy for damages to persons or property arising from the contractor's operation of vehicles for the transportation of migrant agricultural workers. If the contractor is going to drive the vehicle, he must submit a doctor's certificate and a set of his fingerprints.

Every full-time or regular employee of a Farm Labor Contractor must obtain and carry a Farm Labor Contractor Identification Card issued by the Secretary of Labor if the employee engages in any of the activities covered by the Act.

The law prohibits any person from hiring a farm labor contractor to supply farm laborers until he determines that the contractor possesses a current certificate.

Penalties for violations of the Act include fines up to \$500 and one year in prison. Subsequent violations are subject to a fine not to exceed \$10,000 and up to three years in prison. The Secretary of Labor may assess a fine of not more than \$1000 for each violation of the act.

Copies of the act may be requested from the local Employment Office or the Wage and Hour Division of the Department of Labor.

Imprinter from page 10

collected data as of yet. Native grasses and shrubs have been planted on heavy clay topsoil, sandy soil and loamy soil, according to John Blueyez, director of experimental reclamation programs.

The land imprinter consists of two steel cylinders, each 40 inches long and 40 inches in diameter, with 6-inch angle irons welded to the surface. The imprint cylinders are available in a number of geometric patterns.

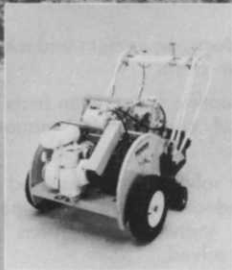
One cylinder forms a seedbed for grasses while the other forms trenches for water runoff, directed into the seedbeds. Depth of the trenches can be varied by filling the cylinders with water or other fluids.

The AEI concept indicates that water infiltration is controlled by the microroughness and macroporosity of the soil surface through a complex interaction of many physical, biological, pneumatic, and hydraulic processes. Hand treatments on soil surfaces have been successful and are similar to those produced by the land imprinter. The imprinter is expected to produce an infiltration range similar to the hand-imposed treatments used in validating the AEI concept.

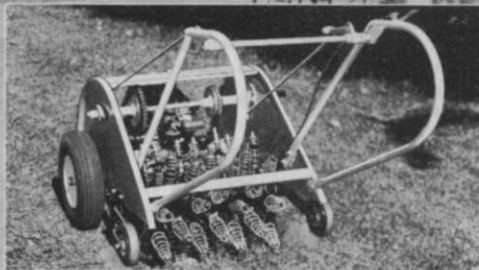
The imprinter, which requires a tractor 30-hp or more, can roll over brush up to 3-inches in diameter, and can effectively crush and chop the vegetative material, creating a mulching effect. This also serves to kill the vegetation, conserving water for grass establishment.

For more information, contact Dr. Robert M. Dixon, Soil Scientist, Southwest Rangeland Watershed Research Center, 442 E. 7th St., Tucson, AZ, 85705.

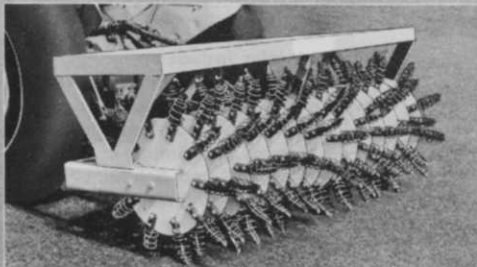
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Self-propelled aerifier for greens and general purpose. Fast, maneuverable, low maintenance. Scoops out small, pear-shaped, loose-walled cavities to admit air, water, and fertilizer to grass roots.

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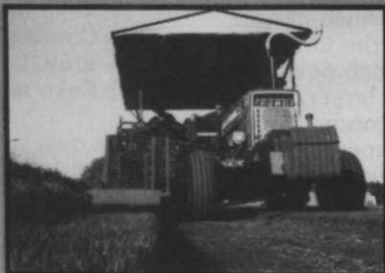
Circle 119 on free information card

WHY

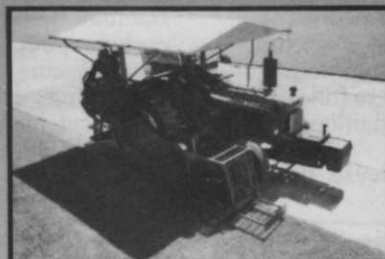
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VEGETATION MANAGEMENT

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

Q: Last winter many of our lawns were covered with snow mold. What is the best fungicide to apply, when should it be applied and at what rate?

