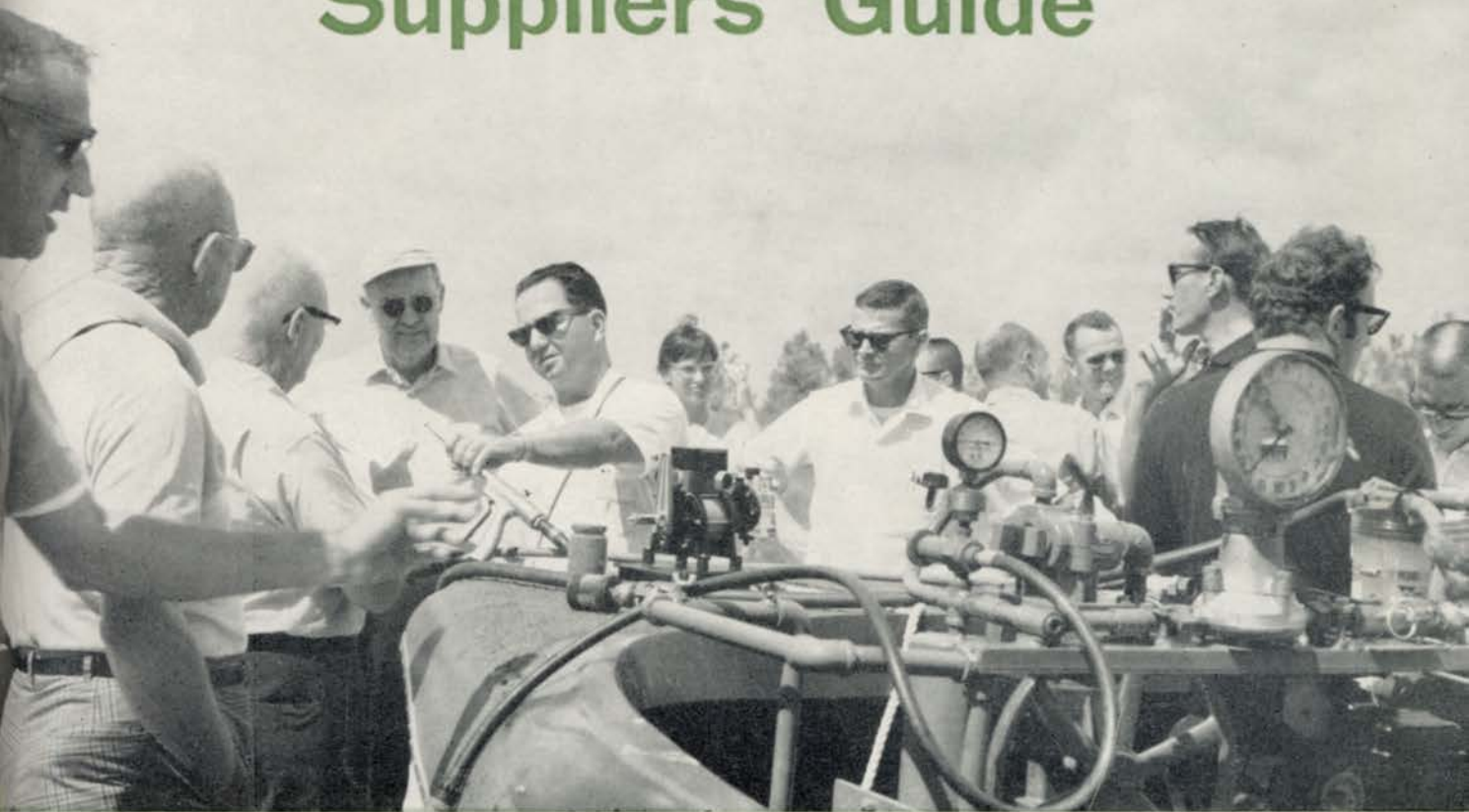


WEEDS TREES and TURF

DECEMBER 1967

1968 Suppliers Guide



Aquatic vegetation control equipment and chemicals are becoming more complex as this phase of vegetation care becomes more prominent in the industry. Homebuilding and commercial use of inland water has been accompanied by a buildup of aquatic weeds which limit recreational, commercial, and public use of both natural and artificial water areas. Equipment for aquatic use being studied above was exhibited at Hyacinth Control Society annual '67 meeting at Ft. Myers, Fla.

Highlights of 1967 . . . Page 8

Index to All 1967 Articles

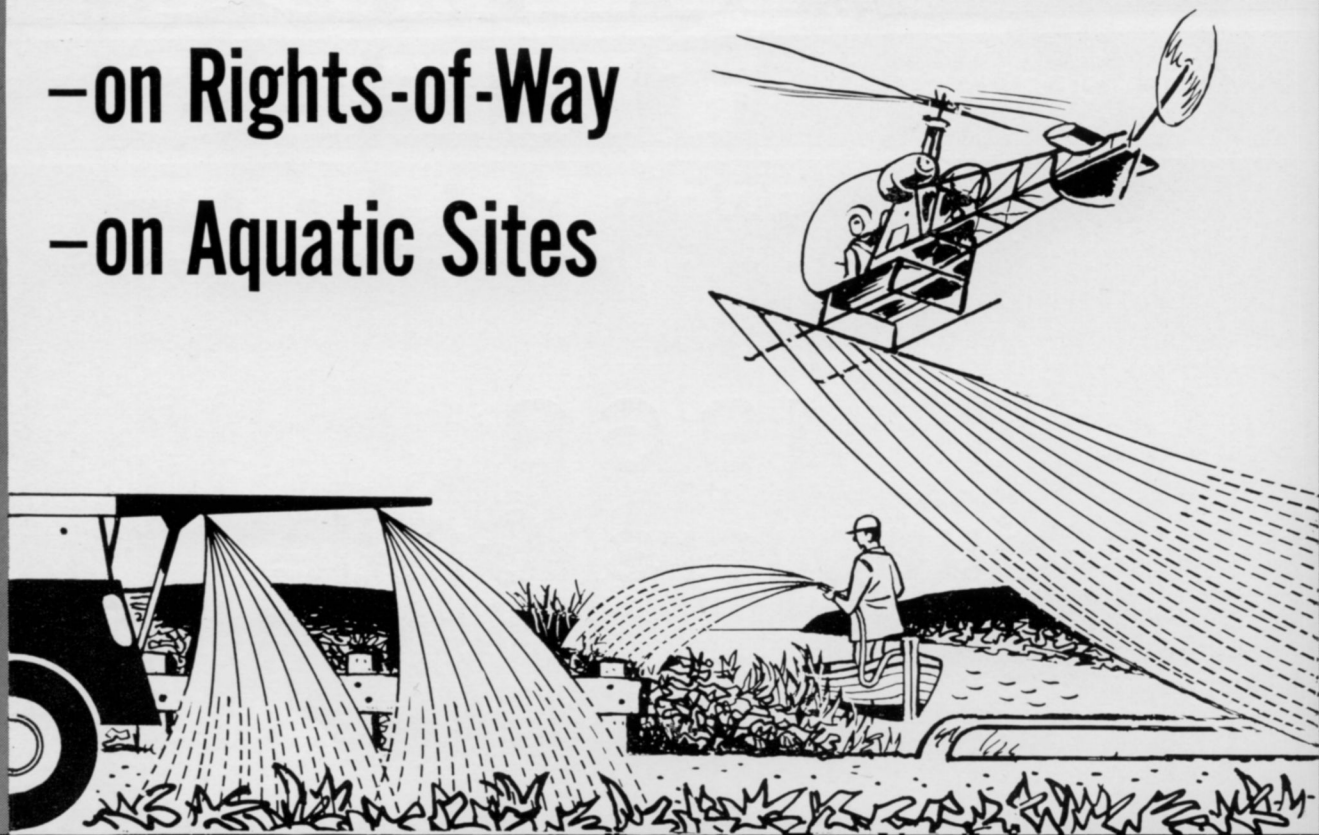
Monthly magazine of methods, chemicals and

equipment for vegetation maintenance and control

WHETHER SPRAYING WEEDS AND BRUSH

-on Rights-of-Way

-on Aquatic Sites



specify
VISKO-RHAP*
herbicides

to hit the
KILL ZONE
and to stick
for good control

Visko-Rhap herbicides are special formulations of 2,4-D, 2,4,5-T, silvex, and combinations of 2,4-D and 2,4,5-T. They hit the kill zone as mayonnaise-like, oil-coated droplets that control spray drift. Compatible with other herbicides, they can be the foundation of prescription weed control... whether applied by air or ground equipment.

Write for information on how your organization can benefit from drift control and labor savings, eliminate product waste, and improve your weed and brush control program by using Visko-Rhap herbicides.

Agricultural Chemicals, Synthetics Department, Hercules Incorporated, Wilmington, Delaware 19899.

*HERCULES TRADEMARK

SP67-6



BOSTON, MASSACHUSETTS • CHICAGO (OAK BROOK), ILLINOIS • DALLAS, TEXAS •
GREENVILLE, MISSISSIPPI • MINNEAPOLIS, MINNESOTA • MONTGOMERY, ALABAMA
• ORLANDO, FLORIDA • RALEIGH, NORTH CAROLINA • SAN FRANCISCO, CALIFORNIA

Here is the most precise
grass seeder made...



the
NEW

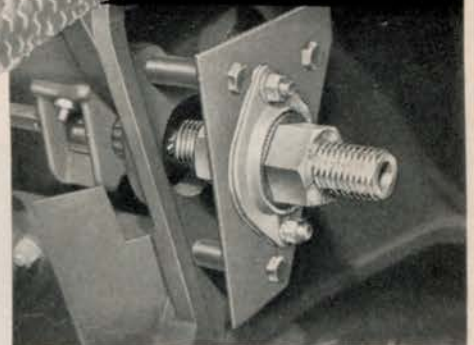
Brillion

TURF-MAKER with exclusive Micro-Meter adjustment

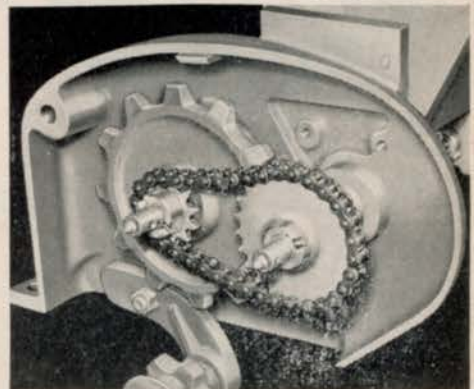
The Turf-Maker is the best money-maker available to professional landscapers, turfmen and sod growers. It combines ruggedness and Swiss watch calibration for precise seeding of the finest grasses and lawn mixtures over large areas — and assures full, thick stands at about half the seeding rates of conventional methods. Because it crushes, seeds and rolls in one operation, Turf-Maker enables one man to seed up to 50 acres per day without extra help, equipment or other seedbed conditioning.

Look at the exclusives. Brillion's unique Micro-Meter adjustment provides an infinite number of settings for precise metering of the finest seeds. The fluted feed rolls — one of the most accurate seeding mechanisms known — dole out even the tiniest seeds with miserly accuracy. Reversible two-speed sprockets give you an additional range of seeding rates to match any requirement. The specially designed and slightly offset notched wheels tuck the accurately metered seed into the top 1/2" of the gently-firmed, moisture-retaining seedbed for rapid germination and growth.

Turf-Maker is available in 8' and 10' seeding widths, with drawbars and 6 1/8 and 7 1/2 bushel seed boxes. Options include transport wheels for both sizes, and 3-point Category II pick-up for the 8' seeder. Buy Turf-Maker, the money-maker. Mail coupon for details.



MICRO-METER adjustment enables you to select the exact setting you want by aligning the markings on the adjusting nut and the shaft thread to correspond with settings on the seed rate chart.



SPROCKETS afford a dual range of seeding rates. Small sprocket on driver shaft (shown) is for lighter seeding. For heavier rate seeding, you simply reverse the mounting of the sprockets.

Brillion

LANDSCAPE SEEDERS WITH A FUTURE — FOR YOU!

LS-91

BRILLION IRON WORKS, INC., Dept. LS-59-12, Brillion, Wisconsin 54110

Please send information on the following:

- | | |
|---|----------------------------------|
| <input type="radio"/> New Turf-Maker | Name _____ |
| <input type="radio"/> Landscape Seeders | _____ |
| <input type="radio"/> Grass-Legume Seeders | Address _____ |
| <input type="radio"/> Name of nearest Brillion dealer | _____ |
| <input type="radio"/> Landscape Tools | City _____ State _____ Zip _____ |

Just think of the legend, Johnny, if your seedbeds had contained **NITROFORM**[®]



LOOK FOR THE

**BLUE
CHIP**
FERTILIZER

tag on the fertilizer bag to be sure your mixed fertilizer contains nonburning, slow-release Nitroform[®] plant food—in the form of granular Blue Chip[®]

When Johnny Appleseed walked barefooted ahead of the Western settlers to seed apple trees, he had to depend on luck and Mother Nature to supply nitrogen for the seedbed. Not so today. The modern horticulturist can be sure plants have long-lasting, nonburning nitrogen in the seedbed with Nitroform.

Nitroform[®] Hercules ureaform plant food contains 38% nitrogen in a nonburning form. Since Nitroform nitrogen is released slowly, it stays in the soil to become available as needed by the young plants.

Thus, the seedlings nourished with Nitroform—whether turfgrass, trees, ornamentals, or other plants—have a steady supply of nitrogen, develop strong root systems, and get a good start as healthy plants.

Nitroform nitrogen comes in two forms. Granular Blue Chip[®] is easy to apply for dry applications; Powder Blue* can be applied dry or sprayed on as a wettable powder. Ask your Nitroform supplier for recommended rates, or write: Turf & Horticultural Products, Synthetics Department, Hercules Incorporated, Wilmington, Delaware 19899.



HERCULES

STH67-12

*HERCULES TRADEMARK

WEEDS TREES and TURF

December 1967
Volume 6, No. 12

FORMERLY WEEDS AND TURF

Features:

Highlights of 1967	8
Shade Tree Evaluation Project	15
1968 Suppliers Guide	18
1967 Index to Articles	42
Mulches Improve New Turf Stands By W. R. Thompson, Jr. and Hiram D. Palmertree	48

Departments:

Editorial: Business Image for 1968	6
Meeting Dates	47
Know Your Species	52
Classifieds	53
Advertisers Index	53
Insect Report	54
Trimmings	54

UNIVERSAL Wheel Pump SPRAYER

It pumps
as it's
pushed!



For Turf Care!

One of the handiest sprayers a professional can own. Ideal for jobs too small or too irregular for power equipment. Sprays either a 48" wide or 24" wide swath. Unique rubber wheel-pump "milks" out solution as you push the sprayer. Lays down a heavy residual spray. For killing weeds. Fungus control. Insect control. Turf grubs. Fertilizes, too. Safe. Sure.

Write for new catalog.



UNIVERSAL METAL PRODUCTS DIV.
LEIGH PRODUCTS, INC., SARANAC, MICHIGAN

Advertising Sales Offices:

National Headquarters—9800 Detroit Ave., Cleveland, Ohio 44102, 216+631-6468;
Chicago, Ill. 60601—333 N. Michigan Ave., 312+236-9425; **Shawnee Mission (Kansas City), Kansas 66202**—6811 W. 63rd St., 913+722-5900; **New York City 10017**—757 Third Ave., 212+421-1350; **Rosemont, Pa. 19010**—1062 Lancaster Ave., 215+525-1874; **Columbus, Ohio 43212**—1350 W. Fifth Ave., 614+486-9638; **East Lansing, Mich. 48824**—322 Abbott Rd., 517+332-3521; **Los Angeles, Calif. 90005**—The Eschen Co., 3142 Wilshire Blvd., 213+382-8391; **San Francisco, Calif. 94104**—The Eschen Co., 57 Post St., 415+781-7440.

BPA Application Applied For

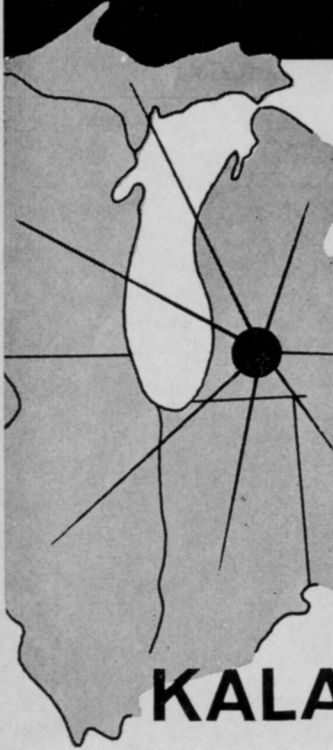
WEEDS, TREES AND TURF is published monthly by The Harvest Publishing Company. Executive, editorial: 1900 Euclid Ave., Cleveland, Ohio 44115.

Single Copy Price: 50 cents for current issue; all back issues 75 cents each. Foreign \$1.00.

Subscription Rates: U.S. and possessions, 1 year \$3.00; 2 years \$5.00. All other foreign subscriptions: 1 year \$4.00; 2 years \$7.00. **Change of Address:** Three weeks advance notice is necessary for change of address. Both old and new address must be given. Post Office will not forward copies. Third Class postage is paid at Fostoria, Ohio 44830.

© The Harvest Publishing Company, 1967

FAST...



FIVE STATE SERVICE FROM DILL OF KALAMAZOO

Depend on Dill for regular as well as emergency needs. Shipments are usually made same day order is received—from ample stocks in our modern warehouse. Excellent transportation facilities from Kalamazoo to all points.

YOUR 'ONE-STOP' HEADQUARTERS! ALL CHEMICALS AND EQUIPMENT FOR:

- TURF AND WEED CONTROL
- SOIL STERILIZATION
- AQUATIC WEED CONTROL
- MOSQUITO CONTROL
- TREE AND ORNAMENTAL

Write or call today for prompt action!



*chemicals
insecticides
equipment*

THE J. J. DILL COMPANY MANUFACTURERS AND DISTRIBUTORS
OFFICE AND WAREHOUSE—1407 RAVINE ROAD, PHONE 349-7755
MAIL ADDRESS—P.O. BOX 788, KALAMAZOO, MICH. *area code 616*

Business looks good for the new year! We haven't talked with anyone or read a statistical outlook that would indicate otherwise. Sure there are problems ahead. Pending legislation, new taxes, labor shortages, and general increases in the costs of doing business will continue to challenge the management acumen of the best. Even so, 1968 promises to be a good one from the standpoint of cash income.

Assuming this is true, you can expect some volume increase dollarwise . . . and businesswise, if you seek out the business. But what about the image of your company—to you, to your employes, and to the clients or public you serve? What can you do during the coming year to further establish your likely already strong position?

We believe a practice which pays major public relations dividends and builds image is attendance at industry meetings. You can't make them all, but most businessmen today readily agree that many good tips for them through the years have resulted from trading ideas at annual meetings, conventions, short courses, etc. They agree further that nothing boosts the morale so much as a convention break. Today, you can expect programs to be technical and keyed to your specific needs. The suppliers you buy from, along with the manufacturers, are on hand. They help solve many knotty problems with both official and "off the record" information about their products and equipment and how to use them.

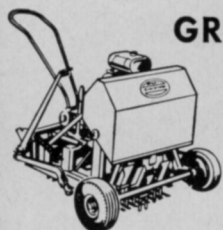
If attendance at a conference lifts the spirits of the owner or manager, it does even more for the associate members of the firm. It may even help keep a man in the business. This point is especially important to the vegetation care business, which is already short of trained people.

Another point in favor of representation at a meeting, besides your influence on proceedings, is the image you present to your clients. Attendance will always make the local newspaper and radio station, if you are sure to let the news people know of your trip. By this means, the community can be made aware that yours is a business operated by technicians in the know, on the order of the "factory trained" mechanic or service man.

Now is the time to make firm plans. During the next 60 days, national and regional meetings are scheduled in every phase of the vegetation care and control business. Not only will you and your associates benefit, but you will also add your influence to the upgrading of your industry's image.

WEEDS TREES AND TURF is the national monthly magazine of urban/industrial vegetation maintenance, including turf management, weed and brush control, and tree care. Readers include "contract applicators," arborists, nurserymen, sod growers, and supervisory personnel with highway departments, railways, utilities, golf courses, and similar areas where vegetation must be enhanced or controlled. While the editors welcome contributions by qualified freelance writers, unsolicited manuscripts, unaccompanied by stamped, self-addressed envelopes, cannot be returned.

Use Ryan power equipment to build better turf at low cost—it's golf course proved!



GREENSAIRE:

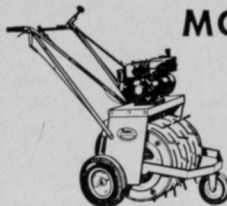
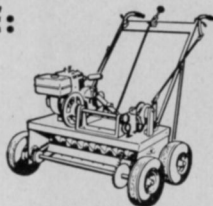
Self-propelled

Most thorough coring greens aerator.

SPIKEAIRE:

Self-propelled

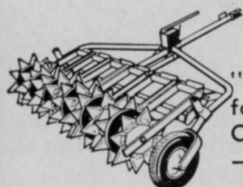
Touch control disc spiking aerator.



MOTORAIRE:

Self-propelled

All-purpose coring aerator.



