

Easy way to loosen heavy clay soil! Works like millions of tiny hoes.TM

Sof'n-SoilTM Gypsum works its way down to loosen heavy clay soil so it can breathe. Lets air and water penetrate, boosts efficiency of costly fertilizers. Sof'n-Soil, a natural mineral, stimulates vigorous root systems—promotes growth of grass, trees, shrubs, and flowers. Ecologically safe, Sof'n-Soil is *not* lime. It's neutral, non-



caustic, non-burning—harmless to plants, pets, and people. And here's the bonus: Sof'n-Soil supplies essential calcium and sulfate sulfur in readily available form, stimulates decomposition of organic materials, too. Write to us at 101 S. Wacker Dr., Chicago, Ill. 60606. Dept. WTT-29.

CHEMICALS DIVISION

UNITED STATES GYPSUM

Primary Supplier of Secondary Plant Nutrients

PROSCAPE

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

Q: What do you recommend for rehabilitation of campground sites and playground areas where heavy use causes deterioration and continual destruction of turf? St. Louis, MO

A: The symptom of the problem is poor turf cover and the causes may be:

- 1) Compacted rootzones.
- 2) Excessive mechanical damage to the turf.
- 3) Inadequate surface and subsurface drainage.
- 4) Improper turf varieties.
- 5) Improper maintenance practices.
- 6) Inadequate maintenance budget.

All of these are complicated by the fact that St. Louis is infamous for its adverse heat/humidity effects on turf. However, improvement in turf quality may be gained by isolating each deleterious factor and solving them individually as time and money permit.

The soil compaction problem is obviously reduced by aeration and in this case the greater the frequency the better. As a minimum, I would suggest at least twice in the fall; once soon after Labor Day and another just prior to the ground

freezing. With the early aeration the plugs may be removed if they are unsightly or if rain would turn them to mud. If your budget and manpower permit, remove the plugs from those most trafficked areas and topdress heavily with sand. With the late aerification just try to get the holes as big and deep as possible so they become reservoirs for water that may aid the freezing, thawing, and heaving processes of winter. This natural process does much to relieve compacted areas and should be encouraged. Sand topdressings at any period when the turf is actively growing is recommended.

Surface and subsurface drainage may be important because you have little control over when people use the park or campgrounds, and their use when soils are too wet may contribute to the compacted rootzones. Consult with your local soil conservation service representative for the best spacing and depth of tile for your given soils.

The mechanical damage to the turf is difficult to control but may be reduced by keeping wheel traffic to an absolute minimum, provide paths or walkways in congested areas, and mowing turf

BOWIE HYDRO-MULCHER

Dollar for Dollar —

Where quality, performance, and durability count — you can't beat a
Bowie

The revolutionary machine for the turf industry that seeds or sprigs, fertilizes, waters, sprays and mulches in one easy operation.

The **BOWIE HYDRO-MULCHER** performance is unequalled. Its capability has created a totally new method of lawn, turf and ground cover application, plus faster, more effective erosion control.



VICTOR 800

EXCLUSIVE BOWIE HYDRO-MULCHER FEATURES:

- Only proven unit for both sprigging and seeding with cellulose fiber mulches.
- Equipped with enclosed shredder bar for shredding full bales of cellulose fibers.
- Centralized tower control with no hoses.
- Equipped with triple agitators for faster mixing and eliminating sediment build-up.
- Uses pump only for spraying, so pump lasts longer.
- Slurry passes through pump only once, thus reducing seed damage and clogging.

If you need a dependable mulcher, then you need
THE BOWIE HYDRO-MULCHER.
Call or write for complete details.