A: The two most common snow molds are Fusarium blight (pink snow mold), which causes small, circular patches to develop in the turf, and Typhula blight (gray snow mold), which develops only under snow cover and produces larger, more irregular patches. Snow molds readily occur during periods of high humidity and air temperatures of 32° to 45° F. Snow falling on unfrozen ground provides ideal conditions for disease development.

A combination of fungicides will give the best results, and there are several labeled for either or both of the snow molds. We have found an application of Tersan 1991 plus Tersan SP about mid-November (before snow cover) gives good results. Of course, another application in midwinter will increase the protection, but this is not often practiced because of the expense and the uncertainty of a sufficient thaw for a treatment. Always follow the manufacturer's directions for rate and other information.

Cultural practices can help decrease the in-

cidence and severity of snow mold and should be considered where snow mold is a problem.

- 1) Remove excess thatch
- 2) Avoid succulent turfgrass growth in late fall
- 3) Rake leaves in fall
- 4) Continue mowing in fall until turfgrass growth ceases
- 5) Rake matted patches of snow mold in spring

Q: We own a golf course in southeastern Iowa. Our problem is crabgrass. What is the best product(s) to use and at what time of year? Time and money are extremely important as my wife and I do all the work ourselves.

A: I checked with Iowa State Extension Horticulture and was told that their tests have shown no significant difference between the cost or effectiveness of Balan (available only as a granule) and Dacthal. Both products must be applied before the crabgrass seeds germinate which, in southeastern Iowa, occurs about the second week in April, depending upon climatic variations. The best biological indicator in your area is lilac and the materials should be applied before the earliest lilac blooms.

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Nobody offers you more ways to increase productivity and reduce land improvement expenses than Vermeer.



Vermeer Tree Spades. Patented tree-moving/tree-packaging machines that automatically dig, ball, transport and replant shrubs and trees up to 25 ft. in height. Tractor-mounted, trailer-mounted, or truck-mounted units—plus complete multi-purpose landscaping machines that handle a tremendous assortment of dirt-handling functions in addition to transplanting trees.



Vermeer Trenchers. Multi-purpose underground machines with a wide variety of money-saving dirt-handling attachments. On tracks or rubber tires. With power ranges from 18 to 195 hp. With digging capacities of 4-36 in. wide, down to 12 ft. deep. Vermeer Vibratory Plows, for installing cable directly underground without damaging finished surfaces or landscapes.

WTST
PROSCAPE

Q: Roundup is a systemic herbicide that is translocated to the root system after leaf application and absorption.

- 1) Is it absorbed by any green tissue?
- 2) What, exactly, happens in the roots?
- 3) How persistent is it in a plant exposed to it but not killed?

A: 1) Roundup is absorbed by any green tissue although green bark would absorb less material than green leaves. The Roundup label states DO NOT SPRAY GREEN BARK.

2) Roundup (glyphosate) inhibits aromatic amino acid synthesis.

3) Roundup can overwinter in plant tissues and cause injury symptoms to appear the following year, depending upon the applied concentration and target species.

Q: Is there any safe method to root prune maple trees that are continually upheaving sidewalks?

A: Maples are notorious for the upheaval of sidewalks because of surface rooting. Roots can be selectively pruned without causing noticeable injury if only a few roots are removed per season.