RENOVAIRE:

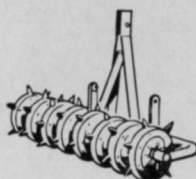
Tractor-drawn

"True Contour" fairway aerator. Coring — slicing — renovating.

TRACAIRE:

Tractor-drawn

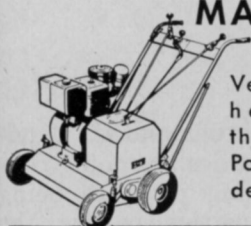
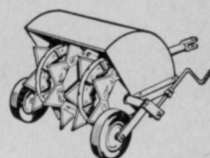
Athletic field and playground aerator. Coring — slicing — renovating.



LAWNAIRE:

Tractor-drawn

Garden tractor and riding mower aerator. Coring — slicing — renovating.



MATAWAY:

Self-propelled

Vertical slicing heavy-duty thatch control. Power raking — deep slicing.

REN-O-THIN:

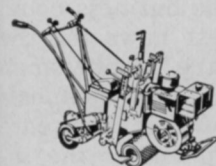
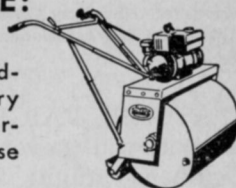
All-purpose "power rake". Power raking — thatch control.



ROLLAIRE:

Self-propelled

Easy back-and-forth vibratory rolling with forward and reverse power.



SOD CUTTERS:

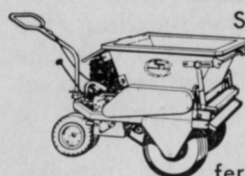
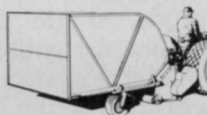
Self-propelled

World's most widely used units — four models, 5 cutting widths.

GROUNDS GROOMER

Tractor-drawn

Large-area vertical slicing, thatch removal. 5 yd. hopper.



SPREAD-RITE:

Self-propelled

Big capacity top dresser, fertilizer spreader.

Aerating . . . spiking . . . slicing . . . renovating . . . thatch control . . . sod cutting and sod rolling—these are some of the words you'll hear turf professionals use to explain how they keep their turf in top condition. Ryan equipment *mechanizes* these jobs so that you can do a bigger, better turf maintenance job at less cost. Write for 24-page Ryan "Guide to Greener Grass"—also ask for new question-and-answer folder on improving playgrounds and athletic fields.



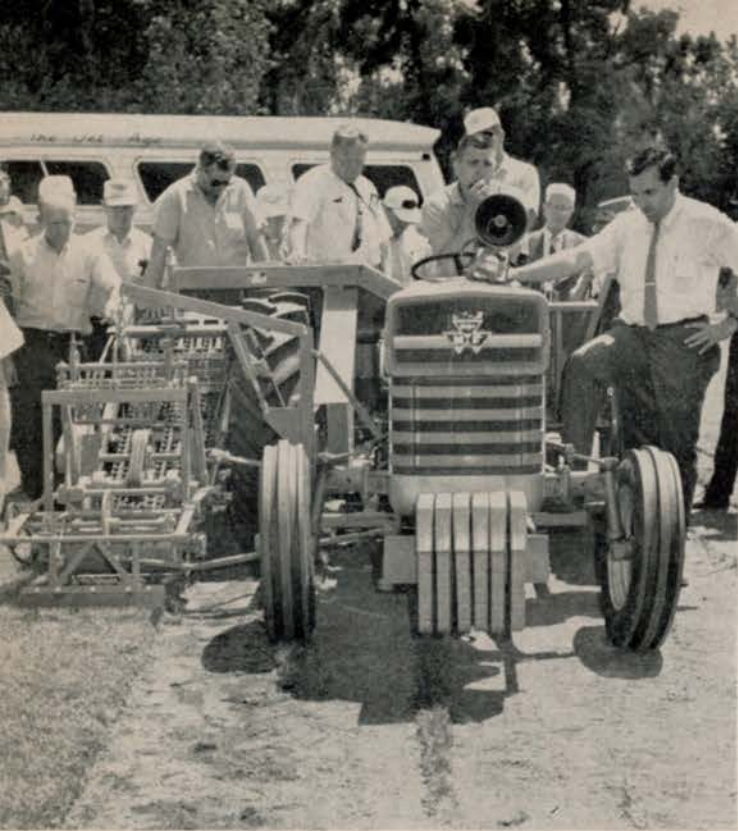
Manufacturers of WORLD FAMOUS Turf Equipment

EQUIPMENT COMPANY

2055 WHITE BEAR AVE., ST. PAUL, MINN., 55109

WORLD WIDE SALES THROUGH LEADING TURF EQUIPMENT DISTRIBUTORS

When Writing to Advertisers Please Mention WEEDS TREES AND TURF



Ryan Equipment Company's new tractor-mounted sod roller was demonstrated by Jerry Ogren, of the company's St. Paul, Minn., office, to American Sod Association Field Day crowd.

Highlights of 1967

A WTT report on the \$6 billion weed control, tree care, and turf business of the nation, featuring the significant events of the industry.

SATCHEL PAIGE'S theory is that you never look back, "Someone might be catching up." Satch has a good point, but with most of the zip missing from that famous arm, Satch probably enjoys recalling the elation he felt on days when he pitched particularly well and set down the opposing batters in order.

Unlike Satch in this instance, the WTT staff feels that the records of the vegetation care industry in 1967 are worthy of note. By the end of this month, more than \$6 billion will have been spent on weed control, tree care and maintenance, and turf production and care. Again unlike Satch, who has seen his best years, the vegetation care industry, which includes weeds, trees, and turf, has not even reached its zenith. It promises unbelievable growth.

William M. Latta, president of Princeton Turf Farms at Kansas City, Mo., pointed up the growth expected of his area of the industry this year when he stated that "All phases of the turf industry are expanding at a rate undreamed of 10 years ago. More golf courses, parks and play-

grounds, athletic complexes and the desire for instant lawns, coupled with more and larger turfgrass nurseries, have contributed to this growth." "The irrigation industry," he said, "recognizes turf irrigation as the largest single phase in dollar volume irrigation sales. If this rate of expansion continues, it will soon be the largest economic segment of the entire agriculture industry in the United States. Anyone who earns his livelihood in any one of the many segments of this industry cannot afford to lag behind."

For the turf section of the industry, and for others such as arborists and spraymen, the National Beautification Program in 1967 became the common concern of the individual citizen across the nation. It finally gained the impetus needed to make it the action program it is today. No program has heretofore shown such promise of cash income for the industry, and at the same time been coupled with the common good of the citizenry, as has the beautification effort. It has made the community aware of the need for civic beauty. Groomed munic-

ipal areas are demanded. Landscape possibilities are going begging. More big jobs are being sold as industries realize the value of the well-kept industrial site.

Aside from the business boom of the year, best news for the vegetation care businessman was the advent of new chemicals especially helpful in the care and control segment of the industry. These included growth regulators, particulating agents to control drift, and spray equipment designed to deliver material on target. The challenge for spraymen this year was to learn how to best use the newly cleared control agents.

New ideas cropped up, many worthy of trial. Norman J. Scott of Willowdale, Ontario, Canada, came up with the idea of a professional horticultural consulting service. He said that other professions get paid for advice. The same should be true of the professional vegetation care expert, according to Scott, who has made it pay. Another practical idea which fits the financial patterns of corporations is landscape leasing. Contractors furnish materials and care, and



Princeton Turf Farms' Sod Harvester is capable of handling up to 10,000 square feet of cut and palletized sod per hour, based on report during field day demonstration. Wiley Miner, president of Princeton Turf Farms, on hand for the field day, was instrumental in development of the machine which operates with 3 men and produces uniform pads of folded sod, stacked on pallets.



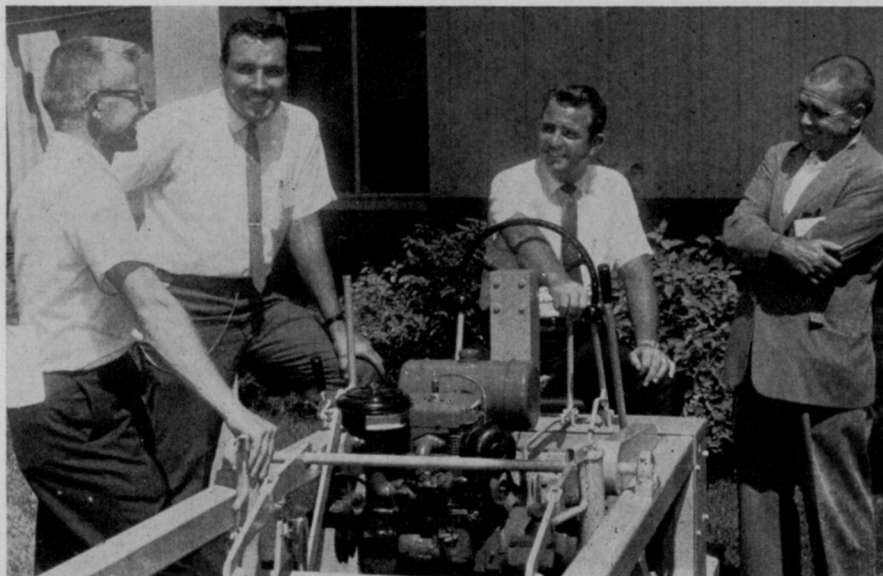
Nunes Sod Harvester was demonstrated by John Nunes of Cal-Turf Farms. Nunes reported unit will lift, roll, and palletize up to 1200 square yards per hour.

charge companies by the month over a 5-year period. Corporations enjoy a tax advantage.

American Sod Producers Stage First Field Day

Sod growers made big news in 1967. They organized nationally as the American Sod Producers Association. Ben O. Warren, Warren's Turf Nursery, Palos Park, Ill., was elected president of the new group on July 11 at East Lansing, Mich. Organized with 40 charter members, the group is underway and is now actively soliciting new members among the nation's 800 bona fide sod producers.

The new national group started their activities July 12, with a previously arranged field day. With the help of the Mich-



Daymon Sod Roller operation was explained by Bob Daymon, on driver's seat, during tour of Daymon's Emerald Valley sod farm, to Duane Girbach, Livingston County, Mich., county agent, left, and Donald Juchartz, Wayne County, Mich., county agent. To right is Ben O. Warren, Warren's Turf Nursery, Palos Park, Ill.

Hadfield Sod Roller, designed to fit on Ryan sod cutter, was among new equipment demonstrated. Hadfield reports unit operates strictly as 1-man operation and is now available with a rider attachment. Roller is manufactured by Hadfield at Oxford, Mich.



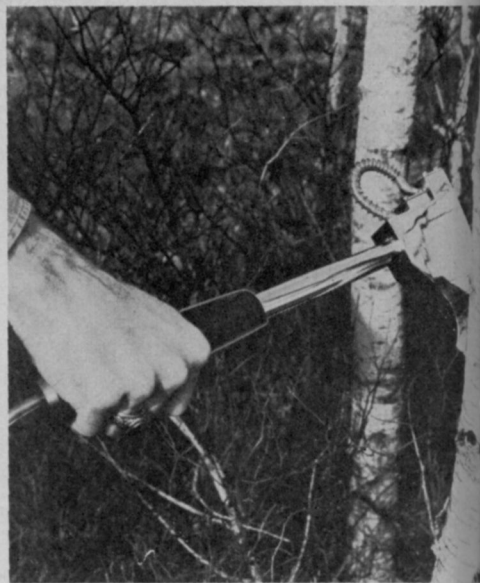
igan State University staff and Wayne County Agent Donald D. Juchartz, a full scale tour and equipment demonstration was staged at Emerald Valley Turf Nurseries, Inc., Fowlerville, Mich., and at Halmich Sod Nursery, East Lansing, Mich.

After viewing solid set irrigation, aerial application and sod production at Emerald Valley, the group moved by bus to the Halmich sod farm. Here the field demonstration featured the greatest array of sod harvesting and handling equipment seen anywhere to date. Harvesters, sod cutters, sod rolling equip-



Students in turfgrass management program at Iowa State University, Ames, Ia., conduct laboratory exercise which includes work with nutrient solutions used in turfgrass culture. Iowa college training program was one of 26 colleges and universities of nation which worked with WTT staff on comprehensive survey in 1967 of available training.

New injection system permits accurate placement of systemic herbicides and insecticides at up to 600 trees per hour. Known as the Hypo-Hatchet, the unit is produced by the Ansul Co., Marinette, Wis.



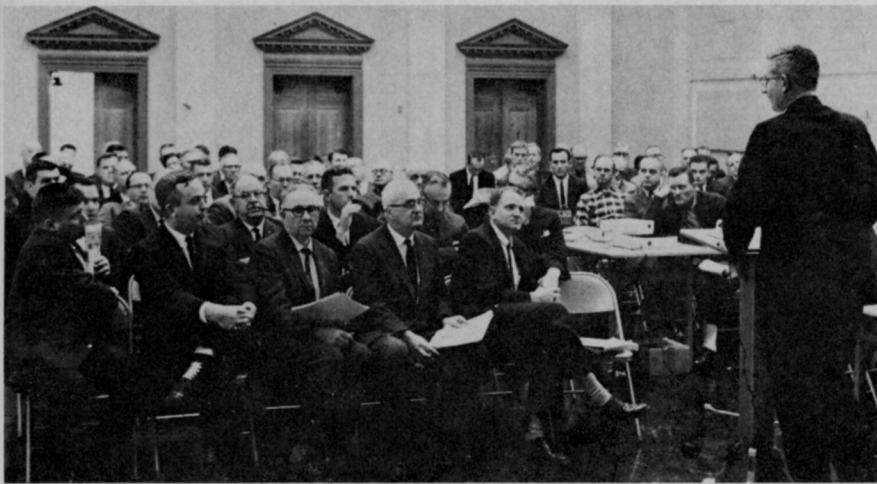
Seed of new sod variety, 0217, Fylking Kentucky Bluegrass, became available. Note rhizome development in sod plug 12 months after seeding. Tests indicate that new sod is adapted to close clipping and possesses desirable qualities of color, density, and hardness.



New officers and directors of the Missouri Valley Turfgrass Association chosen in conjunction with Lawn and Turfgrass Conference at the University of Missouri, pictured here at their first meeting following the election, are (from left front): secretary-treasurer Earl M. Page, Earl M. Page, Inc., St. Louis; president William M. Latta, manager, Princeton Turf Farms, Kansas City; first vice president and retiring president, Robert V. Mitchell, Sunset Country Club, St. Louis; and second vice president, Walter W. Fuchs, Upjohn Co., Glen Ellyn, Ill. Standing are director Donald Clemans, Norwood Hills Country Club, St. Louis; group advisor and consultant, Dr. Delbert Hemphill, professor of horticulture, University of Missouri, Columbia; and director Stan Frederiksen, Mallinckrodt Chemical Works, St. Louis. Not pictured is director Robert Bechtold, Bechtold Lawn Service, Columbia.



Lynn Partee, left, Blume System Tree Experts, Houston, Tex., received Class I safety award from NAA safety division chairman, Glenn Burns. Blume won the award for companies with 100 or more employees for the 7th consecutive year at NAA annual.



Virginia sod producers organize. Virginia Cultivated Turfgrass Association was name chosen by new organization at Middleburg, Va. Discussing Virginia's new sod law with group is Dennis E. Brown, Richmond, supervisor of state's Seed Regulatory Services, Department of Agriculture.

ment—some new and never before exhibited—were demonstrated.

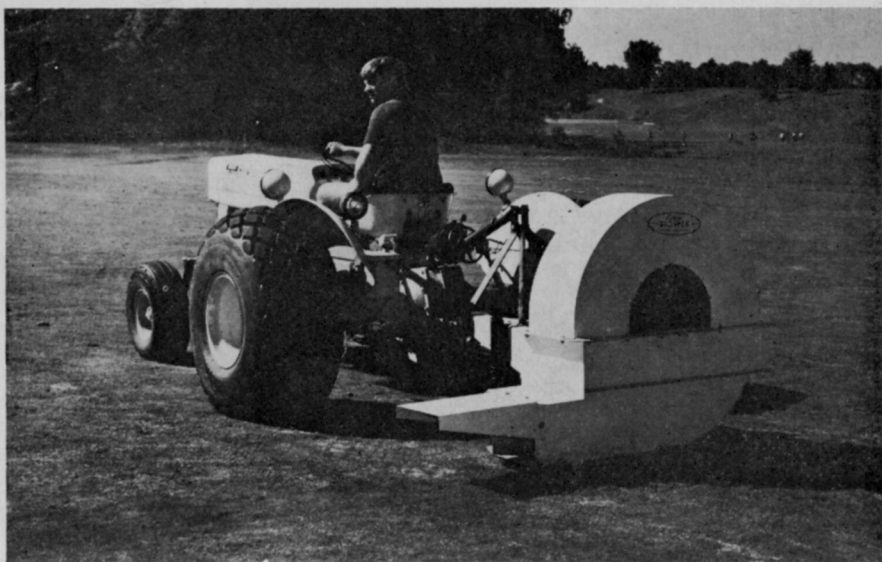
Industry Association Activities At All-Time High

Virginia sod growers, like those nationwide, are working to improve their industry. In March, they formed the Virginia Cultivated Turfgrass Association with approximately 50 members. That state's new sod law includes a program for certifying and improving sod. Elected president of the group was George C. Calder, Clifton, Va. The group has been working closely with state sod associations in Maryland and New Jersey.

The American Association of Nurserymen reported 255 new memberships at the 92nd Annual Convention at Bal Harbour, Fla., during the summer. This brings total membership in the organization to 1555. Newsworthy note for the organization was the announcement that Robert F. Lederer, executive vice-president for the AAN, will serve in the same position with the National Landscape Nurserymen's Association. The umbrella management idea makes for common office services, with each group continuing with its own governing body, separate bylaws, and independent association goals.

Good news for the industry was agreement among highway officials to put landscaping under separate bids in highway construction. Because this has seldom been done, plant survival

has been poor. Representatives of the American Association of State Highway Officials, American Association of Nurserymen, Associated Landscape Contractors of America, Highway Research Board, and Bureau of Public Roads met in Washington, D. C. during April and discussed this problem. They agreed that firms chosen to do landscape work should be qualified by prior experience and reputation. Even more important, the officials agreed that highway departments need to project their plant material needs 3 to 5 years in advance. Attempts will also be made to



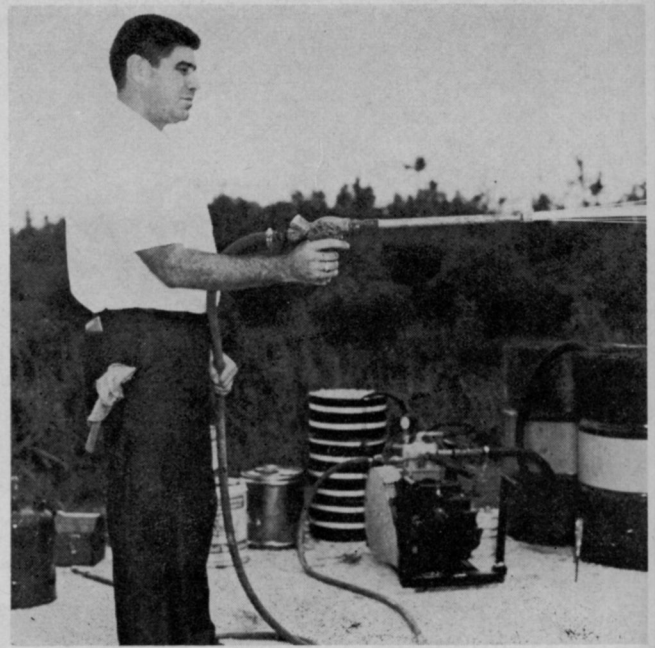
Rogers blower is used to free fairways of refuse following thatching or aerating. On blower is Bob Hislop, summer employe at Cascade Hills Country Club, Grand Rapids, Mich.



New officers of the Golf Course Superintendents Association of America. From left to right: Walter Boysen, superintendent, Sequoyah Country Club, Oakland, Calif., president; Director Robert Mitchell of Sunset Country Club, St. Louis, Mo.; James Brandt, vice president, from Danville, Illinois Country Club; Keith Nisbet, director, from Westview Golf Club, Aurora, Ontario, Canada; and Herman Johnson, director, from Quail Creek Golf and Country Club, Oklahoma City, Okla. They stage the 1968 convention at San Francisco, Feb. 18-23.



John Gallagher, left, and James D. Gorman discuss aquatic weed problems during field demonstration of Hyacinth Control Society annual meeting. Gallagher is aquatic weed research specialist, Amchem Products, Inc., Ambler, Penna., and Gorman is director of the Hillsborough County mosquito control unit, Tampa, Fla.



Stull Chemical Company's Bifluid System as an aquatic weed control technique is being demonstrated at field session of Hyacinth Society meeting by Bob Burgdorff, sales representative of Stull, Houston, Tex. On the program Burgdorff related Stull's pioneer work with this new concept of vegetation control.

specify species adapted to the area where they will be used.

Aquatic Weed Problems Important Phase of Industry

Aquatic weed control programs became more complex during 1967. With greater segments of the nation's population using inland water, there has been a like increase in lake, canal and stream pollution. This in effect has fertilized these waters to the extent that they have become natural incubators for weed growth. Only recently has this been recognized.