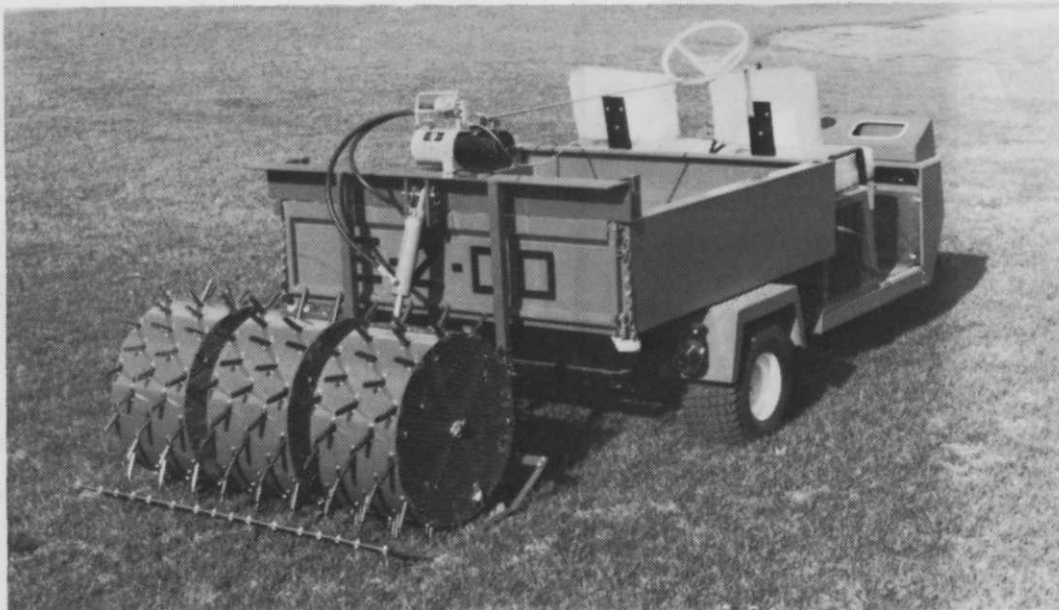


BOWIE INDUSTRIES, INC. / P.O. BOX 931 / BOWIE, TEXAS 76230 / (817) 872-2286

Circle 163 on free information card

You Get Much More With Dedoes!

SEE A DEDOES DEMONSTRATION BEFORE YOU DECIDE ON AN AERATOR.



Besides Picking up the Plugs, You Get Fast Aeration and Low Maintenance.



Plus!

1. TCA 551 offers close to 2" spacing between holes.
2. We offer a wide 5-drum unit with 6' swatch.
3. Mounts quickly to most any vehicle.
4. Operates forward and backwards.
5. Fast, positive hydraulic up and down action.
6. Hinged tine principal gives you round, clean holes.



So Why Limit Yourself?

Dedoes Industries, Inc.

1060 W. Maple Road West, Walled Lake, Michigan 48088 (313) 624-7710

NEW! 48"

KEES HEAVY-DUTY

POWERMOW

Model 481100



For large residential
and commercial
grounds use.

CHECK THESE PERFORMANCE FEATURES:

■ Powerful 11 h.p. Briggs & Stratton synchro-balanced engine ■ Fingertip clutch, brake and power turning control levers on each handle ■ Sleek deck design and drum wheel brakes for positive, close quarter mowing ■ Unique V-flanged front deflectors help prevent damage to yard decorations, monuments, etc. ■ Baffled design for clean and safe grass discharge. OPTIONS: Riding sulky and metal grass catcher.



For more information, write P.O. Box 923
or phone (402) 223-2391.

Since 1874

F. D. KEES MFG. CO. Beatrice, Nebr. 68310

Circle 154 on free information card

Use the HERBI

for better, cheaper, easier weed control
along fences, roadways, irrigation ditches,
around buildings and structures.

The HERBI gives Controlled Droplet Application ... a revolutionary approach to the application of herbicides. Its spinning disc produces a consistent 250 micron droplet, meaning ultra low volume spraying, eliminating the need for high volumes of water. Gives exact and thorough coverage, with less chemical. Startlingly economical in cost and use.



HERBI™

Micron West, Inc.

8582 Katy Freeway Houston, Texas 77024 (713) 932-1405

Circle 152 on free information card

Proscape from page 72

between 2" - 3" high. The mowing height and frequency are much dependent upon the turfgrass used. Traditionally, tall fescues have been recommended for heavy wear areas, but they tiller only weakly and hence have little ability to spread or repair damaged areas. Try using some of the finebladed ryegrass which may be less wear-resistant but tiller better. However, some cultivars do not perform well in high heat/humidity microclimates so consult with your area extension agronomist or a reputable seed dealer for the best selection. Actually, I would suggest that you acquire small quantities of different ryegrass seed and make your own little test plots in a place that would be subjected to wear and compare them to a tall fescue checkplot. When you reseed, you should cut in the new seed using a Rogers type seeder and go in two directions if possible. However be careful not to build up a monoculture of only cultivar and lose the benefits of a blend of slightly different genetic materials.