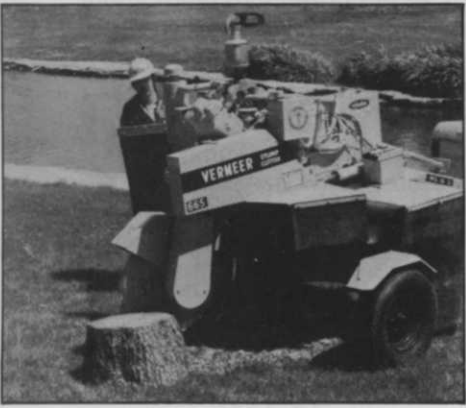
You should use careful judgement when considering the removal of large roots. Crown thinning will help re-establish the equilibrium between the roots and shoots and minimize injury. Proper fertilization and watering are also beneficial.

To help prevent a recurrence of the problem, deeper rooting can be encouraged by improving water drainage and air penetration into the soil.

Q: What is the best method of controlling bermudagrass while trying to establish zoysiagrass?

A: The best method is to treat the area with methyl bromide prior to planting zoysiagrass, but because of the hazards involved, I would not recommend it. The most practical control is an application of Roundup prior to planting zoysiagrass and periodic spot application as needed until the zoysiagrass completely fills in the area. Roundup is non-selective and will kill both bermudagrass and zoysiagrass in the applied area. I am not aware of any material that will selectively control bermudagrass without also harming the zoysiagrass.

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Vermeer Stump Cutters. Fastest, easiest, most economical method of removing tree stumps. With four powerful machines, each equipped with a big hydraulically controlled cutting wheel that actually chews even large stumps to chips 6-24 in. below the surface ... in minutes!

Vermeer Root Cutter. A great preventative maintenance machine that severs tree roots before they buckle sidewalks or streets. **Vermeer Log Splitters,** available as self-contained units or designed to operate off the

hydraulic system of your tractor. Instant firewood ... with 22,000 lbs. of force.

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PROSCAPE

By Michael Hurdzan, Ph.D., golf course designer and consultant

Q. I am planning some new construction that will cause fill to be placed over some tree roots. What precautions should I take to protect these trees?

A. First, consider the tree's size, age, vigor, species and location, and whether it is economically worth saving at all. Once the decision has been made to save the tree, then limit the fill over the rootzone within the dripline of the tree (where 75% of the roots occur) to 6 in. or less of good topsoil. This small amount of fill will not usually inhibit water or air movement to the roots.

Paramount in protecting a tree is to provide near normal air exchange to tree roots. If the fill is to exceed 6 in. but not more than 12 in., add 6 in. of coarse gravel over the original grade capped with 6 in. of good topsoil. If the fill is more than 12 in. but not to exceed 24 in., then cover original grade with 6-12 in. of coarse gravel capped with topsoil and build a well around the trunk that is about three feet from the trunk on all sides and extends down to the original grade. If fill will exceed 24 in., then the well should be made, drain tile installed, coarse gravel blanket used, and capped with topsoil.

During construction, even where no grade

change is scheduled, damage can occur to trees by soil compaction, harmful chemicals or solutions, wounds or fires. To prevent such damage restrict or confine traffic in wooded areas, prevent storage of harmful materials or supplies in the vicinity of desirable trees.

Many designers require that fences or barricades be erected around trees or groups of trees that cover at least a 20-25 ft. area. When removed trees and debris are to be burned, thought must be given to locate and confine burning to areas so heat, smoke and ashes do not injure remaining plants. Also, burning areas should be constantly tended and there should be access to fire fighting vehicles if an accident occurs.

Another consideration during construction in wooded areas is how will the construction effect the micro-environment of that site and what will subsequently effect the remaining plants. Removal of large numbers of trees exposes other trees to increased amounts of sunlight, wind, drier soils perhaps, etc. These anticipated effects could influence the choice of species, size, age, and vigor of vegetation to remain. Such decisions may require the expertise of an arborist, forester, horticulturist, or nurseryman.

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Jack Lynn, licensed landscape architect. Owner, Landscape Designers, Franklin, Tenn., consultants to Vanderbilt University.

“Jobe’s Spikes are a good opportunity to make money in the winter.”