Weeds reduce value of water

for recreational, commercial, and public use. This results in lowering the value of adjacent property and creates a demand to control the aquatic vegetation.

Best example of how fast noxious aquatic weeds can become a problem has been found in the Panama Canal. Within the last 5 years, Elodea and other varieties of submersed weeds have choked a number of areas. Speaking to 150 leading aquatic industry members at the 7th annual meeting of The Hyacinth Control Society at Ft. Myers, Fla., this summer, Julian S. Hearne, on the Canal staff, re-

ported that mechanical methods would no longer do the job. Extensive testing is underway with chemicals, a must to keep the Canal open.

Also new in eastern and southwestern U. S. is the plague of Eurasian watermilfoil. Now well established in the Chesapeake Bay area and along the west

Earl Ogle, Hercules, Inc., Wilmington, Del., demonstrated Hercules equipment for testing consistency of invert spray materials during field demonstration at Hyacinth Society's 7th annual meeting.

Area in foreground was treated twice with paraquat at 6 lb/A in 1966. The picture was taken 1 year after treatment. Reserach was done by USDA Agricultural Research Service.





Ronald L. Harper, left, Philadelphia Electric Co., Philadelphia, Pa., and Hyland R. Johns, Asplundh Tree Expert Co., Jenkintown, Pa., co-chaired the 43rd ISTC Conference. They were on hand to welcome the 1000 attending the event. They are using Asplundh Chipper Company's L-30 fibreglas boom and bucket.

coast of Florida, it is dominating the water of several hundred thousand acres where it is growing.

International Shade Tree Conference Elects Parr

Members of the I.S.T.C. attending their 43rd conference at Philadelphia, Pa., this summer were happy with the current business boom. But they seemed concerned with the rising cost of doing business and the need to

keep service charges keyed to costs of operation.

A total of 795 registered for the session, with more than 1000 in attendance at some time during the program. They elected Freeman L. Parr, Parr and Hanson, Inc., Hicksville, N. Y., president for the coming year. Parr, who last year was vice-president, and normally would have moved into the president-elect position, was elected

Newly elected ISTC officers, President Elect Keith L. Davey, San Francisco, Calif., left, and President Freeman L. Parr, Hicksville, N.Y., center, visit with Executive Director Dr. L. C. Chadwick, Columbus, O., following board of governors session at ISTC Philadelphia meeting.



Pitman chipper built by Pitman Manufacturing Co., Grandview, Mo., features according to the maker, shallow cutting action, unique self-aligning cutting blade and emergency safety brake.

Fitchburg Chipper demonstration was staged, right, by Arborist Equipment Co., Philadelphia. Chipper is built by Fitchburg Engineering Corp., Fitchburg, Mass.



president by virtue of the resignation of the 1966 president-elect, C. Elmer Lee, Southern California Edison Co., Los An-



Myers demonstrated new TT29 Tall Tree mist sprayer. Equipment according to Myers representative is designed especially for tree protection, mosquito control, leaf windrowing, brush burning and sanitation spraying.



John Bean's power spraying division exhibited the Model 100G Rotomist for shade tree, sanitation, mosquito control and leaf windrowing along with one of their truck mounted heavy duty sprayers. On Rotomist is A. O. Kalp, Middletown, N.Y.

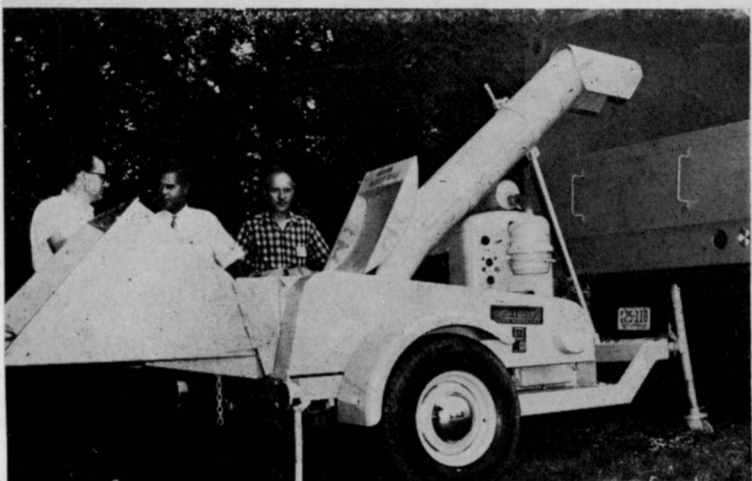
Expert Inc., Hamden, Conn., 2nd vice-president; William A. Rae, Frost & Higgins, Arlington, Mass., secretary; and William P. Lanphear, Forest City Tree Protection Co., Cleveland, O., treasurer. Hyland R. Johns, Asplundh Tree Expert Co., Jenkintown, Pa., was named to the NAA board.

Awards presented by the I.S.T.C. included: Author's Citations, Dr. Spencer Davis, Rutgers University, N. Y., and Dr.

geles, Calif. Elected president-elect was Keith L. Davey, president of Keith L. Davey Tree Surgery Co., Limited, San Francisco, Calif.

The National Arborists elected Kenneth P. Soergel, of Kenneth P. Soergel Arborists, Gibsonia, Pa., as president. He succeeded past president Harry A. Morrison, Wilmette, Ill. Edward C. Shearer, Farrens Tree Surgeons, Inc., Jacksonville, Fla., was named 1st vice-president; Paul R. Walgren, Jr., Walgren Tree

Asplundh chipper, built by Asplundh Chipper Co., Huntingdon Valley, Pa., was demonstrated here by Harold Gentile who during Conference served as chairman of trade exhibits.



Mitts and Merrill chipper with swing-away feed chute and staggered knife pattern was demonstrated by representatives, Leon Baldwin, left, Suffern, N. Y., Gene Deas, center, Richmond, Va., and Jack Ramous, Saginaw, Mich.

Curtis May, USDA, both for sustained publishing of research in shade tree and ornamental plant pathology; Awards of Merit, Mrs. L. B. Johnson, Washington, D. C., for initiative, leadership and influence in developing the National Beautification Program, and to the Honorable Harold E. Hughes, governor of Iowa, for leadership of the Elm Research Institute; Honorary life memberships, Max Watson, San Jose, Calif., E. A. Sanford, Freeport, O., and R. J. Campana, Orono, Me.; Past president's plaque was awarded outgoing President R. J. Campana; and a special award made "only every 30 years" according to Dr. Campana, who made a presentation to Dr. and Mrs. L. C. Chadwick "in grateful appreciation for 30 years of dedicated service to I.S.T.C., 1937-1967"; tree identification contest, Herman Porter, Bartlett Tree Expert Co., N. J.

The NAA awarded honorary memberships to Paul Tilford, Wooster, O., and to Russell Whitten, Delaware, O.



Clarke W. Davis, left, executive-secretary of NAA, chats with newly elected president, Kenneth P. Soergel, Soergel Arborists, Gibsonia, Pa., center, and outgoing president, Harry A. Morrison, Wilmette, Ill.



This black walnut tree is one of the best known trees in Ohio and is located in Walnut Hollow of the Secrest Arboretum. Estimated age is 175 years and bids by contractors as a timber tree have ranged up to \$1500, though the tree is not for sale. It will remain a forest giant for posterity.

Shade Tree Evaluation Project at Wooster, O.

A 10-year street tree evaluation program is underway at the Ohio Research and Development Center, Wooster, O.

Purpose of the program, sponsored by Ohio utility companies, is to spot trees which can fit the needs of city streets and at the same time adapt to the growing conditions with which such trees are faced.

First planting was made during the 1966-67 season with 30 maple cultivars. Data will be kept on IBM cards for each numbered tree. During the first year, survival, amount of die-back, initial caliper and height, and soil data are collected. In succeeding years, growth rate, hardiness, leaves, and branch development will be checked. Further, some trees will be removed and the entire root system checked. Additional plantings will be made of many types of trees, according to Dr. O. D. Diller, curator of Secrest Arboretum, a 115-acre development at the Research Center. Dr. Diller formerly served as chairman of the Center's forestry department.

Utility companies who are paying for the study are interested in plantings under lines which require a minimum of maintenance. Each has assigned

(Continued on page 53)



Dr. O. D. Diller examines trunk of veteran black walnut tree, shown above. Dr. Diller is curator of Secrest Arboretum, which features some 1400 varieties of ornamental and timber trees on 115 acres. Arboretum was established in 1908.

Rutgers Schedules Winter Turf Courses

Rutgers State University has scheduled their annual Turf Winter Course of 20 weeks in two sections. The first begins Jan. 3 and will be completed Mar. 8. The second begins Jan. 6 and closes Mar. 14.

Two 3-day Turf Courses have also been set for January. The Lawn, Athletic Field and Utility Turf Course will be held Jan. 15-17. A second 3-day event, the Golf and Fine Turf Course, is scheduled for Jan. 17-19, according to Ralph E. Engle, research professor of Turfgrass Management.

|||
**want to know
 more about
 aquatic
 weed
 control . . . ?**



. . . then our Applicator's Manual of Aquatic Weed Control offers you just the material you need.

. . . in 16 pages, entirely concerned with the practical aspects of aquatic weed work, Applicator's Manual of Aquatic Weed Control details growth habits and ecology of aquatic species;

. . . thoroughly discusses chemicals used in aquatic weed work;

. . . and concludes with explanations on equipment used to perform control measures. The final pages also include an extensive bibliography.

. . . if you've been contemplating expanding into aquatics and need some solid down-to-earth information . . . Applicator's Manual of Aquatic Weed Control will give you a firm grasp of this complex and stimulating phase of the industry.

. . . there's no substitute for this handy "hip-pocket" manual of aquatic weed fundamentals. Order your copy today . . . better yet . . . order one for each member of your organization.



PRICES: 1-10, \$1.00 each; 11-25, 90¢ each; 26-50, 80¢ each; 51-250, 75¢ each; 251-500, 60¢ each; 501 and over, 50¢ each; postage prepaid in the United States only. Supply is limited.

ORDER NOW!

WEEDS TREES AND TURF
 1900 Euclid Avenue
 Cleveland, Ohio 44115

Send me . . . copies of your aquatic reprint at \$. . . each. My check for . . . is enclosed.

Name

Address

City State

Name the size of your job, the size of your budget!

International can custom-fit a mower/tractor team for you from 108 combinations

How *much* of your mowing and equipment budget can you save?

Here's where International shines. With 108 mower/tractor combinations, we can custom-fit tractor power and mower size to your job and your budget. This is the surest way to reduce your purchase and operating costs. Check with your International dealer. He might come up with some combination you haven't thought about—to cut initial cost, labor and fuel dollars. He has "pay as you mow" finance plans for mowing tractors from 7 to 75 hp . . . and mowers like these . . . for 36-inch to over 20-foot-wide swathing:

Tops for safety—70 flail mower. Won't throw cans, sticks, stones. Knife action sends objects straight down to ground. Extra protection with heavy rubber safety curtain. Tiny cuttings sift down into cut grass. No windrows or smothered grass. 5- and 7-foot models.

Special duty reel mowers. Finish cut for putting-green smoothness. Available in several ganged arrangements.

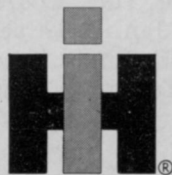
All-purpose rotary mowers. Versatility to take on fine grass, weeds, even thick brush. Eight models—38 to 94-inch cutting widths. And check the powerful rotary cutters. Cleave through trees up to 5 inches thick. Shred saplings, brush, heavy growth anywhere you want to go. 60 to 84-inch cutting widths.

Balanced-head cutter bar mower. Light and heavy-duty mowing of weeds, high grass, brush. No bunching or tearing on steep banks, mild slopes or on the level.

INDUSTRIAL EQUIPMENT

Wheel and crawler tractors • loaders • backhoes
dozers • forklifts • mowers • special duty tools

International is a registered trademark of International Harvester Company, Chicago 60611.



International Lo-Boy®
tractor and rotary mower





International 2444 tractor with 70 flail mower

International Cub Cadet® with 5-gang reel mower



International 2656 tractor with 110 cutter bar mower



WEEDS TREES AND TURF

1968 SUPPLIERS GUIDE

Weeds Trees and Turf presents below its annual Guide to Suppliers of vegetation control chemicals and equipment for use in urban/industrial areas. There is a mixture of common and registered trade names, unavoidable since usage and recommendations of researchers refer to a particular chemical by one or the other, depending upon the newness of the compound, whether its common name is easier to use, or industry acceptance. There will also be some differences of opinion over the inclusion or omission of certain chemicals under particular use categories. Here again confusion exists among reference sources. We have made our choices on the basis of most frequent mention in our surveys which preceded this compilation. Readers' comments and suggestions are invited to help us improve future editions. Keep this year's Guide handy for frequent use.

Advertisers in this issue of
Weeds Trees and Turf
are listed in boldface type.

HERBICIDES

SOIL STERILANTS

AMIZINE

Amchem Products, Inc.
Nalco Chemical Co.

AMMONIUM SULFATE

The J. J. Dill Co.
Summers Fertilizers, Inc.

ATRATOL

Geigy Agricultural Chemicals

ATRAZINE

The J. J. Dill Co.
Geigy Agricultural Chemicals
Great Lakes Chemical Div.
Nalco Chemical Co.

BORATE COMPOUNDS

American Potash & Chemical Corp.
Chipman Chemical Co., Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Nalco Chemical Co.
U.S. Borax & Chemical Corp.

BORATE MIXTURES

Chipman Chemical Co., Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Nalco Chemical Co.
U.S. Borax & Chemical Corp.

BO-RID

The R. H. Bogle Co.

BROMACIL (HYVAR X)

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Nalco Chemical Co.

CALCIUM CHLORIDE

Pittsburgh Plate Glass Co.

CHLOREA

Chipman Chemical Co., Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.

DALAPON

The J. J. Dill Co.
The Dow Chemical Co.
Nalco Chemical Co.

DIURON

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Nalco Chemical Co.

D-LETE

The J. J. Dill Co.

ERBON

The Dow Chemical Co.
Nalco Chemical Co.

FENAC

Amchem Products, Inc.
Nalco Chemical Co.

FENATROL

Amchem Products, Inc.

HCA

Allied Chemical Corp.

HIBOR

U.S. Borax & Chemical Corp.

MBC

Hooker Chemical Corp.

MONOBOR-CHLORATEGreen Lawn Laboratories, Inc.
U.S. Borax & Chemical Corp.**MONURON**The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Green Lawn Laboratories, Inc.
Nalco Chemical Co.**PBA**

Nalco Chemical Co.

PRAMITOLThe J. J. Dill Co.
Geigy Agricultural Chemicals
Great Lakes Chemical Div.
Nalco Chemical Co.**SIMAZINE**The J. J. Dill Co.
Geigy Agricultural Chemicals
Great Lakes Chemical Div.
Nalco Chemical Co.**SODIUM ARSENITE**Allied Chemical Corp.
R. H. Bogle Co.
Chevron Chemical Co., Ortho Div.
Chipman Chemical Co., Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Miller Chemical & Fertilizer Corp.
Niagara Chemical Div., FMC Corp.
Pennsalt Chemicals Corp.
B. G. Pratt Co.**SODIUM CHLORATE**Chipman Chemical Co., Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Hooker Chemical Co.
Nalco Chemical Co.
Pennsalt Chemicals Corp.**TBA**

Nalco Chemical Co.

TCAAllied Chemical Corp.
Amchem Products, Inc.
The J. J. Dill Co.
The Dow Chemical Co.
Nalco Chemical Co.
Robeco Chemicals, Inc.**TRITAC**Great Lakes Chemical Div.
Hooker Chemical Co.**TRITAC-D**Great Lakes Chemical Div.
Hooker Chemical Co.**URAB**

Allied Chemical Corp.

UREABORGreen Lawn Laboratories, Inc.
U.S. Borax & Chemical Corp.**UROX**Allied Chemical Corp.
Green Lawn Laboratories, Inc.**VACATE**

Diamond Alkali Co.

VAPAM

Stauffer Chemical Co.

WEED OUT

Fence Painter Corp.

PREEMERGENCE**ALANAP**Thompson-Hayward Chemical Co.
Uniroyal Chemical, Div. of Uniroyal, Inc.**ALANAP PLUS**

Uniroyal Chemical, Div. of Uniroyal, Inc.

AMIBEN

Amchem Products, Inc.

AZAKHercules Incorporated
Summers Fertilizers, Inc.**BALAN**

Elanco Products Co.

BANDANEThe J. J. Dill Co.
Green Lawn Laboratories, Inc.
Velsicol Chemical Corp.**BENEFIN**

Elanco Products Co.

BETTER SPRAY APPLICATION WITH STULL

NEW ECONOMY-NEW EFFICIENCY-NEW SAFETY WITH

- **BIVERT AMX** (Ammate X Application Adjuvant)
- **BIVERT DPN** (Dalapon Application Adjuvant)
- **BIVERT MSMA** (Monosodium Acid Methanearsonate Application Adjuvant)

GIVES YOU ALL THIS...

- Reduced Evaporation Losses
- Reduced Run-Off Waste
- Reduced Spray Drift
- Reduced Application Labor
- Reduced Equipment Corrosion
- Reduced Rain Washoff
- Increase in Foliage and Stem Penetration
- Increase in Droplet Spreading Characteristics
- Increase in Droplet Size Uniformity
- Increase in Spray Unit Capability

Contact Stull Today For Full Information:

STULL CHEMICAL COMPANY

P. O. Box 6386 — San Antonio, Texas



BETASAN

The J. J. Dill Co.
Stauffer Chemical Co.

CALCIUM PROPYL ARSENATE

Green Lawn Laboratories, Inc.
Vineland Chemical Co.

CASORON

Great Lakes Chemical Div.
Thompson-Hayward Chemical Co.

CHLORDANE

Armour Agricultural Chemical Co.
Chipman Chemical Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
S. B. Penick & Co.
Thompson-Hayward Chemical Co.
Velsicol Chemical Corp.

CIPC

Pittsburgh Plate Glass Co.
Thompson-Hayward Chemical Co.

DACTHAL

Armour Agricultural Chemical Co.
Diamond Alkali Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
Thompson-Hayward Chemical Co.

DIPHENAMID

Elanco Products Co.
TUCO Products Co.

DNBP

The Dow Chemical Co.
Niagara Chemical Div., FMC Corp.

DYNAP

Uniroyal Chemical, Div. of Uniroyal,
Inc.

DYMID

Elanco Products Co.

ENDOTHAL

The J. J. Dill Co.
Pennsalt Chemicals Corp.

EPTAM

The J. J. Dill Co.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.

HERBAN

Hercules Incorporated
Summers Fertilizers, Inc.
Thompson-Hayward Chemical Co.

HERBISAN

Roberts Chemicals, Inc.

IPC

Chipman Chemical Co., Inc.
Pittsburgh Plate Glass Co.

LEAD ARSENATE

Allied Chemical Corp.
Chevron Chemical Co., Ortho Div.
Chipman Chemical Co., Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Summers Fertilizers, Inc.

LINURON

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.

PRE-SAN

Mallinckrodt Chemical Works

PYRAMIN 80-W

Amchem Products, Inc.

SESONE

Amchem Products, Inc.

SIMAZINE

(See Soil Sterilants)

SOLAN

Niagara Chemical Div., FMC Corp.

TRICALCIUM ARSENATE

Chipman Chemical Co., Inc.
The J. J. Dill Co.
Niagara Chemical Div., FMC Corp.
Pennsalt Chemicals Corp.
The Sherman-Williams Co.

TRIFLURALIN (TREFLAN)

Elanco Products Co.

TUPERSAN (SIDURON)

Amchem Products, Inc.
Armour Agricultural Chemical Co.
The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Summers Fertilizers, Inc.

POSTEMERGENCE**AMITROLE-T**

Amchem Products, Inc.
American Cyanamid Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
Nalco Chemical Co.

AMMONIUM METHYL ARSONATE

W. A. Cleary Corp.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Nalco Chemical Co.

AMMONIUM METHYL ARSONATE PLUS 2,4-D

W. A. Cleary Corp.

AMMONIUM SULFAMATE

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Nalco Chemical Co.

ARSENIC ACID

Chevron Chemical Co., Ortho Div.
Chipman Chemical Co., Inc.
Niagara Chemical Div., FMC Corp.
The Sherwin-Williams Co.

ATRAZINE

(See Soil Sterilants)

BANVEL-D (DICAMBA)

The J. J. Dill Co.
Velsicol Chemical Corp.

BETASAN

The J. J. Dill Co.

BORATE COMPOUNDS

(See Soil Sterilants)

BROMACIL

(See Soil Sterilants)



SPRAY IT SAFE . . .

Specify PRATT products to give your trees the level of pest-proofing protection and horticultural health that their value warrants. Arborists and custom spraymen — the professionals who have to be certain of the right results — depend on the complete, premium quality line of safe and sure PRATT dormant and summer oils, emulsifiable concentrates for hydraulic and mist blowers, and oil base concentrates for thermal fog equipment. Send for the circular that tells you why—and how: "PRATT'S SHADE TREE SPRAY BULLETIN." It's free.

Distributors of Bidrin®, a product of Shell Chemical Company.



B. G. PRATT COMPANY

P.O. Box 2138 / Paterson, N.J. 07509

Phone 201 684-4797

BRONATE

The Ansul Co.
Chipman Chemical Co., Inc.