Another turf management technique that should be used concurrently with the fall aerifications is fall fertilization. If you only fertilize once a year, do it in October with a couple of pounds of nitrogen in a 1-1-1 to 3-1-2 ratio fertilizer. This encourages root growth in the late fall after aerification and early spring before the soils become compacted. If you fertilize twice a year, consider doing it after your aerifications. Keep spring fertilization to a minimum for you may be encouraging rapid, succulent growth that further reduces its wear resistance and requires more mowing and hence, more mechanical damage.

All these suggestions require time and money which may be in short supply. Perhaps you can use this answer and other such materials to persuade those so empowered to increase your budget if they want better turf.

Q: My husband and I have been doing landscaping for five years and now he would like to go back to school and get his degree in Landscape Architecture. Is there a list of schools offering programs in Landscape Architecture? M.W., Austin, TX

A: Because many universities are constantly modifying or diversifying educational programs, lists of offerings change quickly and hence no list may be comprehensive. However, recently the American Society of Landscape Architects published a list called "1978-1979 List of Accredited Programs in Landscape Architecture" and is available by writing to A.S.L.A., 1900 "M" Street N.W., Suite 750, Washington D.C. 20036, Attention — Director of Education and Research. Although this lists approximately forty institutions with full programs, there are many other schools that offer individual courses related to L.A. but no degree. So check with colleges and universities in your area for specific offerings.

WTT

MAIL COUPON FOR INFORMATION OR FREE DEMONSTRATION

Watch a VP12 install sprinkler pipe

...no-ditch installation is quick and clean.

Why dig trenches and leave scars when you install a sprinkler system?

It makes sense to keep it neat. And it's easier. A Ditch Witch VP12 vibratory plow gently tucks pipe under the turf. Eliminates hundreds of feet of raw earth trench on a typical job. For complete information or a free demonstration mail the coupon or call Toll Free (800) 654-6481.

- ☐ Send a free brochure on installing sprinkler systems with the VP12.
- ☐ Arrange a no-obligation, free demonstration.

Mail to Charles Machine Works, Inc., P.O. Box 66,
Perry, Oklahoma 73077

Name _____

Company _____

Address _____ Telephone _____
AC/ _____

City _____ State _____ Zip _____



12/WTT

DITCH WITCH HAS THE ANSWER!



J-M BUCKNER[®] INTRODUCES WATERSCAPING.

**A new concept of total irrigation capability
to help you keep things green.**

Ever since the first ditch was dug to bring water to thirsty vegetation, new and better ways to irrigate the land have continually been developed. Johns-Manville Buckner takes the next step . . . Waterscaping. It's more than controllers, valves and sprinklers that simply move water. It's the total scope of irrigation . . . from research on water distribution and component design to quality products and systems that perform reliably and efficiently. That's the way they've been designed.

Why We Call It Waterscaping.

With increasingly elaborate landscape designs, many more different kinds of vegetation to be watered and constant changes in the weather, both daily and seasonally, it becomes more apparent that irrigation is no longer a mechanical function. It has become an art and a science. Buckner Irrigation Systems is keeping up with you by providing the research, the products and the service through our distributors to help you do a better job.

Behind It All: Experience, Research and Testing.

At our computerized testing facility in Fresno, we constantly research, test and refine all the parts of Buckner systems. The purpose is twofold. First, to develop irrigation components that will perform efficiently within predetermined tolerances. The second purpose of our testing program is to insure you that the products you get will work according to our published performance data. The components we test come directly off the assembly line and all Buckner products are performance rated.





Precision Controllers With Unmatched Flexibility.

J-M Buckner is first in the industry to offer you solid-state microelectronics in an irrigation controller. Our KCS line of controllers are as easy to operate as pocket calculators. KCS offers unmatched flexibility with 12 or 24 individual circuits and four 14-day schedules ... all with timing accuracy down to a fraction of a second. The KCS totals daily watering time, allows skipping up to nine days, has both automatic and manual syringe cycles for services such as dew removal and many more unique features. Operation is simple, fast and accurate.

A Clog-Resistant Valve That Handles Any Flow Rate.

The J-M Buckner 930 Electric Valve. A new three-way solenoid eliminates continuous internal flow through tiny orifices and greatly reduces the chance of clogging. This also allows "dirty water" to pass through the valve without fouling the operation. One particularly important feature is that there is no minimum flow restriction. The valve will operate efficiently and open fully under all flow conditions.

Heads That Perform to the Specs.