Jobe’s Tree and Shrub Spikes help Jack Lynn make money in the off-season. They extend his business well into winter, when crews would otherwise be idle. Lynn adds, “Jobe’s Spikes take the guesswork out of feeding trees and shrubs. We wouldn’t use anything else.”

Jobe’s Spikes build profits from the ground up.

Join the tree care professionals who make more money by using Jobe’s® Tree and Shrub Spikes. In every type of climate . . . every kind of soil from sand to heavy clay, Jobe’s Spikes have proved their effectiveness. They’re better than broadcast fertilizer because plant food gets down to the roots without danger of run-off, burned turf or excessive leaching. And you know exactly how much fertilizer you’ve applied. A plastic cap makes driving easier and protects the spikes while they’re being driven. Jobe’s Spikes require no expensive equipment or skilled labor. Just tap into the ground around the drip line at the rate of one spike per inch of trunk diameter.



Rainwater or soil moisture does the rest. *Jobe’s® Tree and Shrub Spikes feed trees in about one fourth the time, at less than half the cost of drilling.* A 5" diameter tree takes about 5 minutes labor. Compare that to 30 minutes to drill holes, plus time and cost to apply 10 pounds of fertilizer.

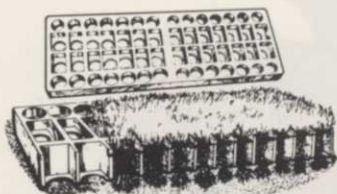
Jobe’s Spikes are a pre-measured amount of fertilizer formed into easy-to-drive spikes by means of a patented binder. The binder provides uniform release of nutrients. Tree and Shrub Spikes are 16-8-8 analysis. Evergreen Spikes are 12-6-8. Fruit Tree Spikes are 5-15-15. Call your local Jobe’s distributor or order direct. \$30 per case (105 Spikes) prepaid, 5 case minimum. 15 or more cases, \$25 per case. 36 or more cases, \$22.50 per case.

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PRODUCTS



Poly Forms, a division of Presto Products, has introduced Sod-Saver, a landscaping block designed for turf maintenance. The blocks, made of heavy-duty molded plastic that is resistant to water, acid, heat, and extreme cold, is are loadbearing and allow the growth of healthy

grassroots.

For use wherever heavy pedestrian and vehicle traffic is a problem, Sod-Saver blocks have the potential of providing new surfaces for golf course and park areas, for overflow parking, for service vehicle admittance for industrial and municipal buildings, and for airplane parking.

The blocks are available with solid cell centers for use in paving or as a temporary roadway. Blocks are 36" x 12" and are available 1-3/8" thick for normal use and 2-3/4" thick for heavy duty use.

Circle 701 on free information card

"Sound Conditioned" M & M Brush Chippers

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less noise...
more efficiency

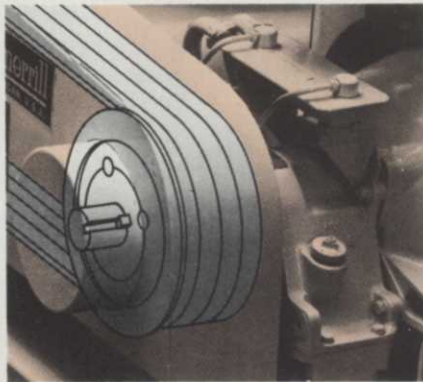


Applying engineering designs which "Sound Conditioned"™ our industrial scrap reduction machinery, Mitts & Merrill can modify our brush chippers for low noise levels. At the same time, those engineering features which have made Mitts & Merrill the leader for years have been retained.

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Staggered knife pattern, for years a Mitts & Merrill feature, has always resulted in a lower noise level. First, by segmenting the noise source. Second, through smoother cutting action. Third, by producing smaller chips.



Optional torque converters and the heaviest steel cylinder — even without an external flywheel — combine to give positive cutting action under the most rugged conditions. Isolates the engine from shock. Minimizes maintenance.