BUCTRIL

Chipman Chemical Co., Inc.

CACODYLIC ACID

The Ansul Co.
Nalco Chemical Co.

CALCIUM ACID METHYL ARSENATE

The J. J. Dill Co.
Nalco Chemical Co.
Vineland Chemical Co.

CALCIUM PROPYL ARSENATE
(See Preemergence Herbicides)**CYTROL**

The J. J. Dill Co.

DACAMINE

Diamond Alkali Co.
The J. J. Dill Co.
Great Lakes Chemical Div.

DACONATE

The Diamond Alkali Co.

DALAPON

(See Soil Sterilants)

DINITRO COMPOUNDS

Chevron Chemical Co., Ortho Div.
The Dow Chemical Co.
Niagara Chemical Div., FMC Corp.

DIURON

(See Soil Sterilants)

DMA (DSMA)

The Ansul Co.
Chapman Chemical Co.
Chevron Chemical Co., Ortho Div.
W. A. Cleary Corp.
The Diamond Alkali Co.
The J. J. Dill Co.
Nalco Chemical Co.
Vineland Chemical Co.

DOWPON

The Dow Chemical Co.

ENDOTHAL

(See Preemergence Herbicides)

EPTAM

(See Preemergence Herbicides)

FENAC

(See Soil Sterilants)

FENURON

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Nalco Chemical Co.

HCA

(See Soil Sterilants)

HYVAR X BROMACIL

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.

LINURON

(See Preemergence Herbicides)

MCPA

Chipman Chemical Co., Inc.
Great Lakes Chemical Div.
Nalco Chemical Co.

MCPP

Chipman Chemical Co., Inc.
W. A. Cleary Corp.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Shepard Chemical Industries, Inc.
Vineland Chemical Co.

MILOGARD (PROPAZINE)

The J. J. Dill Co.
Geigy Agricultural Chemicals

MONURON

(See Soil Sterilants)

MSMA

Allied Chemical Corp.
The Ansul Co.
Chapman Chemical Co.
Diamond Alkali Co.
Great Lakes Chemical Div.
Nalco Chemical Co.
Vineland Chemical Co.

PARAQUAT

Chevron Chemical Co., Ortho Div.

PENTACHLOROPHENOL

The J. J. Dill Co.
The Dow Chemical Co.
Nalco Chemical Co.
Reichhold Chemicals, Inc.
Thompson-Hayward Chemical Co.
Vulcan Materials Co.

PHENYLMERCURIC ACETATE (PMA)

Chemley Products Co.
W. A. Cleary Corp.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Vineland Chemical Co.

PRAMITOL

(See Soil Sterilants)

PROPAZINE

The J. J. Dill Co.

PYRAMIN 80-W

(See Preemergence Herbicides)

SILVEX

Chipman Chemical Co., Inc.
The J. J. Dill Co.
The Dow Chemical Co.
Green Lawn Laboratories, Inc.
Hercules Incorporated
Nalco Chemical Co.

SODIUM ARSENITE

(See Soil Sterilants)

SODIUM CACODYLATE

The Ansul Co.
Nalco Chemical Co.

TCA

(See Soil Sterilants)

THISTROL

Amchem Products, Inc.

TORDON

The Dow Chemical Co.

TRYSBEN (TBA)

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Nalco Chemical Co.

2,4-D

Amchem Products, Inc.

Chevron Chemical Co., Ortho Div.
Chipman Chemical Co., Inc.
Diamond Alkali Co.
The J. J. Dill Co.
The Dow Chemical Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hercules Incorporated
Nalco Chemical Co.
Pennsalt Chemical Corp.
Stauffer Chemical Co.
Stull Chemical Co.
Summers Fertilizers, Inc.
Thompson-Hayward Chemical Co.

2,4,5-T

Amchem Products, Inc.
Central Solvents & Chemicals Co.
Chevron Chemical Co., Ortho Div.
Chipman Chemical Co., Inc.
Diamond Alkali Co.
The J. J. Dill Co.
The Dow Chemical Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hercules Incorporated
Nalco Chemical Co.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.

UROX

(See Soil Sterilants)

AQUATIC HERBICIDES**AMITROLE**

Amchem Products, Inc.
American Cyanamid Co.
The J. J. Dill Co.
Great Lakes Chemical Div.

AMITROLE-T

(See Postemergence Herbicides)

AMMONIUM SULFAMATE

(See Postemergence Herbicides)

AQUATHOL

The J. J. Dill Co.
Pennsalt Chemicals Corp.

AQUATHOL PLUS

The J. J. Dill Co.
Pennsalt Chemicals Corp.

CALCIUM HYPOCHLORITE

Pennsalt Chemicals Corp.
Pittsburgh Plate Glass Co.
Robeco Chemicals, Inc.

CASORON

(See Preemergence Herbicides)

COPPER SULFATE

Chevron Chemical Co., Ortho Div.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Phelps Dodge Refining Corp.
Robeco Chemicals, Inc.
Vineland Laboratories, Inc.

DACAMINE 4D

Diamond Alkali Co.
The J. J. Dill Co.
Great Lakes Chemical Div.

DALAPON

(See Soil Sterilants)

DICHLONE

Allied Chemical Corp.
The J. J. Dill Co.

Naugatuck Chemical Div.

DIQUAT

Chevron Chemical Co., Ortho Div.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.

DIURON

The J. J. Dill Co.

ERBON

The Dow Chemical Co.

FENAC

Amchem Products, Inc.

HYDROTHOL

The J. J. Dill Co.
Pennsalt Chemicals Corp.

MCPA

(See Postemergence Herbicides)

ORTHODICHLOROBENZENE

Pittsburgh Plate Glass Co.
Robeco Chemicals, Inc.

POTASSIUM ENDOTHAL

The J. J. Dill Co.
Pennsalt Chemicals Corp.

PHYGON XL

The J. J. Dill Co.

SILVEX

(See Postemergence Herbicides)

SODIUM ARSENITE

(See Soil Sterilants)

2,4-D

(See Postemergence Herbicides)

2,4,5-T

(See Postemergence Herbicides)

2-(2,4-DB)

Amchem Products, Inc.
Chipman Chemical Co., Inc.
Thompson-Hayward Chemical Co.

COMMERCIAL FERTILIZERS

NITROGEN SOURCES

—Fast Release—

AMMONIA, ANHYDROUS

Allied Chemical Corp.
Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
The Dow Chemical Co.
E. I. duPont de Nemours & Co., Inc.
Hercules Incorporated
Phillips Petroleum Co.
Pittsburgh Plate Glass Co.
Smith-Douglass Div., Borden Chem.
Sohio Chemical Co.
Vulcan Materials Co.

AMMONIUM NITRATE

Allied Chemical Corp.
Agrico Chemical Co.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
Green Lawn Laboratories, Inc.

Hercules Incorporated
International Minerals &
Chem. Corp.
Phillips Petroleum Co.
Smith-Douglass Div., Borden Chem.
Sohio Chemical Co.
Summers Fertilizers, Inc.

AMMONIUM PHOSPHATE

Allied Chemical Corp.
Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Fertilla Co.
Green Lawn Laboratories, Inc.
Phillips Petroleum Co.
Smith-Douglass Div., Borden Chem.
Stauffer Chemical Co.
Summers Fertilizers, Inc.

AMMONIUM SULFATE

Allied Chemical Corp.
Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
The Dow Chemical Co.
Fertilla Co.
Green Lawn Laboratories, Inc.
Phillips Petroleum Co.
Rohm and Haas Co.
Smith-Douglass Div., Borden Chem.
Summers Fertilizers, Inc.

AQUA AMMONIA

Allied Chemical Corp.
Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
The Dow Chemical Co.
Green Lawn Laboratories, Inc.
Hercules Incorporated
Pennsalt Chemicals Corp.
Sohio Chemical Co.

CALCIUM NITRATE

Best Fertilizers Co.
Green Lawn Laboratories, Inc.

SODIUM NITRATE

Summers Fertilizers, Inc.

UREA

Allied Chemical Corp.
Agrico Chemical Co.
Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
E. I. duPont de Nemours & Co., Inc.
Fertilla Co.
Green Lawn Laboratories, Inc.
Hercules Incorporated
International Minerals &
Chem. Corp.
Phillips Petroleum Co.
Smith-Douglass Div., Borden Chem.
Sohio Chemical Co.
Summers Fertilizers, Inc.

—Slow Release—

UREA-FORMALDEHYDE

Best Fertilizers Co.
E. I. duPont de Nemours & Co., Inc.
Green Lawn Laboratories, Inc.
Hercules Incorporated
International Minerals &
Chem. Corp.
Smith-Douglass Div., Borden Chem.
Summers Fertilizers, Inc.

—Organic Nitrogen—

BONE MEAL, STEAMED

Best Fertilizers Co.
Green Lawn Laboratories, Inc.
Smith-Douglass Div., Borden Chem.
Summers Fertilizers, Inc.
Andrew Wilson, Inc.

COTTONSEED MEAL

Smith-Douglass Div., Borden Chem.
Summers Fertilizers, Inc.
Andrew Wilson, Inc.

MANURE, CATTLE

Fertilla Co.

MILORGANITE

Sewerage Commission of Milwaukee

NITRO-GANO

Wilbur-Ellis Co.

PROCESSED SLUDGE

Summers Fertilizers, Inc.

POTASH SOURCES

POTASSIUM CARBONATE

Hooker Chemical Corp.

POTASSIUM CHLORIDE

American Potash & Chemical Corp.
Green Lawn Laboratories, Inc.
Kalium Chemicals, Ltd.
Phillips Petroleum Co.
Smith-Douglass Div., Borden Chem.
Southwest Potash Corp.
Summers Fertilizers, Inc.
U.S. Borax & Chemical Co.

POTASSIUM NITRATE

Green Lawn Laboratories, Inc.
Smith-Douglass Div., Borden Chem.
Southwest Potash Div.
Summers Fertilizers, Inc.

POTASSIUM SULFATE

American Potash & Chemical Corp.
Best Fertilizers Co.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Smith-Douglass Div., Borden Chem.
Summers Fertilizers, Inc.

MIXED N-P-K TYPES

MAG AMP

W. R. Grace & Co.

SOLID

Agrico Chemical Co.
Agriform International Chemicals
Inc.
Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
Davison Chemical Div.,
Green Lawn Laboratories, Inc.
International Minerals &
Chem Corp.
Loamite Corp.
Northrup, King & Co.
Robert B. Peters Co., Inc.

Phillips Petroleum Co.
Plant Marvel Laboratories
Ra-Pid-Grow Corp.
Smith-Douglass Div., Borden Chem.
Summers Fertilizers, Inc.
Wilbur-Ellis Co.

LIQUID

Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Cloro-Spray Corp.
Columbia Nitrogen Corp.
Green Lawn Laboratories, Inc.
Hydroponic Chemical Co., Inc.
Phillips Petroleum Co.
Wilbur-Ellis Co.

PLASTIC COATED

Smith-Douglass Div., Borden Chem.

PHOSPHATE SOURCES

CONCENTRATED

Agrico Chemical Co.
Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Green Lawn Laboratories, Inc.
International Minerals & Chem. Corp.
Phillips Petroleum Co.
Smith-Douglass Div., Borden Chem.
Stauffer Chemical Co.
Tennessee Corp.

ROCK PHOSPHATES

Agrico Chemical Co.
Chevron Chemical Co., Ortho Div.
International Minerals & Chem. Corp.
Smith-Douglass Div., Borden Chem.
Stauffer Chemical Co.

—Ammonium Phosphates—

AMMONIUM PHOSPHATE-NITRATE

Chevron Chemical Co., Ortho Div.
Green Lawn Laboratories, Inc.
Smith-Douglass Div., Borden Chem.

AMMONIUM PHOSPHATE-SULFATE

Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Phillips Petroleum Co.
Smith-Douglass Div., Borden Chem.

AMMONIUM PHOSPHATE-UREA

Green Lawn Laboratories, Inc.
Smith-Douglass Div., Borden Chem.

DIAMMONIUM PHOSPHATE

Allied Chemical Corp.
Agrico Chemical Co.
Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
Green Lawn Laboratories, Inc.
Hooker Chemical Co.
International Minerals & Chem. Co.
Phillips Petroleum Co.
Smith-Douglass Div., Borden Chem.
Stauffer Chemical Co.
Summers Fertilizers, Inc.
Tennessee Corp.

MONOAMMONIUM PHOSPHATE

Chevron Chemical Co., Ortho Div.

Green Lawn Laboratories, Inc.
Smith-Douglass Div., Borden Chem.
Stauffer Chemical Co.
Summers Fertilizers, Inc.
Tennessee Corp.

PHOSPHORIC ACID

Allied Chemical Corp.
Agrico Chemical Co.
Best Fertilizers Co.
Columbia Nitrogen Corp.
Green Lawn Laboratories, Inc.
International Minerals & Chem. Corp.
Phillips Petroleum Co.
Smith-Douglass Div., Borden Chem.
Stauffer Chemical Co.
Tennessee Corp.
U.S. Industrial Chemicals Co.

pH CONTROLLERS

ALUMINUM SULFATE

International Minerals & Chem. Corp.
Andrew Wilson, Inc.

AMMONIUM POLYSULFIDE

Allied Chemical Corp.

AMTHIO

Allied Chemical Corp.

CALCITE, BURNED

Engelhard Minerals & Chemicals

CALCITE, HYDRATED

Engelhard Minerals & Chemicals

CALCIUM CARBONATE

Diamond Alkali Co.
Engelhard Minerals & Chemicals
Green Lawn Laboratories, Inc.
Pittsburgh Plate Glass Co.

DOLOMITE

Best Fertilizers Co.
Summers Fertilizers, Inc.
Smith-Douglass Div., Borden Chem.

GYPSUM (CALCIUM SULFATE)

Best Fertilizers Co.
Smith-Douglass Div., Borden Chem.
Summers Fertilizers, Inc.

LIME, CONCENTRATE

Best Fertilizers Co.
Engelhard Minerals & Chemicals
Smith-Douglass Div., Borden Chem.

LIMESTONE

Engelhard Minerals & Chemicals
Summers Fertilizers, Inc.

LIQUID FISH

Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.

SULFUR

Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Smith-Douglass Div., Borden Chem.
Wilbur-Ellis Co.

SOIL CONDITIONERS

BARK

Best Fertilizers Co.
Weyerhaeuser Co.

CALCINED CLAY

Engelhard Minerals & Chemicals Co.
Floridin Co.
Oil-Dri Corp. of America
Waverly Petroleum Products Co.
Wyandotte Chemicals Corp.

CANE

Fertilla Co.

CELATOM

Eagle-Picher Industries, Inc.

CORN COBS

Green Lawn Laboratories, Inc.
Smith-Douglass Div., Borden Chem.

DIATOMITE

Eagle-Picher Industries, Inc.

LOAMITE

Loamite Corp.

PEAT-HUMUS

Premier Peat Moss Corp.
Western Peat Co.

PEAT MOSS

Best Fertilizers Co.
Premier Peat Moss Corp.

PERLITE

Zonolite Div., W. R. Grace & Co.

VERMICULITE

American Vermiculite Corp.
Smith-Douglass Div., Borden Chem.
Zonolite Div., W. R. Grace & Co.

WOOD CHIPS

Fitchburg Engineering Corp.

MULCHES

CALCINED ABSORBENT CLAY

(See Soil Conditioners)

EROSION CONTROL MULCHES

American Excelsior Corp.
Engelhard Minerals & Chemicals
Weyerhaeuser Co.

LANDSCAPE MULCHES

American Excelsior Corp.
Best Fertilizers Co.
Fitchburg Engineering Corp.
Premier Peat Moss Corp.
Weyerhaeuser Co.

SEEDING MULCHES

American Excelsior Corp.
International Paper Co.
Troy Blanket Mills
Weyerhaeuser Co.

PERLITE

(See Soil Conditioners)

VERMICULITE

(See Soil Conditioners)

MISCELLANEOUS COMPOUNDS

ANTICAKING CONDITIONERS

Armour Industrial Chemicals Co.
Eagle-Picher Industries, Inc.
Engelhard Minerals & Chemicals Co.

Pittsburgh Plate Glass Co.
Waverly Petroleum Products Co.
Zonolite Div., W. R. Grace & Co.

ANTIDESICCANT SPRAYS

Aquatrols Corp. of America
W. A. Cleary Corp.
The J. J. Dill Co.
Nursery Specialty Products, Inc
Andrew Wilson, Inc.

CHRISTMAS TREE PAINT

Niagara Chemical Div., FMC Corp.

REPELLENTS

Sudbury Laboratory, Inc.

SEED; GRASS & COVERS

Asgrow Seed Co.
Chanderlin Seed Co.
Ferry Morse Seed Co.

Green Lawn Laboratories, Inc.
Mock Seed Co.
Northrup, King & Co.
O. M. Scott & Sons Co.
South Dakota Kentucky Bluegrass Assn.
Stanford Seed Co.
Vaughan's Seed Co.
Whitney Seed Co.

STUMP REMOVAL COMPOUNDS

Bartlett Manufacturing Co.

TREE WOUND PAINT

John Bacon Corp.
Bartlett Manufacturing Co.
Samuel Cabot, Inc.
B. G. Pratt Co.
Seymour Smith & Son, Inc.
Smith-Douglass Div., Borden Chem.
Andrew Wilson, Inc.

TREE KILLERS

The Ansul Co.
The J. J. Dill Co.
The Dow Chemical Co.
Green Lawn Laboratories, Inc.

TURF COLORING COMPOUNDS

W. A. Cleary Corp.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
The Gregg Co.
O. F. Linck Div., Walco-Linck Corp.
Mallinckrodt Chemical Works
Verde Lawn, Inc.

WETTING AGENTS

W. A. Cleary Corp.

CARRIERS

CELATOM

Eagle-Picher Industries, Inc.

DUSTS, NATURAL

Engelhard Minerals & Chemicals Co.
Floridin Co.
Green Lawn Laboratories, Inc.
Pittsburgh Plate Glass Co.

GRANULES, NATURAL

American Talc Co.
American Vermiculite Corp.
Engelhard Minerals & Chemicals Co.
Floridin Co.
Waverly Petroleum Products Co.

LIQUID (SOLVENTS)

American Oil Co.
Green Lawn Laboratories, Inc.
Gulf Oil Corp.
Humble Oil & Refining Co.
Signal Oil & Gas Co.
Tenneco Oil Co.
Vulcan Materials Co.

VERMICULITE

(See Soil Conditioners)

DILUENTS

CALCIUM CARBONATE

Engelhard Minerals & Chemicals Co.

DIATOMACEOUS EARTH

Eagle-Picher Industries, Inc.
Johns-Manville Corp.

FULLERS EARTH

Engelhard Minerals & Chemicals Co.
Floridin Co.
Waverly Petroleum Products Co.

GRANULES, GENERAL

Engelhard Minerals & Chemicals Co.
Green Lawn Laboratories, Inc.

KAOLINS (CLAY)

Engelhard Minerals & Chemicals Co.

TALC

American Talc Co.
Bonide Chemical Co., Inc.
Engelhard Minerals & Chemicals Co.

VERMICULITE

(See Soil Conditioners)

We invite your inquiry on GRASS SEED

straight or special mixtures

- nationwide service
- research proven products



NEW "HIGHLIGHT"

Resists weed encroachment and usual effects of close mowing

An improved variety of chewing fescue—survives in soils where other grasses are pushed aside. New bright color and fine texture. For golf courses, fine lawns, and sport fields.

Also:

SOD QUALITY MERION
KENTUCKY BLUEGRASS
OTHER KENTUCKY
BLUEGRASS VARIETIES
INCLUDING PARK,
NEWPORT, AND DELTA
KINGSTOWN VELVET
BENTGRASS
EXETER COLONIAL
BENTGRASS

*plus other fine Turf grasses—all
available for immediate shipment.*



W. R. GRACE & CO.
WHITNEY SEED DIVISION

P. O. Box 250, Buffalo, N. Y. 14240

TRACE ELEMENTS

BORAX

American Potash & Chemical Corp.
Green Lawn Laboratories, Inc.
Smith-Douglass Div., Borden Chem.
U. S. Borax & Chemical Corp.

BORO-SPRAY

American Potash & Chemical Corp.

COPPER CHELATE

The J. J. Dill Co.
Geigy Agricultural Chemicals
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Smith-Douglass Div., Borden Chem.

COPPER SULFATE

The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Phelps Dodge Refining Corp.
Robeco Chemicals, Inc.
Smith-Douglass Div., Borden Chem.
Tennessee Corp.
Vineland Laboratories, Inc.

GRANULAR ORGANIC IRON COMPLEX

Eagle-Picher Industries, Inc.

IRON CHELATE

Best Fertilizers Co.
The J. J. Dill Co.
Geigy Agricultural Chemicals
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Smith-Douglass Div., Borden Chem.
Tennessee Corp.
Vineland Laboratories, Inc.

IRON, MICRONIZED

The J. J. Dill Co.
Green Lawn Laboratories, Inc.

IRON SULFATE

Best Fertilizers Co.
The J. J. Dill Co.
Eagle-Picher Industries, Inc.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Phillips Petroleum Co.
Smith-Douglass Div., Borden Chem.
Tennessee Corp.

MAGNESIUM CARBONATE

Smith-Douglass Div., Borden Chem.