Because of the design and construction of our full line of sprinkler heads and our extensive testing and quality control program, J-M Buckner heads will put out the amounts of water to the degree and configuration specified in our published technical data. Practically speaking, it means you can design our sprinkler into your system and be confident of a high level of performance in dispersing water when and where you need it.



The One Company That Has It All.

Working in conjunction with our nationwide network of trained distributors, J-M Buckner has a broad range of products and services to meet virtually any irrigation need. We offer you everything you need, whether it's for residential applications or a 36-hole golf course. Dealing with just one source is easier and economically more efficient for you. And you can be assured of compatible components that are backed by Johns-Manville.

To learn more about Waterscaping (technical information, planning assistance or quality irrigation system components), contact your J-M Buckner Distributor or Vince Nolletti, P.O. Box 232, Fresno, CA 93708, (209) 442-8511.

Circle 177 on free information card



Johns-Manville

The Musser Foundation . . . An Investment in the Future

THE MUSSER INTERNATIONAL TURFGRASS FOUNDATION

of the H. B. Musser
Turfgrass Fellowship, Inc.



We are a non-profit, tax-exempt, charitable and educational, IRS approved corporation. We are building a fund that perpetually will create income which will be used through graduate fellowships to train and educate leaders in the turfgrass field who will fill vacancies created when our active scientists retire. For some of our top leaders that time is NOW! Fellowships involve closely supervised original basic research at a recognized experiment station and the writing of a learned thesis.

Our officers, directors and advisers are qualified to offer assistance in several categories:

Benefit Tournaments can be structured to help state experiment station research as well as MITF.

Memorial Funds honor the dead with a Living Fund that supports higher education in turfgrass forever. Several currently are in existence.

Trusts can be developed by our specialists to benefit both the donor and MITF.

Contributions always are welcome in any amount. Donations will be gratefully acknowledged and the donor's name will be permanently inscribed on the Fellowship rolls.

For further information please fill out the coupon below.

Mail to: Mr. Ben O. Warren, Treasurer, 8400 W. 111th St.,
Palos Hills, IL. 60465.

Check appropriate box(es) and a brochure will be sent with further information.

- ☐ Benefit Golf Tournaments
- ☐ Memorial Funds
- ☐ Charitable Remainder Trusts
- ☐ Contributions: () \$1,000; () \$500; () \$250; () \$100; ()

Name _____

Club or Organization _____

Address _____

City _____ State and Zip Code _____

Telephone _____

VEGETATION MANAGEMENT

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

Question: I would like to hear an expert's true opinion on the use of tree spikes (gaffs) for climbing and its effects on the tree.

Answer: We do not recommend the use of gaffs or any other practice that unnecessarily disrupts the protective bark layer.

Recent evidence has shown that trees respond chemically and structurally to a wound and compartmentalize or "wall off" the area around the wound. Some species are highly effective at containing invading microorganisms that lead to internal decay, while others display a weak wound response.

I would suggest that you contact Dr. Alex Shigo for more detailed information on wound research. His address is: USDA Forest Service, Northeastern Forest Experiment Station, Durham, New Hampshire 03824.

Question: Will two inches of topsoil and a layer of sod cause any serious damage to a pure stand of Norway pine (*Pinus resinosa*)?

Answer: I do not have any specific information for *Pinus resinosa*, but we have records of as little as

one inch of fill soil causing the decline of other species.

Of course, some species will tolerate fill over the root system better than others, but, in most cases, the roots of established trees will be injured by any change in grade.

Trees which have had fill placed over the root system should be watched carefully for at least ten years. Thinning and fertilization will help reestablish the equilibrium between the roots and shoot (stem and foliage) of affected trees.

Question: What can be done to control verticillium in maple trees? My maples are dying.

Answer: Several researchers are testing materials for chemical control or suppression of verticillium wilt. Dr. Peter Rice of The Royal Botanic Garden in Ontario has had encouraging results with Lignasan BLP. However, the treatments with Lignasan and with the other chemicals currently being tested are still experimental and are not recommended for commercial use.

The standard recommendation is good cultural practices to minimize the severity of the verticillium infection.




MODEL 1M — The safest, easiest to use manually operated earth drill on the market

Half the labor cost . . . no torque kick-back . . . drills right up against walls and fences.

5 hp engine, safety clutch, 3-position handle bars. Tows at high speed.

2" to 12" interchangeable augers. Standard or Pengo boring heads.