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Westheffer Turf Division announces a new 300 gallon lawn and tree care spray unit. The unit is completely self-contained and is mounted on a heavy duty pipe skid for ease of loading and unloading. Standard equipment includes a 300 gallon stainless steel tank, electric start 7 h.p. gasoline engine, 10 g.p.m. pump, belt drive reel, and mechanical agitation system. Designed primarily for lawn care operators, the unit will also reach trees and shrubbery to heights of 25 feet.

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Leisure & Specialty Cab Sales have introduced a Specialty Cab, manufactured with the roll bar concept, for the compact sized farm and garden tractors. The cabs are axle mounted and easy to align for quick

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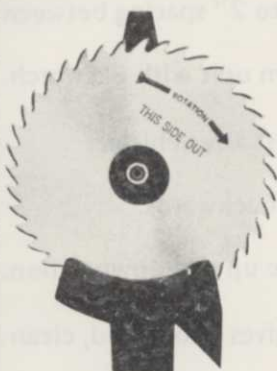
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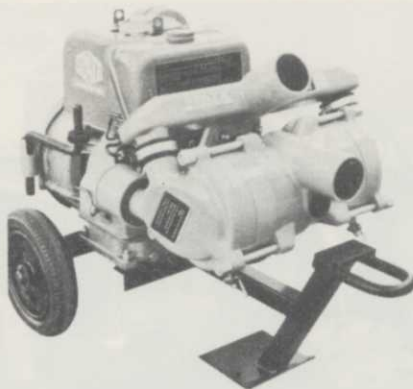
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installation. They feature an all steel cab with lucite S.A.R. tinted windows, rust resistant under-coating, brand matching paint, and a weight of 315 pounds.

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Model DS-3 Spate 3" double acting diaphragm-type water pump from Desco Diesel Energy Systems handles sludge, sand, silt, slurries, viscous liquids and other problem fluids through delivery hoses with little internal wear.

Model DS-3 is compact, lightweight, easily portable and pumps air to 70 psi at approximately 8 cfm, pumps 1700 gallons/hour of water at 100 ft. head and 25 ft. suction, has 29 ft. maximum suction lift without need for a foot valve, and automatically reprimed in seconds. Its ability to pump through practically any length of suction and delivery hoses make the new Spate 3" pump a versatile, dependable unit for trench dewatering, industrial desludging, fire fighting, underwater pressure jetting and many other difficult applications. The quick-priming feature also allows it to operate efficiently in an automatic on and off mode for control of seepage.

Model DS-3's patented inertia flow principle enables the Spate Pump to displace two and a half times the actual swept volume of the cylinders at low internal speeds. This delivers high pressure while preventing excessive internal wear on the die cast aluminum/silicon alloy structure, which is also said to be highly resistant to corrosion from sea water.

Circle 704 on free information card

The Nickerson Turfmaster 2001, British-designed and built, is a 3-wheel tractor with a 72-inch triple rotary cutter. Each of the three



wheels is powered by a high-torque hydraulic motor inside the hub, and the system also drives the cutting unit and implement lift system. The Turfmaster can turn completely within its own length.

The 2001's 4-cylinder, water-cooled engine provides power for climbing and traverse cutting 60° slopes. The mower can cut up to 30 acres a day on a single tank of gas. It also has a high transport speed between sites.

Acceleration and braking are controlled by a single foot-pedal while the steering, through a single column, is power-assisted and controls are arranged at the driver's fingertips.

No clutch, universal joints, or friction wheel brakes, together with design strengths should allow the Turfmaster to withstand prolonged use with low maintenance.

Circle 705 on free information card



Life-Time Products offers a unique elevating platform trailer capable of hauling two tons of cargo over the highway. The platform hydraulically lowers completely to the ground or can be raised up to 40" to accommodate most truck and dock heights. The bed maintains a level plane when raised and lowered, avoiding load damage due to cargo shift. This all purpose trailer is designed for one-man loading and unloading of heavy items that would normally require costly lifting equipment or more man-power.

The trailer is furnished with standard equipment such as battery operated hydraulic pump, electric brakes, DOT lights and reflectors, safety chains and ball type hitch for over the highway use.

Circle 706 on free information card