MAGNESIUM-SULFATE

The J. J. Dill Co.

MANGANESE CHELATE

The J. J. Dill Co.
Geigy Agricultural Chemicals
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Smith-Douglass Div., Borden Chem.

MANGANESE SULFATE

The J. J. Dill Co.
Eagle-Picher Industries, Inc.
Eastman Chemical Products, Inc.
Green Lawn Laboratories, Inc.
Tennessee Corp.

MANGANOUS OXIDE

Green Lawn Laboratories, Inc.
Tennessee Corp.

MOLYBDENUM

Green Lawn Laboratories, Inc.

Smith-Douglass Div., Borden Chem.

MULTI-KEMIN

Niagara Chemical Div., FMC Corp.

ZINC CHELATE

Best Fertilizers Co.
The J. J. Dill Co.
Geigy Agricultural Chemicals
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Smith-Douglass Div., Borden Chem.

ZINC SULFATE

Allied Chemical Corp.
The J. J. Dill Co.
Eagle-Picher Industries, Inc.
Green Lawn Laboratories, Inc.
Phillips Petroleum Co.
The Sherwin-Williams Co.
Tennessee Corp.

COMBINATION OF TRACE ELEMENTS

Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.

SURFACE ACTIVE AGENTS

AD-KIL

R. H. Bogle Co.

DETERGENTS, GENERAL

Armour Industrial Chemical Co.
Cloro-Spray Corp.
Emery Industries, Inc.
General Aniline & Film Corp.
Rohm and Haas Co.
Stepan Chemical Co.
Thompson-Hayward Chemical Co.

EMULSIFIERS

Armour Industrial Chemical Co.
Atlas Chemical Industries, Inc.
Cloro-Spray Corp.
The J. J. Dill Co.
Emery Industries, Inc.
General Aniline & Film Corp.
Great Lakes Chemical Div.
Rohm and Haas Co.
Stepan Chemical Co.
Thompson-Hayward Chemical Co.

INVERT EMULSION ADJUVANTS

Stull Chemical Co.

PLYAC

Allied Chemical Corp.
Aquatrols Corp. of America

SPREADER-STICKERS

Allied Chemical Corp.
Chipman Chemical Co., Inc.
Colloidal Products Corp.
The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Emery Industries, Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
B. G. Pratt Co.
Rohm and Haas Co.
Stepan Chemical Co.
Thompson-Hayward Chemical Co.
Thuron Industries, Inc.
Wilbur-Ellis Co.
Andrew Wilson, Inc.

STABILIZERS

Armour Industrial Chemical Co.
Emery Industries, Inc.

General Aniline & Film Corp.
Rohm and Haas Co.

WETTING AGENTS

American Cyanamid Co.
Aquatrols Corp. of America
Armour Industrial Chemical Co.
Cloro-Spray Corp.
Colloidal Products Corp.
The J. J. Dill Co.
Emery Industries, Inc.
General Aniline & Film Corp.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Roberts Chemicals, Inc.
Rohm and Haas Co.
Stepan Chemical Co.
Thompson-Hayward Chemical Co.
Thuron Industries, Inc.
Vineland Chemical Co.
"Water In," Inc.

SPRAY THICKENING AGENTS

ATTAGELS

Engelhard Minerals & Chemicals Co.

DACAGIN

Diamond Alkali Co.
Great Lakes Chemical Div.

INVERT EMULSION

ADJUVANTS

(See Emulsifiers)

NORBAK

The Dow Chemical Co.

VISTIK

Hercules Incorporated

GROWTH RETARDANTS

B-NINE

Uniroyal Chemical, Div. of Uniroyal, Inc.

GIBREL

Metasol Products, Merck & Co.

MALEIC HYDRAZIDE

Naugatuck Chemical Div.
Uniroyal Chemical, Div. of Uniroyal, Inc.

PHOSFON

Mobil Chemical Co.

STREPTOMYCIN

Metasol Products, Merck & Co.

SOIL FUMIGANTS & NEMATOCIDES

BEDRENCH

Niagara Chemical Div., FMC Corp.

BROMIDE

Great Lakes Chemical Div.

BROM-O-GAS

Great Lakes Chemical Div.



NOW-for the First Time South Dakota Certified Kentucky Bluegrass

- ★ Poa Annuua (Annual Bluegrass) FREE
- ★ Extremely Hardy
- ★ High Seedling Vigor
- ★ Field Inspected
- ★ Uncleaned and Clean Seed Lot Inspection
- ★ Laboratory Inspection Assured

Free from Noxious and Objectionable Weeds
Free from Other Cultivated Crops
High Purity and Germination

CERTIFIED BY THE S. D. CROP IMPROVEMENT ASSN.

SOUTH DAKOTA KENTUCKY BLUEGRASS ASSN.
BOX 823 HURON, S.D. 57350



CHLOROPICRIN

The J. J. Dill Co.
The Dow Chemical Co.
Great Lakes Chemical Div.
Morton Chemical Co.

DASINIT

Chemagro Corp.

D-D (VIDDEN-D)

The Dow Chemical Co.
Great Lakes Chemical Div.
Shell Chemical Co.,
Ag. Chem. Div.
Stauffer Chemical Co.

DICHLOROPROPENE COMPOUNDS

The Dow Chemical Co.

DOWFUME

The J. J. Dill Co.
The Dow Chemical Co.

ETHYLENE DIBROMIDE

The J. J. Dill Co.
The Dow Chemical Co.
Great Lakes Chemical Div.
Niagara Chemical Div., FMC Corp.
Velsicol Chem. Corp.

FUMAZONE (NEMAGON)

The J. J. Dill Co.
The Dow Chemical Co.

METHYL BROMIDE

The J. J. Dill Co.
The Dow Chemical Co.
Great Lakes Chemical Div.
Velsicol Chemical Corp.
Vulcan Materials Co.

MYLONE

Union Carbide Corp.

SOILBROM—85

Great Lakes Chemical Division

SAROLEX

Armour Agricultural Chemical Co.
Geigy Agricultural Chemicals

TELONE

The Dow Chemical Co.

TERR-O-GAS

Great Lakes Chemical Division

VAPAM (VPM)

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Stauffer Chemical Co.

VORLEX

Great Lakes Chemical Div.
Morton Chemical Co.

VPM

E. I. duPont de Nemours & Co., Inc.

MITICIDES

ARAMITE

The J. J. Dill Co.
Naugatuck Chemical Div.

BIDRIN

Shell Chemical Co.,
Ag. Chem. Div.

BINAPACRYL

Niagara Chemical Div., FMC Corp.

CHLOROBENZILATE

The J. J. Dill Co.

CYGON

The J. J. Dill Co.
Thompson-Hayward Chemical Co.

DELNAV

Great Lakes Chemical Div.
Hercules Incorporated
Thompson-Hayward Chemical Co.

DIBROM

Chevron Chemical Co., Ortho Div.
Chipman Chemical Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
Stauffer Chemical Co.

DIMITE

The Sherwin-Williams Co.

ETHION

The J. J. Dill Co.
Niagara Chemical Div., FMC Corp.

GENITE

Allied Chemical Corp.

KARATHANE

(See Fungicides)

KELTHANE

The J. J. Dill Co.
Rohm and Haas Co.

MORESTAN

Chemagro Corp.
The J. J. Dill Co.

MOROCIDE (BINAPACRYL)

Niagara Chemical Div., FMC Corp.

PENTAC

Great Lakes Chemical Div.
Hooker Chemical Corp.

SYSTOX

Chemagro Corp.
The J. J. Dill Co.

TEDION

The J. J. Dill Co.
Great Lakes Chemical Div.
Niagara Chemical
Thompson-Hayward Chemical Co.

TOXAPHENE

Chipman Chemical Co., Inc.
Thompson-Hayward Chemical Co.

TRITHION

The J. J. Dill Co.
Stauffer Chemical Co.

INSECTICIDES

ABATE

American Cyanamid Co.
The J. J. Dill Co.

ALDRIN

Chipman Chemical Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Shell Chemical Co.,
Ag. Chem. Div.
Summers Fertilizers, Inc.
Thompson-Hayward Chemical Co.

ARSENICAL COMPOUNDS

Allied Chemical Corp.
Chipman Chemical Co., Inc.
Green Lawn Laboratories, Inc.
The J. J. Dill Co.
Niagara Chemical Div., FMC Corp.
Pennsalt Chemicals Corp.
The Sherwin-Williams Co.

ASPON

Stauffer Chemical Co.

AZINPHOSMETHYL (GUTHION*)

Chemagro Corp.
The J. J. Dill Co.

BACILLUS THURINGIENSIS

Bioferm Corp.

BAYGON (BAYER 39007)

Chemagro Corp.
The J. J. Dill Co.
Thompson-Hayward Chemical Co.

BAYTEX

Chemagro Corp.
The J. J. Dill Co.

BETANAPHTHOL

The Sherwin-Williams Co.
Allied Chemical Corp.
Chipman Chemical Co., Inc.
Diamond Alkali Co.
The J. J. Dill Co.

BHC

Hooker Chemical Corp.

BIDRIN

(See Miticides)

CHLORDANE

(See Preemergence Herbicides)

COPPER ARSENATE, BASIC

The J. J. Dill Co.
The Sherwin-Williams Co.

CRYOLITE

Pennsalt Chemicals Corp.

CYGON (DIMETHOATE)

American Cyanamid Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
Thompson-Hayward Chemical Co.

DDD (TDE)

Allied Chemical Corp.
Rohm and Haas Co.

DDT

Allied Chemical Corp.
Bonide Chemical Co., Inc.
Chevron Chemical Co., Ortho Div.
Chipman Chemical Co., Inc.
Diamond Alkali Co.
The J. J. Dill Co.
Faesy & Besthoff, Inc.
Gabriel Chemicals, Ltd.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Montrose Chemical Co.
S. B. Penick & Co.
Pennsalt Chemicals Corp.
B. G. Pratt Co.
Thompson-Hayward Chemical Co.

DDVP (VAPONA)

The J. J. Dill Co.
Great Lakes Chemical Div.
S. B. Penick & Co.
Shell Chemical Co.,
Ag. Chem. Div.
Thompson-Hayward Chemical Co.

DEF

Chemagro Corp.

DELNAV

(See Miticides)

DIAZINON

Armour Agricultural Chemical Co.
The J. J. Dill Co.
Geigy Agricultural Chemicals
Great Lakes Chemical Div.
S. B. Penick & Co.

DIBROM

(See Miticides)

DIELDRIN

Armour Agricultural Chemical Co.
Chipman Chemical Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
S. B. Penick & Co.
Pennsalt Chemicals Corp.
Shell Chemical Co.,
Ag. Chem. Div.
Smith-Douglass Div., Borden Chem.
Thompson-Hayward Chemical Co.

DIMETHRIN

McLaughlin Gormley King Co.

DIPTEREX

Chemagro Corp.

The J. J. Dill Co.

DI-SYSTON

Chemagro Corp.
The J. J. Dill Co.
The Dow Chemical Co.
Smith-Douglass Div., Borden Chem.

DNOC

Niagara Chemical Div., FMC Corp.

DRINOX

Morton Chemical Co.

DYLOX

Chemagro Corp.
The J. J. Dill Co.

ENDOSULFAN (THIODAN)

Niagara Chemical Div., FMC Corp.
Chipman Chemical Co., Inc.
The J. J. Dill Co.

ENDRIN

Great Lakes Chemical Div.
Shell Chemical Co.,
Ag. Chem. Div.
Thompson-Hayward Chemical Co.
Velsicol Chemical Corp.

ETHION

(See Miticides)

GUTHION

Chemagro Corp.
The J. J. Dill Co.

HEPTACHLOR

Armour Agricultural Chemical Co.
Chipman Chemical Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Pennsalt Chemicals Corp.
Thompson-Hayward Chemical Co.
Velsicol Chemical Corp.

KORLAN

The J. J. Dill Co.
The Dow Chemical Co.

LEAD ARSENATE

(See Preemergence Herbicides)

LETHANE

The J. J. Dill Co.
Rohm and Haas Co.

LIME SULFUR

Allied Chemical Corp.
The J. J. Dill Co.
Miller Chemical & Fertilizer Corp.

LINDANE

Chevron Chemical Co., Ortho Div.
Chipman Chemical Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hoker Chemical Corp.
S. B. Penick & Co.
Pennsalt Chemicals Corp.
Robeco Chemicals Inc.
Thompson-Hayward Chemical Co.
Vineland Laboratories, Inc.

MALATHION

American Cyanamid Co.
Armour Agricultural Chemical Co.
Chipman Chemical Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
S. B. Penick & Co.
Pennsalt Chemicals Corp.

Smith-Douglass Div., Borden Chem.
Thompson-Hayward Chemical Co.
Vineland Laboratories, Inc.

MATACIL

Chemagro Corp.

METALDEHYDE

Commercial Solvents Corp.
Great Lakes Chemical Div.

META-SYSTOX-R

Chemagro Corp.
The J. J. Dill Co.
Smith-Douglass Div., Borden Chem.

METHOXYCHLOR

Allied Chemical Corp.
Armour Agricultural Chemical Co.
The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Great Lakes Chemical Div.

METHYL PARATHION

American Cyanamid Co.
Great Lakes Chemical Div.
Pennsalt Chemicals Corp.
Stauffer Chemical Co.
Velsicol Chemical Corp.

MORESTAN

Chemagro Corp.

OILS, DORMANT

Chevron Chemical Co., Ortho Div.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
B. G. Pratt Co.
Smith-Douglass Div., Borden Chem.

OILS, SUMMER

The J. J. Dill Co.
Great Lakes Chemical Div.
B. G. Pratt Co.

PARATHION

American Cyanamid Co.
American Potash & Chemical Corp.
Chevron Chemical Co., Ortho Div.
Chipman Chemical Co., Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Pennsalt Chemicals Corp.
Velsicol Chemical Corp.

PARIS GREEN

Chipman Chemical Co., Inc.

PENTACHLOROPHENOL

The J. J. Dill Co.
The Dow Chemical Co.

PHENOTHIAZINE

Prentiss Drug & Chemical Co.
Vineland Laboratories, Inc.

PHORATE (THIMET)

American Cyanamid Co.

PHOSDRIN

Great Lakes Chemical Div.
Shell Chemical Co.,
Ag. Chem. Div.

PHOSPHAMIDON (DIMECRON)

Chevron Chemical Co., Ortho Div.
Great Lakes Chemical Div.

PYRETHRINS

The J. J. Dill Co.
Great Lakes Chemical Div.
McLaughlin Gormley King Co.
Niagara Chemical Div., FMC Corp.
S. B. Penick & Co.

Prentiss Drug & Chemical Co.

PYRETHRUM-RYANIA

S. B. Penick & Co.

ROTENONE

The J. J. Dill Co.
S. B. Penick & Co.

RYANIA

The J. J. Dill Co.
S. B. Penick & Co.

SEVIN (CARBARYL)

Armour Agricultural Chemical Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
Smith-Douglass Div., Borden Chem.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.
Union Carbide Corp.
Vineland Laboratories, Inc.

SINOX

Niagara Chemical Div., FMC Corp.

STROBANE

The J. J. Dill Co.
McLaughlin Gormley King Co.
Thompson-Hayward Chemical Co.

SYSTOX

(See Miticides)

TEPP

Great Lakes Chemical Div.

THANITE

The J. J. Dill Co.
Hercules Incorporated

TOXAPHENE

Chipman Chemical Co., Inc.
Great Lakes Chemical Div.
Hercules Incorporated
Thompson-Hayward Chemical Co.

TRICHLORFON (DYLOX, DIPTEREX)

Chemagro Corp.
The J. J. Dill Co.

TRITHION

(See Miticides)

V-C 13

Mobil Chemical Co.
Pennsalt Chemicals Corp.

ZECTRAN

Dow Chemical Co.
Great Lakes Chemical Div.

ZINOPHOS

American Cyanamid Co.

FUNGICIDES

ACTI-DIONE

The J. J. Dill Co.
Green Lawn Laboratories, Inc.
TUCO Products Co.

AGROX

Chipman Chemical Co., Inc.

BOTRAN

TUCO Products Co.

CADMINATE

Mallinckrodt Chemical Works

See Advertisements

in this issue

of Suppliers

Listed in Boldface

CADMIUM CARBONATE

The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works

CADMIUM CHLORIDE

Armour Agricultural Chemical Co.
W. A. Cleary Corp.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Metasol Products, Merck & Co.
Vineland Chemical Co.

CADMIUM SEBACATE (KROMAD)

Armour Agricultural Chemical Co.
Mallinckrodt Chemical Works

CADMIUM SUCCINATE (CADMINATE)

Armour Agricultural Chemical Co.
The J. J. Dill Co.
Mallinckrodt Chemical Works

CALO-CLOR

Mallinckrodt Chemical Works

CALOCURE

Mallinckrodt Chemical Works

CALO-GRAN

Mallinckrodt Chemical Works

CALOMEL

The J. J. Dill Co.
Mallinckrodt Chemical Works
Metasol Products, Merck & Co.

CAPTAN

Chevron Chemical Co., Ortho Div.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Stauffer Chemical Co.

CERESAN

E. I. duPont de Nemours & Co., Inc.
Great Lakes Chemical Div.

CHIPCOTE

Chipman Chemical Co., Inc.

CHLORANIL

Naugatuck Chemical Div.

COPPER SULFATE

(See Aquatic Herbicides)

COPPER SULFATE, TRI-BASIC

The J. J. Dill Co.
Mallinckrodt Chemical Works
Phelps Dodge Refining Corp.
Tennessee Corp.

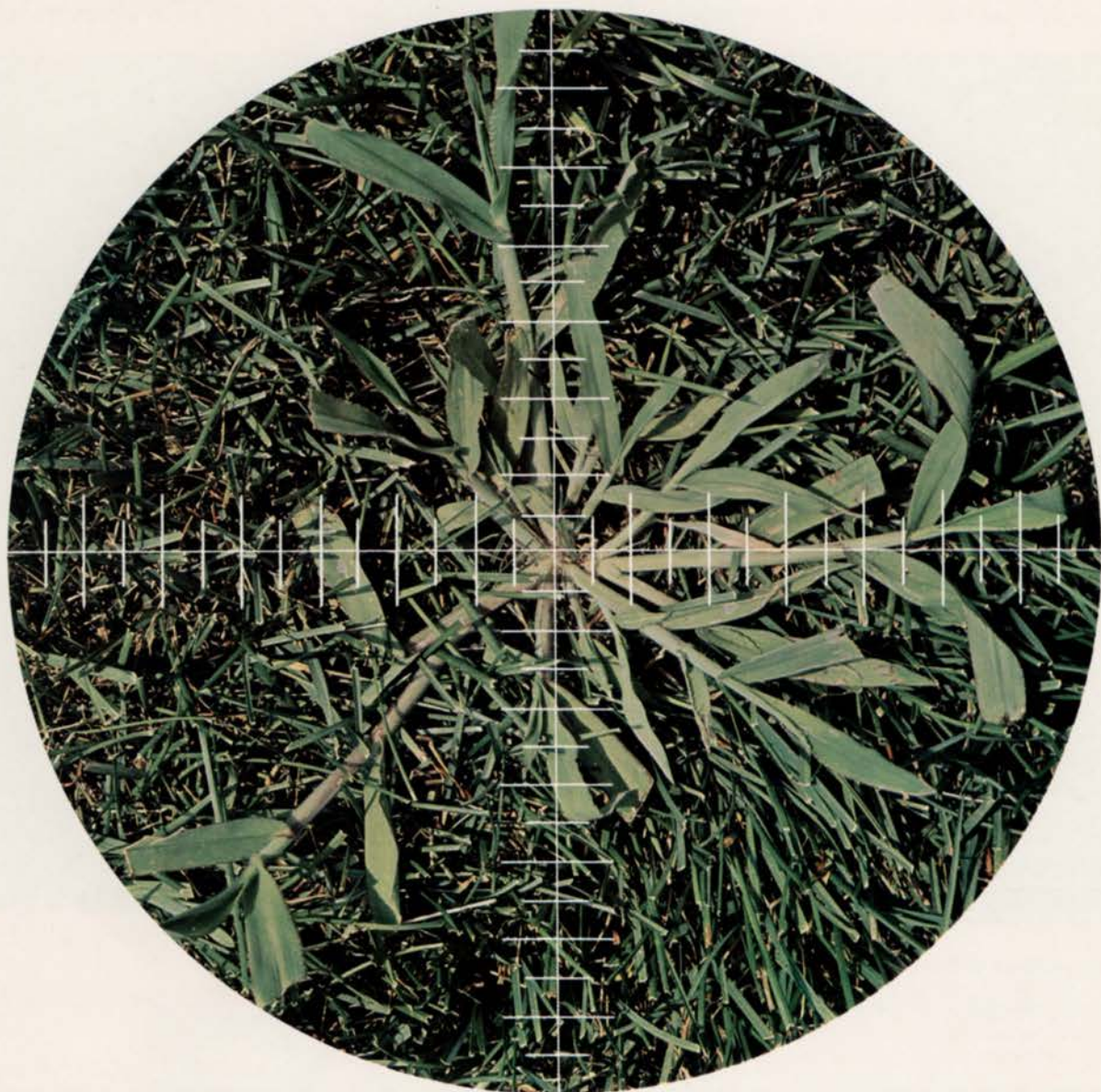
COPPER ZINC CHROMATE

Miller Chemical & Fertilizer Corp.