1 MAN EARTH DRILL



3, 5 and 8 horsepower . . . ample for any type of soil

Models C-71, C-71.5 and 82

Lightweight and virtually maintenance free, these dependable earth drills feature heavy duty gear box and safe automatic clutch. Handle bars detach for close-up drilling and easy portability.

4" to 12" augers with changeable blades and fishtail pilots.

2 MAN EARTH DRILL

For Further Information Write or Call . . .



GROUND HOG INC.

P.O. Box 290 • San Bernardino, Calif. 92402 • (714) 888-2818

Circle 140 on free information card

Flail Safety

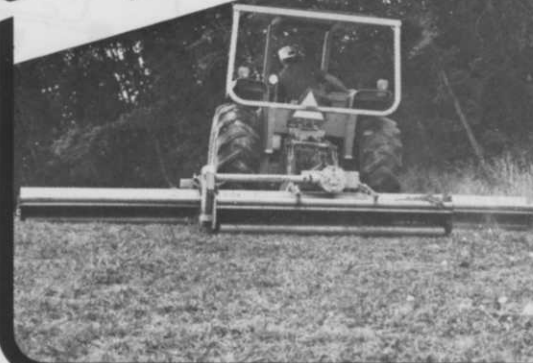
Cut your grass and cut your risks with Mott flail safe mowers. Lightweight, free-swinging flail knives yield when striking objects, reducing the force of impact. Their vertical mode of operation, the guard action of the roller, and the deflecting features of the cutter housing all combine to make Mott mowers safer.

Cutting widths from 38 to 88 inches and gangs to 19 feet. Mott mowers have Long Life Durability and for you that means Best Value Purchase.



MOTT CORPORATION
514 Shawmut, La Grange, Illinois 60525. (312) 354-7220

The Original Flail Safe Mowing System



Circle 112 on free information card
FEBRUARY 1979/WEEDS TREES & TURF

Hypro sprayer pumps

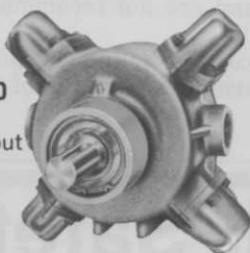
Choose from a wide range of pump designs and materials to suit your requirements: cast-iron, Ni-Resist and bronze pump housings... even nickel plating on piston pumps.

PISTON PUMPS



**Series 5200
Big Twin**
10 gpm output
at 400 psi with
6 hp engine

**Series 5400
4-Cylinder**
25 gpm output
at 600 psi



ROLLER PUMPS

Choice of nylon, polypropylene or rubber rollers.



Series 6500
7.6 gpm at 100 psi
6 gpm at 200 psi
4 hp gas engine
Other models
up to 44 gpm
at 50 psi.

CENTRIFUGAL PUMPS



Series 9200.
Output to 124 gpm.
Pressures to 70 psi.
Speed of 4200 rpm.

Send for your **FREE**
Sprayer Pump Handbook

Hypro
A DIVISION OF LEAR SIEGLER, INC.
347 Fifth Ave NW, St. Paul, MN 55112 • (612) 633-9300

Circle 148 on free information card

WT&T PRODUCTS



The Little Dude model GF-330, a self-propelled, small acreage traveler has been added to Consolidated Pipe and Tube Company's line of irrigation sprinklers. The unit operates on a similar concept as a traveling lawn sprinkler, but throws a stream of water as far as 300 feet in diameter.

The unit pulls 330 feet of hose, giving it a range of 1/4 mile, and can

irrigate up to three acres per setting.

The force of the water activates a winch attached to an anchored cable to propel the unit on a straight path across a field. By shifting gears, the unit can vary the speed to apply 1/2 to 1 1/2 inches of water. It has its own hose reel.

Circle 712 on free information card

Wire Baskets for balling rtrees are available in sizes from 18 to 40 in. from Kerr Wire Products Co. The baskets are designed to fit the taper of the Vermeer Tree Harvester. Looped uprights improve ease and speed of finishing and provide improved protection for top and bottom. The baskets lead to better production rates, better ball holding capability (especially in sandy or dry soil) and uniformity of package.

Circle 716 on free information card.

SUPER D WEEDONE[®] APPLIED BY METER-MISER



Only way
to total
lawn weed
control!

Super-D is the formulation that's right for you with broader coverage for your dollar and a broad range of weeds under control.



AMCHEM PRODUCTS, INC.
Subsidiary of Union Carbide Corporation
Ambler, Pennsylvania 19002

Circle 170 on free information card