CORROSIVE SUBLIMATE

The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works

**Why let hordes
of crabgrass
take over your turf?**



**Stop the invasion
before it starts.**

The crabgrass - control program yo

Balan goes all out...all over...all season. Stops crabgrass for as little as \$15 an acre.*

All-out control: Tests prove Balan's power. It's the one pre-emergence herbicide as easy on your grounds maintenance budget as it's rough on crabgrass and other undesirable grasses.

Turf professionals aren't easily satisfied. Not with weed-killers that cost 3 to 4 times as much... or quit working after 4 to 6 weeks... contain poisonous chemicals (a big consideration in public areas).

Balan is the result of exhaustive testing at the Eli Lilly-Elanco research center. Its performance was confirmed by years of field trials. Many leading universities added their recommendations. Golf course and grounds superintendents began using it. They agreed. Balan stops smooth crabgrass, hairy crabgrass, goosegrass (silver crabgrass), watergrass (barnyardgrass), yellow and green foxtail on established turf.

***All-over control: Balan's modest price permits it.** Costs as little as \$15 per acre, depending on the type of turfgrass and climatic zone. On northern (cool



SCHOOLS



PLANT GROUNDS



GOLF COURSE

This side-by-side test is proof. Straight through the summer, all-season control Balan continues working in the treated area at right. Desirable turf isn't crowded out by crabgrass, isn't competing for moisture and nutrients. Look how crabgrass has taken over the untreated area at left and then browned out.



can afford. 1. Apply Balan.TM (That's it!)

season) turfs, one yearly application provides effective control.

On southern (warm season) turfs, where a heavier and a second application may be needed, the cost will be higher. Even so, Balan's economy makes it ideal for use everywhere, including areas you may have thought were too costly to warrant treating with a herbicide.

How can Balan give you this kind of stopping power—and economy besides? Because Balan's active ingredient has more killing power. With more strength to unleash, it covers more ground.

All-season control: weatherproof Balan stays put. Many herbicides are very soluble in water and subject to leaching. Rainfall and irrigation quickly wash them out of the weed-control zone. Not Balan. Balan's low solubility and strong adherence to soil particles means that it stays put. It resists leaching, even under excessive rainfall or irrigation, to give you months and months of control. Balan doesn't give crabgrass a chance to mar your turf.

On warm-season turfs and in southern areas where the growing season exceeds 4 to 6 months, a second application may be necessary for continued control.



ATHLETIC FIELDS



OFFICE BUILDINGS



PARKS



(BalanTM—Benefin, Elanco)

ELANCO PRODUCTS COMPANY:

I'd like to know more about Balan Granular pre-emergence herbicide. Please send me complete technical information.

I'm interested in treating a total area of _____ acres.

I presently do _____ do not _____ use a pre-emergence herbicide.

Name _____ Title _____

Establishment _____

Address _____

City _____ State _____ Zip _____



Balan Granular is the easy-to-use herbicide formulated for turfgrass professionals.

You'll appreciate Balan's convenient granular form. There's no messy wettable powder or spray to handle. Granules pour smoothly and won't clog equipment.

Both drop-type and rotary-type spreaders, commonly employed to apply granular herbicides and insecticides, may be used to apply Balan. However, a spreader that provides a consistently uniform distribution of granules is recommended. Use a spreader that avoids any uneven distribution or concentration of the herbicide in narrow bands, and spreads the granules evenly over the area.

Balan offers a good safety margin. It will not injure these established turf grasses, when applied as directed: perennial bluegrasses, perennial ryegrass, fescue, centipedegrass, St. Augustinegrass, Bermudagrass, zoysiagrass, and bahiagrass.

And Balan contains no poisonous arsenic, mercury, or lead. Used properly, it attacks only your undesirable grasses by killing the seeds as they germinate. It does not control established problem grasses.

Dependable, long-lasting Balan—the turf herbicide formulated for professional use. Do you want technical information or assistance? It's yours for the asking. Then watch Balan go all out, all over, all season to give you even better looking turf.

Balan[™]



(Balan[™]—Benefin, Elanco)

ELANCO PRODUCTS COMPANY • A division of Eli Lilly and Company • Indianapolis, Indiana U. S. A.

BUSINESS REPLY CARD

No postage stamp necessary if mailed in the United States

postage will be paid by

ELANCO PRODUCTS COMPANY

P. O. Box 1968

Indianapolis, Indiana 46205

FIRST CLASS
PERMIT NO.
723
Indianapolis, Ind.

**DETAILS
FREE!
MAIL
THIS
CARD
TODAY!**

Attn: Dept. E-455

CYCLOHEXIMIDE

Green Lawn Laboratories, Inc.

CYPREX

American Cyanamid Co.
The J. J. Dill Co.

DACONIL 2787

Armour Agricultural Chemical Co.
Diamond Alkali Co.
The J. J. Dill Co.
Great Lakes Chemical Div.

DEXON

Chemagro Corp.
The J. J. Dill Co.

DICHLONE

(See Aquatic Herbicides)

DITHANE

Rohm and Haas Co.

DYRENE

Armour Agricultural Chemical Co.
Chemagro Corp.
The J. J. Dill Co.

FERBAM

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Shepard Chemical Industries, Inc.
Velsicol Chemical Corp.

FOLPET

Chevron Chemical Co., Ortho Div.
Green Lawn Laboratories, Inc.

FORE

The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Rohm and Haas Co.

GLYODIN

Union Carbide Corp.

KARATHANE

The J. J. Dill Co.
Rohm and Haas Co.

KROMA-CLOR

Mallinckrodt Chemical Works

KROMAD

Mallinckrodt Chemical Works

MANEB (MANZATE)

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Great Lakes Chemical Div.
Rohm and Haas Co.

MEMMI

The J. J. Dill Co.
Velsicol Chemical Corp.

MERCURY COMPOUNDS

Armour Agricultural Chemical Co.
Chipman Chemical Co., Inc.
W. A. Cleary Corp.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Metasol Products, Merck & Co.
Niagara Chemical Div., FMC Corp.
Robeco Chemicals, Inc.
Shepard Chemical Industries, Inc.
Summers Fertilizers, Inc.
Thompson-Hayward Chemical Co.
Velsicol Chemical Co.

MOROCIDE

Niagara Chemical Div., FMC

MORSODREN

Morton Chemical Co.

NABAM

E. I. duPont de Nemours & Co., Inc.
Great Lakes Chemical Div.
Niagara Chemical Div., FMC Corp.
Rohm and Haas Co.

NO BUNT

Chipman Chemical Co., Inc.

PANOGEN

Armour Agricultural Chemical Co.
Great Lakes Chemical Div.
Morton Chemical Co.

PENTACHLORONITROBENZENE

Olin Mathieson Chemical Corp.
Shepard Chemical Industries, Inc.
Velsicol Chemical Corp.

PHENMAD

Mallinckrodt Chemical Works

PHENYLMERCURIC ACETATE

Armour Agricultural Chemical Co.
Chemley Products Co.
W. A. Cleary Corp.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Metasol Products, Merck & Co.
Velsicol Chemical Corp.
Vineland Chemical Co.

PIPERALIN

Elanco Products Co.

PIPRON

Elanco Products Co.

POLYRAM

Niagara Chemical Div., FMC Corp.

PURATIZED AG. SPRAY

Niagara Chemical Div., FMC Corp.

SEMESAN

E. I. duPont de Nemours & Co., Inc.

SPRING-BAK

Mallinckrodt Chemical Works

SULFUR

Chevron Chemical Co., Ortho Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
B. G. Pratt Co.
The Sherwin-Williams Co.

TERSAN OM

E. I. du Pont de Nemours & Co., Inc.

THIMER

W. A. Cleary Corp.

THIRAM

Armour Agricultural Chemical Co.
W. A. Cleary Corp.
The J. J. Dill Co.
E. I. du Pont de Nemours & Co., Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Metasol Products, Merck & Co.
Niagara Chemical Div., FMC Corp.
Pennsalt Chemicals Corp.
Robeco Chemicals, Inc.
Roussel Corp.
Summers Fertilizers, Inc.
Velsicol Chemical Corp.

THIRAMAD

Mallinckrodt Chemical Works

THIRAMAD-PLUS

Mallinckrodt Chemical Works

TUTANE

Elanco Products Co.

ULTRA-CLOR

Mallinckrodt Chemical Works

VELSICOL "2-1"

The J. J. Dill Co.
Velsicol Chemical Corp.

ZINEB

E. I. du Pont de Nemours & Co., Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Pennsalt Chemicals Corp.
Rohm and Haas Co.

ZIRAM

The J. J. Dill Co.
E. I. du Pont de Nemours & Co., Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Velsicol Chemical Corp.

2-AMINO BUTANE

Elanco Products Co.

EQUIPMENT

AERATORS

John H. Graham & Co., Inc.
Henderson Mfg. Co., Inc.
International Harvester Co.
Parker Sweeper Co.
Rogers Mfg. Co., Inc.
Royer Foundry & Machine Co.
Ryan Equipment Co.
Viking Mfg. Co.
West Point Products Corp.

AERIAL BUCKET LIFTS

Arlo Industries, Inc.
Asplundh Chipper Co.
Deere & Co.
Halline Utility Equipment Co.
Hunt-Pierce Corp.
McCabe-Powers Body Co.
Mobile Aerial Towers, Inc.
Pitman Mfg. Co.
Skyworker Div., Transair Co., Inc.

AERIAL BUCKET SAFETY BELTS

Bartlett Mfg. Co.
W. M. Bashlin Co.
Mine Safety Appliances Co.
Safety Test & Equipment Co., Inc.

AIR BLAST APPLICATOR

Allied Biological Control Corp.
Aquanautics, Inc.
John Bean Div., FMC Corp.
Buffalo Turbine Ag. Equip. Co.
Friend Manufacturing Corp.
F. E. Myers & Bro. Co.
Root-Lowell Corp.
Solo Industries

AIRCRAFT, FIXED WING

Cessna Aircraft Co.
Grumman Aircraft Corp.
Imco, Inc.
Piper Aircraft Corp.
Snow Aeronautical Corp.

AIRCRAFT, HELICOPTER

Bell Helicopter Co.
Gyrodyne Co. of America
Hiller Aircraft Corp.
Republic Aviation Corp.
Sikorsky Aviation Div.

ALTERNATORS

New World Products Co., Inc.

AQUATIC WEED MOWER

Aquanautics, Inc.
Aquatic Controls Corp.
Jari Corp.

AQUATIC SPRAY BOATS

Allied Biological Control Corp.
Aquanautics, Inc.

AUGERS, EARTH

Allis-Chalmers Mfg. Co.
Bartlett Mfg. Co.
Contree Sales, Inc.
Fairmont Hydraulics
Halline Utility Equipment Co.
Heckendorn Mfg. Co., Inc.
Hoffco, Inc.
International Harvester Co.
McCabe-Powers Body Co.
McCulloch Corp.
Melroe Mfg. Co.
New World Products Co., Inc.
Pitman Mfg. Co.
Rear's Mfg. Co.
Stihl American, Inc.
Thor Power Tool Co.

BARRELS, PLASTIC-LINED

The Broyhill Co.
Century Engineering Corp.
Farmrite Sprayer, Inc.
Larson Machine, Inc.

BARRELS, STEEL

The Broyhill Co.
Larson Machine, Inc.

BINS, PORTABLE

Contree Sales, Inc.
Royer Foundry & Machine Co.

BLADES, DOZER SCRAPER

Arps Corp.
Bolens Div., FMC Corp.
J. I. Case Co.
Deere & Co.
Gravely Tractors
International Harvester Co.
Jacobsen Mfg. Co.
Massey-Ferguson, Inc.
Melroe Mfg. Co.
Simplicity Mfg. Co., Inc.

BOATS, AIR

Aquanautics, Inc.

BRUSHCUTTER, POWER

John Bacon Corp.
Brillion Iron Works, Inc.
Hoffco, Inc.
Homelite Div., Textron, Inc.
Locke Manufacturing Cos., Inc.
McCulloch Corp.
Pitman Mfg. Co.
Rowco Mfg. Co., Inc.
Stihl American, Inc.
The Vandermolen Co..

BRUSH HOOKS

Bartlett Mfg. Co.
Pitman Mfg. Co.

CABLE SUPPLIES

Bartlett Mfg. Co.
H. K. Porter, Inc.

CHEMICAL APPLICATORS, GRANULAR

John Bean Div., FMC Corp.
John Blue Co.
Bowie Machine Works, Inc.
Buffalo Turbine Ag. Equip. Co.
Contree Sales, Inc.
The J. J. Dill Co.
Gandy Co.
International Harvester Co.
Jacobsen Mfg. Co.
Larson Machine, Inc.
Smith-Douglass Div. Borden Chem.
Solo Industries, Inc.
Tarrant Mfg. Co.
Tryco Mfg. Co., Inc.
Walsh Manufacturing Co.

CHEMICAL APPLICATORS, LIQUID

Ag-King (Div. of TAGS)
Amchem Products, Inc.
John Bacon Corp.
John Bean Div., FMC Corp.
John Blue Co.
Bowie Machine Works, Inc.
The Broyhill Co.
Buffalo Turbine Ag. Equip. Co.
Century Engineering Corp.
Contree Sales, Inc.
Deere & Co.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.
International Harvester Co.
Jacobsen Mfg. Co.
Lakes Supply Co., Inc.
Larson Machine, Inc.
Melnor Industries, Inc.
F. E. Myers & Bro. Co.
Root-Lowell Corp.
Solo Industries, Inc.
Tarrant Mfg. Co.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.
The Vandermolen Co.
Walsh Manufacturing Co.

CHIPPERS

Asplundh Chipper Co.
Fitchburg Engineering Corp.
H & G Tool Co.
Mitts & Merrill, Inc.
Pitman Mfg. Co.
Safety Test & Equipment Co., Inc.
Trailevator Div., Magline Inc.
Wayne Manufacturing Co.

CLIMBERS' SPURS

Bartlett Mfg. Co.
W. M. Bashin Co.

COMBS, TURF

Parker Sweeper Co.
Rental Equipment Mfg. Co.
Ryan Equipment Mfg. Co.

CRANES

Arlo Industries, Inc.
Deere & Co.
Halline Utility Equipment Co.
Ideal Crane Div.
International Harvester Co.
Pitman Mfg. Co.

DISKS, CULTIVATING

Allis-Chalmers Mfg. Co.
J. I. Case Co.
Deere & Co.
International Harvester Co.
Massey-Ferguson, Inc.

DRILLS (Field)

Deere & Co.
Gandy Co.
International Harvester Co.
Massey-Ferguson, Inc.

DRILLS (Hand & Power Tool)

Bartlett Mfg. Co.
Black & Decker Mfg. Co.
Fairmont Hydraulics
Hoffco, Inc.
Skil Corp.
Stihl American Inc.
Thor Power Tool Co.

DUSTERS

John Bean Div., FMC Corp.
John Blue Co., Inc.
Buffalo Turbine Ag. Equip. Co.
Champion Sprayer Co.
R. E. Chapin Mfg. Works, Inc.
DeVilbiss Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
H. D. Hudson Mfg. Co.
The Ben Meadows Co.
Root-Lowell Corp.
Solo Industries, Inc.
Universal Metal Products Div.
The Vandermolen Co.

FIRST-AID KITS

American Optical Co.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.

FLAMETHROWERS

John Bean Div., FMC Corp.
Cranco Co.
Gotcher Engineering & Mfg. Co.
H. D. Hudson Mfg. Co.
Solo Industries, Inc.
Tree-Ject Co.
Universal Metal Products Div.
Vandermolen Co.

FORK LIFTS

Allis-Chalmers Mfg. Co.
International Harvester Co.

FORK LIFT (Attachments for Tractors)

Century Engineering Corp.

FUMIGANT APPLICATORS

John Blue Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.

FUMIGANT COVERS

(Plastic Sheets)

Great Lakes Chemical Div.

GENERATORS

Allis-Chalmers Mfg. Co.
John Bacon Corp.
International Harvester Co.
New World Products Co., Inc.

GRADERS

The John M. Adt Co.
Allis-Chalmers Mfg. Co.
Simplicity Mfg. Co., Inc.
Viking Mfg. Co.

HARROW, SPRING-TOOTHED

Allis-Chalmers Mfg. Co.
Brillion Iron Works, Inc.
The Broyhill Co.
J. I. Case Co.
Deere & Co.
Ford Motor Co.
International Harvester Co.
Massey-Ferguson, Inc.
Melroe Mfg. Co.

Oliver Corp.
Simplicity Mfg. Co., Inc.

HARROW, SPIKE-TOOTHED

The Broyhill Co.
J. I. Case Co.
Deere & Co.
John H. Graham & Co., Inc.
International Harvester Co.
Oliver Corp.

HELMETS

American Optical Co.
Great Lakes Chemical Div.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.
Willson Products Div.

HOSE

Ampulco (Hardie)
John Bacon Corp.
The Broyhill Co.
Century Engineering Corp.
Contree Sales, Inc.
DeVilbiss Co.
The J. L. Dill Co.
Friend Manufacturing Corp.
Great Lakes Chemical Div.
Larson Machine, Inc.
F. E. Myers & Bro. Co.

HYDRAULIC & AIR POWERED TOOLS

Ackley Mfg. Co.
Fairmont Hydraulics
New World Products, Inc.

HYDRAULIC DUMPING HOISTS

Collins Associates, Inc.

HYDRAULIC SEEDING & MULCHING MACHINES

Bowie Machine Works, Inc.
Finn Equipment Co.
Reinco, Inc.

IRRIGATION CANAL HARVESTER

Aquatic Controls Corp.

IRRIGATION PIPE

John Bean Div., FMC Corp.
Certain-teed Products Corp.
Johns-Manville Corp.
Reynolds Metals Co.
R. M. Wade & Co.

IRRIGATION SPRINKLER HEADS

W. D. Allen Mfg. Co.
John Bean Div., FMC Corp.
Buckner Industries, Inc.
Irrigation Accessories, Inc.
Melnor Industries, Inc.
Rain Bird Sprinkler
Rain-O-Mat Sprinklers
Toro Mfg. Corp.
R. M. Wade & Co.

IRRIGATION SYSTEMS, COMPLETE

Adamson Sprinkler Co.
John Bean Div., FMC Corp.
Buckner Industries, Inc.
Irrigation Accessories Co.
Rain-O-Mat Sprinklers
Telsco Industries
The Thompson Manufacturing Co.
Toro Manufacturing Corp.
Vermeer Manufacturing Co.
R. M. Wade & Co.

KNIVES, INJECTOR

Contree Sales, Inc.

LEAF BLOWER

American-Lincoln Corp.
The J. J. Dill Co.

Finn Equipment Co.
F. E. Myers & Bro. Co.
Parker Sweeper Co.
Rogers Mfg. Co., Inc.
Solo Industries, Inc.
The Vandermolen Co.

LEVELERS

Deere & Co.
International Harvester Co.
Viking Mfg. Co.
York Modern Corp.

LOADERS, BOOM

Pitman Mfg. Co.
Side-O-Matic Unloader Corp.

LOADERS, TRACTOR MOUNTED

Allis-Chalmers Mfg. Co.

Arps Corp.
Danuser Machine Works
Deere & Co.
Engineering Products Co.
Ford Motor Co.
International Harvester Co.
Koyker Mfg. Co.
Massey-Ferguson, Inc.
Melroe Mfg. Co.
Oliver Corp.
The Sun-Mastr Corp.
Vermeer Manufacturing Co.

LOG SPLITTERS

Piqua Engineering, Inc.
Waco Lickity Log Splitter Div.

MASKS, DUST

Acme Protection Equipment Corp.

Did you ever use a BUFFALO



**for Shade Trees
Seeding**

Weed Control

Mosquito Control

Fly Control

Pest Control

With their minds on economy but yet getting value for every dollar spent, more and more arborists and pest control contractors are turning to Buffalo Turbine Equipment. Whether it's a sprayer, duster, or combination, Buffalo Turbine has a model to fit your needs and your budget.

One machine does the work of several with one man to operate most models. A Buffalo Turbine does not sit idle as there is a need for it most months during the year. Write for details today, giving your needs. We'll be glad to send you full details.



BUFFALO TURBINE
Agricultural Equipment Co., Inc.

Industrial Street
Gowanda, New York
Telephone: 716 + 532-2272

American Optical Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
Martindale Electric Co.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.
Scott Aviation Corp.
The Vandermolen Co.
Willson Products Div.

MASKS, GAS

Acme Protection Equipment Corp.
The J. J. Dill Co.
Great Lakes Chemical Div.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.
Scott Aviation Corp.
Willson Products Div.

MEASURING WHEEL

Gandy Co.
Great Lakes Chemical Div.
B. G. Reilly Co.
Rolatape, Inc.

MISCELLANEOUS

CONVEYORS, PORTABLE, BELT

Stone Conveyor Co., Inc.

DIFFERENTIALS

Tecumseh Products Co.

FLOTATION TIRES & WHEELS

Martin Tire & Supply, Inc.

GASOLINE ENGINE

Rudd Manufacturing, Inc.

GEARED ANGLE DRIVES

Tecumseh Products Co.

ROTARY LAWN MOWER BLADES

The Whitaker Manufacturing Co.

SICKLE BAR MOWER REPAIRS

The Whitaker Manufacturing Co.

STORAGE TENDER UNIT

Rudd Manufacturing Co.

TRANSAXLES

Tecumseh Products Co.

TRANSMISSIONS

Tecumseh Products Co.

MISTBLOWERS, BACKPACK

Buffalo Turbine Ag. Equip. Co.
Burton Supply Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.
Silver Creek Precision Corp.
Solo Industries, Inc.
The Vandermolen Co.

MISTBLOWERS, TRUCK-MOUNTED

Ag King (Div. of TAGS)
Ampulco (Hardie)
Aquanautics, Inc.
John Bean Div., FMC Corp.
Besler, A Div. of C-C Industries
The Broyhill Co.
Buffalo Turbine Ag. Equip. Co.
The J. J. Dill Co.
F. E. Myers & Bro. Co.
Silver Creek Precision Corp.
Solo Industries Inc.
The Vandermolen Co.

MISTBLOWERS, NOZZLE PARTS

Ag King (Div. of TAGS)
John Bean Div., FMC Corp.
The Broyhill Co.
Buffalo Turbine Equipment Co.
Century Engineering Corp.
The J. J. Dill Co.
Great Lakes Chemical Div.
H. D. Hudson Mfg. Co.
F. E. Myers & Bro. Co.
Solo Industries, Inc.

MOTORS

L. M. Cox Mfg. Co.
International Harvester Co.
Tecumseh Products Co.
The Vandermolen Co.
Waukesha Motor Co.

MOWERS, BLADES & CUTTING PARTS

The Whitaker Manufacturing Co.

MOWERS, FLAIL

John Bean Div., FMC Corp.
J. I. Case Co.
Deere & Co.
Excel Industries, Inc.
Ford Motor Co.
Gravely Tractors
Henderson Mfg. Co.
International Harvester Co.
Massey-Ferguson, Inc.
Mott Corp.
The Sun-Mastr Corp.

MOWERS, GANG

Allis-Chalmers Mfg. Co.
Bolens Div., FMC Corp.
J. I. Case Co.
Gravely Tractors
International Harvester Co.
Jacobsen Mfg. Co.
Roseman Mower Corp.
Roxy-Bonner, Inc.
Simplicity Mfg. Co., Inc.
The Sun-Mastr Corp.
Toro Manufacturing Corp.

MOWERS, REEL

Bolens Div., FMC Corp.
J. I. Case Co.
Devere-Locke Div., Locke Mfg. Co.
Gravely Tractors
International Harvester Co.
Jacobsen Mfg. Co.
Jari Corp.
Locke Mfg. Co., Inc.
Roseman Mower Corp.
Roxy-Bonner, Inc.
Simplicity Mfg. Co., Inc.
The Sun-Mastr Corp.
Toro Mfg. Corp.

MOWERS, ROTARY

Allis-Chalmers Mfg. Co.
Ariens Co.
John Bean Division, FMC Corp.
The Black & Decker Mfg. Co.
BMB Co.
Bolens Div., FMC Corp.
Brillion Iron Works, Inc.
J. I. Case Co.
Deere & Co.
Engineering Products Co.
Excel Industries, Inc.
Ford Motor Co.
Gale Products
Goodall Mfg. Corp.
Gravely Tractors
Heckendorn Mfg. Co., Inc.
Homelite Div., Textron, Inc.
International Harvester Co.
Jacobsen Mfg. Co.
Jari Corp.
Locke Mfg. Co., Inc.

Massey-Ferguson, Inc.
Oliver Corp.
Pennington Mfg. Co.
Quick Manufacturing, Inc.
Rear's Mfg. Co.
Simplicity Mfg. Co., Inc.
Speedex Tractor Co.
Solo Industries, Inc.
The Sun-Mastr Corp.
Thor Power Tool Co.
Toro Manufacturing Corp.
Triumph Machinery Co.
Yazoo Mfg. Co., Inc.

MOWERS, SICKLE BAR

Allis-Chalmers Mfg. Co.
Deere & Co.
Gravely Tractors
International Harvester Co.
Jacobsen Mfg. Co.
Jari Corp.
Massey-Ferguson, Inc.
Simplicity Mfg. Co., Inc.

MOWERS, VERTICAL (De-Thatchers)

Allis-Chalmers Mfg. Co.
International Harvester Co.
Jacobsen Mfg. Co.
Rental Equipment Mfg. Co.
Rogers Mfg. Co., Inc.
Ryan Equipment Co.
Triumph Machinery Co.
West Point Products Corp.

PASTEURIZERS, SOIL

Tarrant Mfg. Co.

PROPORTIONING SYSTEMS

Contree Sales, Inc.
Vineland Laboratories, Inc.

PROTECTIVE CLOTHING

American Optical Co.
Charleston Rubber Co.
Mine Safety Appliances Co.

PRUNERS

John Bacon Corp.
Bartlett Mfg. Co.
Fairmont Hydraulics
Fanno Saw Works
John H. Graham & Co., Inc.
Halline Utility Equipment Co.
Hunt-Pierce Corp.
Miller Robinson Co.
Melnor Industries, Inc.
New World Products Co., Inc.
Pitman Mfg. Co.
H. K. Porter, Inc.
Rowco Mfg. Co., Inc.
Seymour Smith & Son, Inc.
Stihl American, Inc.

PUMPS

Ace Pump Corp.
Ampulco (Hardie)
Aurora Pump Div.
John Bacon Corp.
John Bean Div., FMC Corp.
Bowie Machine Works, Inc.
The Broyhill Co.
Century Engineering Corp.
Contree Sales, Inc.
Delavan Manufacturing Co.
DeVilbiss Co.
Dempster Industries Inc.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Farris Chemical Co.
Friend Manufacturing Corp.
Gotcher Engineering & Mfg. Co.
Hanson Equipment Co.
Homelite Div., Textron, Inc.
H. D. Hudson Mfg. Co.
Hypro, Inc.
Larson Machine, Inc.

Marlow Pumps Div.
Minnesota Wanner Co.
F. E. Myers & Bro. Co.
Oberdorfer Pump Div.
Solo Industries, Inc.
Thor Power Tool Co.
Tryco Mfg. Co., Inc.
Universal Motor Co.
Viking Pump Co.

RAKES

Arps Corp.
Bartlett Mfg. Co.
Deere & Co.
International Harvester Co.
Jari Corp.
Rental Equipment Mfg. Co.
Roseman Mower Corp.
Triumph Machinery Co.
York Modern Corp.

REELS, HOSE

Clifford B. Hannay & Son, Inc.
Melnor Industries, Inc.

RESPIRATORS

Acme Protection Equipment Corp.
American Optical Co.
John Bacon Corp.
The J. J. Dill Co.
Glendale Optical Co., Inc.
Great Lakes Chemical Div.
Martindale Electric Co.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.
Scott Aviation Corp.
The Vandermolen Co.
Willson Products Div.

ROLLER-SPRAYERS

Lakes Supply Co., Inc.

ROLLERS, TURF

Brillion Iron Works, Inc.
John H. Graham & Co., Inc.
Gravelly Tractors
International Harvester Co.
Rogers Mfg. Co., Inc.
Rosco Manufacturing Co.
Ryan Equipment Co.
Simplicity Mfg. Co., Inc.
Sun Industry, Inc.

ROOT-FEEDING RODS

John Bean Div., FMC Corp.
The J. J. Dill Co.
Dobbins Div., Chamberlain Mfg.
Corp.
Hydroponic Chemical Co., Inc.
Minnesota Wanner Co.

SAFETY BELTS AND SADDLES, TREE CLIMBERS

Bartlett Mfg. Co.
W. M. Bashlin Co.
Mine Safety Appliances Co.
Safety Test & Equipment Co., Inc.

SAFETY EQUIPMENT

Acme Protection Equipment Corp.
American Optical Co.
Bartlett Mfg. Co.
John Bean Div., FMC Corp.
Charleston Rubber Co.
Glendale Optical Co.
Great Lakes Chemical Div.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.
Safety Test & Equipment Co., Inc.
Scott Aviation Corp.

SAWS, CHAIN

Homelite Div., Textron Inc.
New World Products Co., Inc.



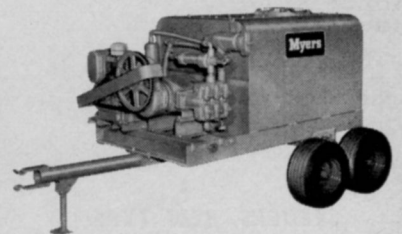
100TM - Tractor-Mounted, 100 Gallon, PTO Sprayer

*The Myers 100TM GlasStran[®]
Sprayer is one more reason why...*

You'll Profit from Our Experience!

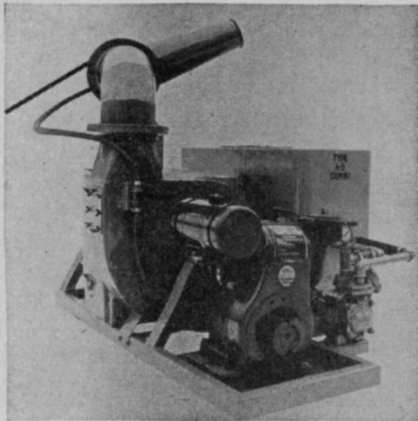
Pioneering new ideas is an old story at Myers. We've had lots of experience at it... the 100TM, Myers exclusive GlasStran Sprayer, is a good example. It has proved an instant success. Professional applicators find it to be the ideal answer for a lightweight, easy-to-handle rig that holds up under the most rough-and-tumble conditions. Complete with 12, 6 or 3 GPM pump, mechanical agitator, sight gauge and many other features. Get the facts about the 100TM, call your Myers Dealer today!

6520-4ET2. While you're at it... ask about this new Myers Series with "pillows of air" running gear. It's another Myers high quality, high pressure (20 gpm, 400 psi) sprayer that fits a wide range of applications.



Myers ...the finest name in power sprayers

THE F. E. MYERS & BRO. CO. SUBSIDIARY OF
400 ORANGE STREET • ASHLAND, OHIO 44805 **McNEIL CORPORATION**



There's a KWH MISTBLOWER-DUSTER

COMBINATION FOR EVERY JOB

Mosquito Control

Weed Control — Insect Control

◀ KWH Model A-3

KWH 26 TT ▶

Spray, dust, wet dust and apply granules with the same machine; no extra attachments needed.

KWH — Full line of spraying and dusting equipment.

BUILT BETTER to LAST LONGER

CONTACT YOUR DEALER OR WRITE

The VANDERMOLLEN CO.

378 Mountain Ave., North Caldwell, N.J. 07006



SAWS, MANUAL

Bartlett Mfg. Co.
John Bacon Corp.
W. M. Bashlin Co.
The Fanno Saw Works
John H. Graham & Co., Inc.
Safety Test & Equipment Co., Inc.
Seymour Smith & Son, Inc.
Wright Saw Div.

SAWS, POWER

American-Lincoln Corp.
John Bacon Corp.
The Black & Decker Mfg. Co.
L. M. Cox Mfg. Co., Inc.
Fairmont Hydraulics
Fanno Saw Works
Great Lakes Chemical Div.
Hallline Utility Equipment Co.
Hoffco, Inc.
Homelite Div., Textrone, Inc.
Hunt-Pierce Corp.
McCulloch Corp.
Miller-Robinson Co.
New World Products Co., Inc.
Pioneer Saws, Ltd.
Pitman Mfg. Co.
Remington Arms Co., Inc.
Rowco Mfg. Co., Inc.
Solo Industries, Inc.
Stihl American, Inc.
The Sun-Mastr Corp.
Thor Power Tool Co.
Wright Saw Div.

SAWS, CHAIN, PARTS

Omark Industries, Inc.
Pioneer Saws, Ltd.

SCRAPERS

BMB Company
Deere & Co.
Gravely Tractors
International Harvester Co.

SCREENERS, SOIL

Lindig Manufacturing, Inc.

SCYTHES

Hoffco, Inc.

SEEDERS, BELT TYPE

John Bean Div., FMC Corp.

SEEDERS, DISK TYPE

International Harvester Co.
Vandermolen Export Co.

SEEDERS, HOPPER TYPE

Brettrager Manufacturing

Brillion Iron Works, Inc.
The Cyclone Seeder Co., Inc.
Deere & Co.
The J. J. Dill Co.
Gandy Co.
Garber Seeders, Inc.
Gravely Tractors
International Harvester Co.
Larson Machine, Inc.
Rogers Mfg. Co., Inc.
Schneider Metal Mfg. Co.
Sunnyhill Research & Mfg. Co.

SEEDERS, HYDRAULIC

Reinco Inc.

SEEDERS, SOD

Brillion Iron Works, Inc.

SHEARS

John Bacon Corp.
Bartlett Mfg. Co.
John H. Graham & Co., Inc.
Melnor Industries, Inc.
H. K. Porter, Inc.
Seymour Smith & Son, Inc.

SHREDDERS, SOIL

Kemp Mfg. Co.
Lindig Manufacturing, Inc.
Royer Foundry & Machine Co.
W-W Grinder Corp.

SICKLE BAR MOWER

Deere & Co.
Engineering Products Co.
Ford Motor Co., Tractor Div.
Gravely Tractors
International Harvester Co.
Solo Industries, Inc.

SOD CUTTERS

Finland Turf Cut Div.
James-Way Equipment Co.
Ryan Equipment Co.
Sodmaster

SOD HARVESTERS

John Nunes Mechanical Harvesting Co.

SOD PLUGGER

James-Way Equipment Co.
West Point Products Corp.

SOD ROLLER

Hadfield Sod Roller Co.
Merion Sod Farms, Inc.

SOIL TESTERS

Contree Sales, Inc.

Hydroponic Chemical Co., Inc.
Kel Instruments Co., Inc.
LaMotte Chemical Products Co.
Sudbury Laboratory

SPIKERS

John H. Graham & Co., Inc.
Rogers Mfg. Co., Inc.
Ryan Equipment Co.
West Point Products Corp.

SPRAY BOOMS

Ampulco (Hardie)
John Bacon Corp.
John Bean Div., FMC Corp.
The Broyhill Co.
Century Engineering Corp.
Contree Sales, Inc.
Custom Spray Equipment Corp.
Dempster Industries, Inc.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
Mallinckrodt Chemical Works
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Rear's Mfg. Co.
Root-Lowell Corp.
Thuron Sprayer Mfg. Co.
Tote Systems Div.
Tryco Mfg. Co., Inc.
Walsh Manufacturing Co.

SPRAY GUNS

Ampulco (Hardie)
John Bacon Corp.
John Bean Div., FMC Corp.
The Broyhill Co.
Century Engineering Corp.
Contree Sales, Inc.
Delavan Manufacturing Co.
DeVilbiss Co.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gotcher Engineering & Mfg. Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.
Hydroponic Chemical Co., Inc.
Larson Machine, Inc.
Melnor Industries, Inc.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Root-Lowell Corp.
Silver Creek Precision Corp.

Spraying Systems Co.
Wm. Steinen Mfg. Co.
The Thompson Manufacturing Co.
Thuron Sprayer Mfg. Co.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.
Walsh Manufacturing Co.

SPRAY NOZZLES, COMPLETE

W. D. Allen Mfg. Co.
John Bacon Corp.
John Bean Div., FMC Corp.
The Broyhill Co.
Buffalo Turbine Equipment Co.
Century Engineering Corp.
Contree Sales, Inc.
Delavan Manufacturing Co.
DeVilbiss Co.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gotcher Engineering & Mfg. Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
Monarch Mfg. Works, Inc.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Root-Lowell Corp.
Spraying Systems Co.
Wm. Steinen Mfg. Co.
The Thompson Manufacturing Co.
Thuron Sprayer Mfg. Co.
Tryco Mfg. Co., Inc.
Walsh Manufacturing Co.

SPRAY NOZZLES, DISKS

W. D. Allen Mfg. Co.
John Bacon Corp.
John Bean Div., FMC Corp.
The Broyhill Co.
Century Engineering Corp.
Delavan Manufacturing Co.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gotcher Engineering & Mfg. Co.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
Larson Machine, Inc.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Spraying Systems Co.
Wm. Steinen Mfg. Co.
Thuron Sprayer Mfg. Co.
The Vandermolen Co.
Walsh Manufacturing Co.

SPRAY NOZZLES, WHIRLS

W. D. Allen Mfg. Co.
John Bacon Corp.
John Bean Div., FMC Corp.

The Broyhill Co.
Century Engineering Corp.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Larson Machine, Inc.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Spraying Systems Co.
Walsh Manufacturing Co.

SPRAY PUMPS

Hypro, Inc.

SPRAY RIG LINE MARKERS

The Broyhill Co.
Contree Sales, Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
H. D. Hudson Mfg. Co.

SPRAYER, BIFLUID

John Bean Div., FMC Corp.
The Broyhill Co.
Buffalo Turbine Equipment Co.
Dobbins Div., Chamberlain Mfg. Corp.
Farmrite Sprayer, Inc.
Finn Equipment Co.
Great Lakes Chemical Div.
Minnesota Wanner Co.
Stull Chemical Co.

SPRAYERS, BOOM

Ag-King (Div. of TAGS)
Ampulco (Hardie)
Amchem Products, Inc.
John Bacon Corp.
John Bean Div., FMC Corp.
John Blue Co., Inc.
The Broyhill Co.
Century Engineering Corp.
Contree Sales
Cushman Motors
Deere & Co.
Dempster Industries Inc.
The J. J. Dill Co.
Dobbins Div., Chamberlain Mfg. Corp.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gotcher Engineering & Mfg. Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
Heckendorn Mfg. Co., Inc.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
F. E. Myers & Bro. Co.
Rear's Mfg. Co.
Root-Lowell Corp.
Sun Industry, Inc.

Thuron Sprayer Mfg. Co.
Tryco Mfg. Co., Inc.
Walsh Manufacturing Co.

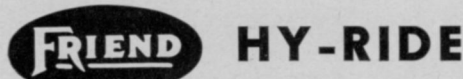
SPRAYERS, CART OR WHEELBARROW TYPE

Ampulco (Hardie)
John Bean Div., FMC Corp.
The Broyhill Co.
Champion Sprayer Co.
R. E. Chapin Mfg. Works, Inc.
Deere & Co.
The J. J. Dill Co.
Dobbins Div.
Farmrite Sprayer, Inc.
Great Lakes Chemical Div.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
F. E. Myers & Bro. Co.
Root-Lowell Corp.
D. B. Smith & Co.
Sun Industry, Inc.
Thuron Sprayer Mfg. Co.
Universal Metal Products Div.

SPRAYERS, COMPLETE POWER UNIT

Ag-King (Div. of TAGS)
Ampulco (Hardie)
John Bacon Corp.
John Bean Div., FMC Corp.
Besler, Div. of C-C Industries
John Blue Co., Inc.
R. H. Bogle Co.
Bowie Machine Works, Inc.
The Broyhill Co.
Buffalo Turbine Ag. Equip. Co.
Century Engineering Corp.
Champion Sprayer Co.
R. E. Chapin Mfg. Works, Inc.
Cushman Motors
Deere & Co.
The J. J. Dill Co.
Dobbins Div.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gravely Tractors
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
Marlow Pumps Div.
Minnesota Wanner Co.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Rear's Mfg. Co.
Root-Lowell Corp.
Silver Creek Precision Corp.
Solo Industries, Inc.
Sun Industry, Inc.
Tarrant Mfg. Co.
The Thompson Manufacturing Co.

Better Roadside Maintenance with



HY-RIDE delivers an effective 50-ft. spray pattern for thorough coverage of shoulders, thruway interchanges, back-slopes, etc. The only triple-arm, fully articulated roadside boom, it's hydraulically operated, and its construction allows for easy clearance of signs, posts, and railings.

Also a Complete Line of Roadside Sprayers Available.

For further details write

FRIEND MFG. CORP.
GASPORT, NEW YORK



Thuron Sprayer Mfg. Co.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.
The Vandermolen Co.
Walsh Mfg. Co.

SPRAYERS, COMPRESSED AIR

John Bean Div., FMC Corp.
R. E. Chapin Mfg. Works, Inc.
DeVilbiss Co.
The J. J. Dill Co.
The C. B. Dolge Co.
Great Lakes Chemical Div.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
Oakes Mfg. Co., FMC Corp.
Root-Lowell Corp.
D. B. Smith & Co.
Solo Industries, Inc.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.

SPRAYERS, HAND

Ag King (Div. of TAGS)
Ampulco (Hardie)
Bartlett Mfg. Co.
John Bean Div., FMC Corp.
Buffalo Turbine Ag. Equip. Co.
Century Engineering
Champion Sprayer Co.
R. E. Chapin Mfg. Works, Inc.
The J. J. Dill Co.
Deere & Co.
The C. B. Dolge Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
H. D. Hudson Mfg. Co.
Hydroponic Chemical Co., Inc.
Larson Machine, Inc.
Melnor Industries, Inc.
Oakes Mfg. Co., FMC Corp.
Root-Lowell Corp.

Silver Creek Precision Corp.
D. B. Smith & Co.
Smith-Douglass Div., Borden Chem.
Solo Industries, Inc.
The Thompson Manufacturing Co.
Tradewinds, Inc.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.
The Vandermolen Co.
Walsh Manufacturing Co.

SPRAYERS, HOSE END

W. D. Allen Mfg. Co.
Ampulco (Hardie)
John Bacon Corp.
John Bean Div., FMC Corp.
Century Engineering Corp.
R. E. Chapin Mfg. Works, Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hayes Spray Gun Co.
H. D. Hudson Mfg. Co.
Hydroponic Chemical Co., Inc.
Larson Machine, Inc.
Melnor Industries, Inc.
Smith-Douglass Div., Borden Chem.
Thuron Sprayer Mfg. Co.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.
Walsh Mfg. Co.

SPRAYERS, KNAPSACK

Bartlett Mfg. Co.
John Bean Div., FMC Corp.
Buffalo Turbin Equipment Co.
Champion Sprayer Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.

Ben Meadows Co.
Oakes Mfg. Co., FMC Corp.
Parco Products Co.
Root-Lowell Corp.
D. B. Smith & Co.
Solo Industries, Inc.
Tradewinds, Inc.
Universal Metal Products Div.
The Vandermolen Co.

SPRAYERS, MOBILE TURF

Mallinckrodt Chemical Works

SPREADERS, DISC-TYPE

Great Lakes Chemical Div.
Larson Machine, Inc.
Northrup, King & Co.
Smith-Douglass Div., Borden Chem.
Tarrant Mfg. Co.
Tyler Corp.
The Vandermolen Co.

SPREADERS, HOPPER-TYPE

Brettrager Manufacturing
Champion Sprayer Co.
The Cyclone Seeder Co., Inc.
Dempster Industries, Inc.
The J. J. Dill Co.
Fence Painter Corp.
Gandy Co.
Garber Seeders, Inc.
Gotcher Engineering & Mfg. Co.
Gravely Tractors
Great Lakes Chemical Div.
Highway Equipment Co.
International Harvester Co.
Larson Machine, Inc.
Schneider Metal Mfg. Co.
Smith-Douglass Div., Borden Chem.
Sunnyhill Research & Mfg. Co.
Tarrant Mfg. Co.

“Bluegrass on the rocks...
not a drink,
but the conditions
we like to cut
turf in”

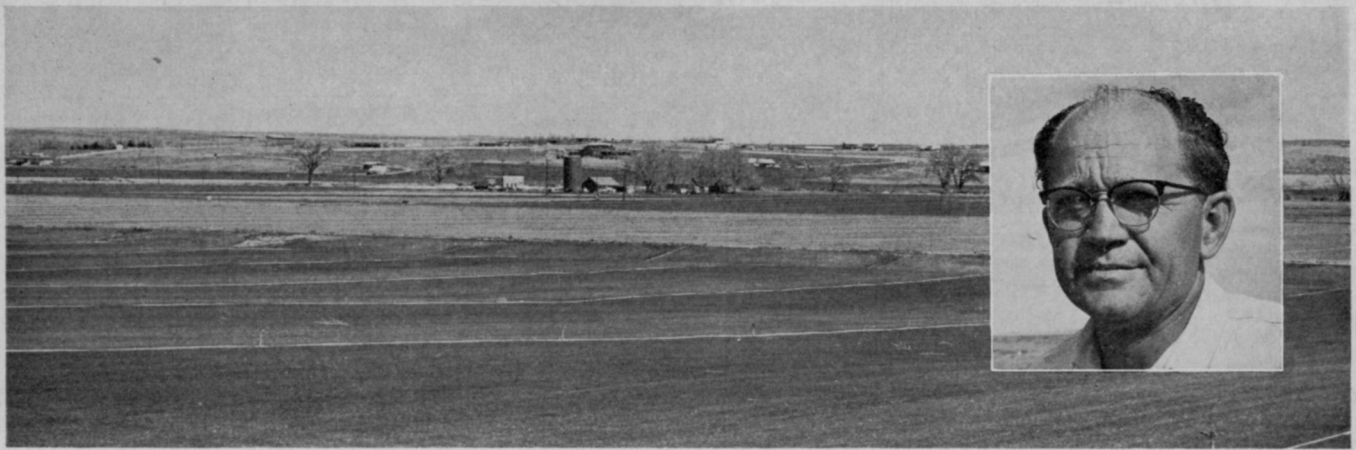


FOR PRODUCTION SOD CUTTING—this turf cutter is designed and built to cut in rocky as well as normal conditions. It is built to withstand hard use, combining the oscillating blade of the small cutters with the dry ground advantages of the old style drag cutters. This cutter has yielded up to 30 square yards per min-

ute or 3 acres a day. Our turf cutter will fit most popular 3 point hitch systems, especially those tractors with large flotation tires. At your request we will loan you our 8 mm color film of this cutter in action.

FINLAND TURF CUT

Division of Finneyrock's, Oley, Maryland



Melvin C. Rich, Richlawn Turf Farm, Littleton, Colorado

WITH A ROTAVATOR . . . "Germination is Better, Stands Superior"

"The Rotavator has definitely increased our turf yields . . . germination is better, stands superior, and we have fewer bare spots than we used to. We figure that our Rotavator saves from 30% to 40%

in operating costs over conventional equipment." Melvin Rich, of Richlawn Turf Farm, knows what a Rotavator can do for him. Fill out this coupon and see what a Rotavator can do for you.



WORLD LEADER IN ROTARY TILLAGE[®]

HOWARD ROTAVATOR
COMPANY INC.
Dept. 150, Harvard, Ill. 60033

Please send latest information.

Name _____ Address _____
City _____ State _____ Zip _____
No. acres I till _____ tractor model(s) _____

Tryco Mfg. Co., Inc.
Tyler Corp.
The Vandermolen Co.

SPRIGGERS

Bowie Machine Works
James-Way Equipment Co.
Thompson Equipment Co.
Wichita Equipment Co.

STONE PICKER

Armor Metal Products
Bridgeport Implement Works, Inc.
Rogers Mfg. Co., Inc.

STUMP CUTTERS

Arps Corp.
Brooks Products Div.
H & G Tool Co.
International Harvester Co.
Vermeer Manufacturing Co.

SWEEPERS

J. I. Case Co.
Deere & Co.
Gravely Tractor Div.
International Harvester Co.
Melroe Mfg. Co.
Parker Sweeper Co.
Rogers Mfg. Co., Inc.
Wayne Manufacturing Co.

TANKS, SPRAY

John Bacon Corp.
John Bean Div., FMC Corp.
The Broyhill Co.
Century Engineering Corp.
Cintree Sales
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gotcher Engineering & Mfg. Co.

Green Lawn Laboratories, Inc.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
F. E. Myers & Bro. Co.
Rear's Mfg. Co.
Thuron Sprayer Mfg. Co.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.
Walsh Manufacturing Co.

TILLERS

Allis-Chalmers Mfg. Co.
Ariens Co.
John Bean Div., FMC Corp.
Bolens Div., FMC Corp.
Deere & Co.
Engineering Products Co.
Gravely Tractors
Howard Rotavator Co., Inc.
International Harvester Co., Inc.
Jacobsen Mfg. Co.
Quick Manufacturing, Inc.
Rogers Mfg. Co., Inc.
Roseman Mower Corp.
Simplicity Mfg. Co., Inc.
Solo Industries, Inc.
Yazoo Mfg. Co., Inc.

TIRES, FLOTATION

Martin Tire & Supply Co.

TOP DRESSERS

Ryan Equipment Co.
Sodmaster

TRACTORS

Allis-Chalmers Mfg. Co.
Bolens Div., FMC Corp.
J. I. Case Co.
Caterpillar Tractor Co.
Deere & Co.

Devere-Locke Div., Locke Mfg. Co.
Erickson Corp.
Engineering Products Co.
Ford Motor Co.
Gravely Tractors
Homelite Div., Textron, Inc.
International Harvester Co.
Jacobsen Mfg. Co.
Locke Mfg. Cos., Inc.
Massey-Ferguson, Inc.
Meadow Bros. Nursery Supplies
Melroe Mfg. Co.
Oliver Corp.
Quick Manufacturing, Inc.
Simplicity Mfg. Co., Inc.
Speedex Tractor Co.
Toro Manufacturing Corp.
Tradewinds, Inc.

TRAILERS

Deere & Co.
Rogers Mfg. Co., Inc.
Trailevator Div., Magline Inc.

TREE INJECTORS

Cranco Co.
Panama Pump Co.
Tree-Ject Co.

TREE MOVERS

Ideal Crane Div.
International Harvester Co.
Vermeer Manufacturing Co.

TREE TIES

Dairymens Fertilizer Co-op, Inc.
Fertilla Co.

TREE WRAPPINGS

American Excelsior Corp.
John Bacon Corp.
Bartlett Mfg. Co.

TRENCHER

Vermeer Mfg. Co.

TRIMMING (EDGING) TOOLS

Allegretti & Co.
Bartlett Mfg. Co.
The Black & Decker Mfg. Co.
L. M. Cox Mfg. Co., Inc.
Gale Products
John H. Graham & Co., Inc.
Jacobsen Mfg. Co.
Melnor Industries, Inc.
Seymour Smith & Son, Inc.
Sodmaster
Yazoo Mfg. Co., Inc.

TRUCKS, ELECTRIC

Meadows Bros. Nursery Supplies

UNDERWATER WEED CUTTER

Aquanautics, Inc.
Aquatic Controls Corp.
The Vandermolen Co.

UNDERWATER WEED RAKE

Aquanautics, Inc.
Aquatic Controls Corp.

UTILITY VEHICLES

Allis-Chalmers Mfg. Co.

**Suppliers Listed in
Boldface Type
Have Advertisements
in this issue.**

We Suggest You Read Them.

Aquanautics, Inc.
Cushman Motors
Gravelly Tractors
International Harvester Co.
Rogers Mfg. Co., Inc.
Tryco Mfg. Co., Inc.
Walker Mfg. Co.
West Point Products Corp.

VACUUMS

Allis-Chalmers Mfg. Co.
Ariens Co.
The Black & Decker Mfg. Co.
Deere & Co.
Parker Sweeper Co.
Simplicity Mfg. Co., Inc.
Tarrant Mfg. Co.

VERTICAL SLITTERS, TURF

Rental Equipment Mfg. Co.
Ryan Equipment Co.

WASHERS

Century Engineering Corp.
Walsh Mfg. Co.

WINCH (HOIST)

Fairmont Hydraulics
Halline Utility Equipment Co.
Hoffco, Inc.
Ideal Crane Div.
International Harvester Co.
McCabe-Powers Body Co.

Alphabetical Listing of Suppliers in this Buyer's Guide with their Complete Addresses

A

Ace Pump Corp.
1650 Channel Ave., Memphis, Tenn.
Aceto Chemical Co., Inc.
126-02 Northern Blvd.
Flushing, N.Y. 11368
Acme Protection Equipment Corp.
1210 Kalamazoo St.,
South Haven, Mich. 49090
Adamson Sprinkler Co.,
2229 Barry Ave.,
West Los Angeles, Calif.
The John B. Adt Co., 110 W.
Timonium Rd., Timonium, Md.
Ag-King (Div. of TAGS)
Box 7, Preston, Md. 21655
Agrico Chemical Co.,
Div. of Continental Oil Co.,
P.O. Box 346, Memphis, Tenn.
Agriform International Chemicals,
Inc.
P.O. Box 323, Newark, Calif. 94560
Allegretti & Co., 7232 Fulton Ave.,
North Hollywood, Calif.
W. D. Allen Mfg. Co.,
2200 W. 16th St., Broadview, Ill.
Allied Biological Control Corp.,
192 Worcester St., Wellesley Hills,
Mass. 02181
Allied Chemical Corp.,
40 Rector St., New York, N.Y.
10006
Allis-Chalmers Mfg. Co.,
Box 512, Milwaukee, Wis.
Amchem Products, Inc., Ambler, Pa.
19002
American Cyanamid Co., Ag. Div.
P.O. Box 400, Princeton, N.J.
American Excelsior Corp.
850 Ave. H East, Arlington, Tex.
76010
American-Lincoln Corp.
518 S. St. Clair St., Toledo, Ohio
American Oil Co.,
910 S. Michigan Ave., Chicago, Ill.
American Optical Co.
Southbridge, Mass.
American Potash & Chemical Corp.,
3000 W. 6th St., Los Angeles, Calif.
American Talc Co., Chatsworth, Ga.
American Vermiculite Corp.,
527 Madison Ave., New York, N.Y.
Ampulco (Hardie)
4200 Wissahickon Ave.,
Philadelphia, Pa. 19129
The Ansul Co., 1 Stanton St.
Marinette, Wis. 54143
Aquanautics, Inc., 1246 Birchwood
Dr., Sunnyvale, Calif. 94086
Aquatic Controls Corp., 1203 E. Main,
Waukesha, Wis. 53186
Aquatrols Corp. of America, 217
Atlantic Ave., Camden, N.J. 08104
Ariens Co., 655 W. Ryan,
Brillion, Wis. 54110

Arlo Industries, Inc.,
Bear Mt. Parkway at Arlo Lane,
Peekskill, N.Y. 10566
Armor Metal Products, Box 822
Helena, Mont. 59601
Armour Agricultural Chemical Co.
P.O. Box 1685, Atlanta, Ga. 30301
Arps Corp., New Holstein, Wis. 53061
Asgrow Seed Co.,
P.O. Box 70, Northvale, N.J.
Asplundh Chipper Co.,
Hamilton St., Chalfont, Pa.
Atlas Chemical Industries, Inc.,
Wilmington, Del.
Aurora Pump Div.,
New York Air Brake Co.,
Loucks at Dearborn, Aurora, Ill.

B

John Bacon Corp.,
State St., Gasport, N.Y. 14067
Bartlett Mfg. Co., 3003 E. Grand
Blvd., Detroit, Mich. 48202
W. M. Bashlin Co., 119 W. Pine St.,
Grove City, Pa. 16127
John Bean Div., FMC Corp., 1305 S.
Cedar St., Lansing, Mich. 48910
John Bean Div., FMC Corp., P.O. Box
145, San Jose, Calif. 95103
John Bean Div., FMC Corp.,
516 Dearborn, Tipton, Ind. 46072
Bell Helicopter Co.,
P.O. Box 482, Fort Worth, Texas
Besler, A Div. of C-C Industries,
4053 Harlan St., Emeryville, Calif.
Best Fertilizers Co.,
1459 3rd St., Oakland, Calif.
Bioferm Corp., Wasco, Calif.
The Black & Decker Mfg. Co.,
Joppa Rd., Towson, Md. 21204
John Blue Co., Inc.,
P.O. Box 1607, Huntsville, Ala.
BMB Co., Inc.,
Box 350, Holton, Kans.
The R. H. Bogle Co., P.O. Box 588,
Alexandria, Va. 22313
Bolens Div., FMC Corp., 215 S. Park
St., Port Washington, Wis. 53074
Bonide Chemical Co., Inc.,
382 N. Genesee St., Utica, N.Y.
Bowie Machine Works, Inc.,
P.O. Box 630, Bowie, Tex. 76230
Bretrager Manufacturing,
5410 East St., Saginaw, Mich.
Bridgeport Implement Works, Inc.,
P.O. Box 491, Stratford, Conn.
06497
Brillion Iron Works, Inc.,
Brillion, Wis. 54110
Brooks Products Div., The Tool Steel
Gear & Pinion Co., 211 Township
Ave., Cincinnati, Ohio
The Broyhill Co.,
Dakota City, Nebraska 68731
Buckner Industries, Inc.,
P.O. Box 232, Fresno, Calif.
Buffalo Turbine Agricultural Equip. Co.,
Inc., Industrial St., Gowanda, N.Y.
14070
Burton Supply Co., Inc.,
1301 Logan Ave., Youngstown, Ohio

C

Samuel Cabot, Inc., 246 Summer St.,
Boston, Mass. 02210
Canlin Sales Co., P.O. Box 489,
Somerville, N.J. 08876
J. I. Case Co.,
700 State St., Racine, Wis. 53404
Caterpillar Tractor Co.,
Peoria, Ill.

Century Engineering Corp., 221-4th Ave. S.E., Cedar Rapids, Iowa 52401
Certain-teed Products Corp., 25 Skippack Pike, Ambler Pa. 19002

Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago, Ill.
Cessna Aircraft Co., Wichita, Kans.

Champion Sprayer Co., 6509 Heintz Ave., Detroit, Mich.

Chanderlin Seed Co., Chimney Rock Rd., Bound Brook, N.J.

R. E. Chapin Mfg. Works, Inc., 29 Liberty St., Batavia, N.Y. 14020

Chapman Chemical Co., 416 Brooks Rd., Memphis, Tenn. 38109

Charleston Rubber Co., 321 Stark Industrial Pk., Charleston, S.C.

Chemagro Corp., Hawthorn Rd., Kansas City, Mo. 64120

Chemley Products Co., 5744 N. Western Ave., Chicago, Ill.

Chevron Chemical Co., Ortho Div., 200 Bush St., San Francisco, Calif.

Chipman Chemical Co., Inc., 1801 Murchison Dr., Burlingame, Calif.

W. A. Cleary Corp., Box 749, New Brunswick, N.J. 08903

Cloro-Spray Corp., 2215-25 N. American St., Phila., Pa.

Collins Associates, Inc., 3318 Glenmore Ave., Cincinnati, O. 45211

Colloidal Products Corp., P.O. Box 667, Sausalito, Calif. 94965

Columbia Nitrogen Corp., P.O. Box 1483, Augusta, Ga.

Commercial Solvents Corp., 260 Madison Ave., New York, N.Y.

Contree Sales, P.O. Box 129, Columbus, Wis. 53925

L. M. Cox Manufacturing, Inc., P.O. Box 476, Santa Ana, Calif. 92702

Cranco Co., 7 Clermont Ave., Trenton, N.J.

Cushman Motors, 900 N. 21st St., Lincoln, Nebr.

Custom Spray Equipment Corp., R.D. #2, Binghamton, N.Y.

The Cyclone Seeder Co., Inc., Box 68, Urbana, Ind. 46990

D

Dairymens Fertilizer Co-op, Inc., P.O. Box 998, Artesia, Calif.

Danuser Machine Works, 1500 Industrial Blvd., Claremore, Okla.

Davison Chemical Div., W. R. Grace & Co., 101 N. Charles St., Baltimore, Md.

Deere & Co., John Deere Equipment, John Deere Administrative Center, John Deere Rd., Moline, Ill. 61265

DEFCO, P.O. Box 1209, Decatur, Ala. 35601

Delavan Manufacturing Co., 811-4th St., W. Des Moines, Iowa 50265

DeVilbiss Co., 300 Phillips Ave., Toledo, Ohio

Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland Ohio 44115

The J. J. Dill Co., P.O. Box 788, Kalamazoo, Mich. 49005

Dobbins Div., Chamberlain Mfg. Corp., Box 610, Monroe, Ga. 30655

The C. B. Dolge Co., Ferry Lane, Westport, Conn.

The Dow Chemical Co., P.O. Box 512, Midland, Mich. 48640

E. I. duPont de Nemours & Co., Inc. Industrial & Biochemical Div., 1007 Market St., Wilmington, Del. 19898

E

Eagle-Picher Industries, Inc., American Bldg., Cincinnati, O. 45201

Eastman Chemical Products, Inc., P.O. Box 431, Kingsport, Tenn. 37622

Elanco Products Co., 740 S. Alabama St., P.O. Box 1968, Indianapolis, Ind. 46205

Emery Industries, Inc., Organic Chemicals Div., 8733 S. Dice Rd., Santa Fe Springs, Calif.

Engelhard Minerals & Chemicals, Essex Turnpike, Menlo Park, Edison, N.J. 08817

Engineering Products Co., 1005-HF Anoka St., Waukesha, Wis. 53186

Erickson Corp., 211 St. Anthony Blvd., Minneapolis, Minn.

Excel Industries, Inc. Box 385, Hesston, Kan. 67602

F

Faesy & Besthoff, Inc., 143 River Rd., Edgewater, N.J.

Fairmont Hydraulics, Div. of Fairmont Railway Motors, Inc., 415 N. Main St., Fairmont, Minn. 56031

The Fanno Saw Works, P.O. Box 628, Chico, Calif. 95926

Farmrite Sprayer, Inc., 644 E. Lake St., Lake Mills, Wis. 53551

Farris Chemical Co., 7213 Kingston Pike, Knoxville, Tenn.

Fence Painter Corp., 4335 S. Tripp Ave., Chicago, Ill. 60632

Ferry-Morse Seed Co., P.O. Box 100, Mountain View, Calif. 94040

Fertilla Co., P.O. Box 998, Cerritos Calif. 90701

Finland Turf Cut Div., Finneyfrock's, 1805 Ga Ave., Olney, Md. 20832

Finn Equipment Co., 2525 Duck Creek Rd., Cincinnati, Ohio

Fitchburg Engineering Corp., Chipper Div., Cleghorn St., Fitchburg, Mass.

Floridin Co., 375 Park Ave., New York, N.Y. 10022

Ford Motor Co., Tractor & Implement Div., 2500 E. Maple, Birmingham, Mich. 48012

Friend Manufacturing Corp., Prospect St., Gasport, N.Y. 14067

G

Gabriel Chemicals, Ltd., 60 E. 42 St., New York, N.Y. 10017

Gale Products, Monmouth Blvd., Galesburg, Ill. 61401

Gandy, Co., 10 Gandrud Rd., Owatonna, Minn. 55060

Garber Seeders, Inc., St. Paris, Ohio

Geigy Agricultural Chemicals, Div. of Geigy Chemicals Corp., Saw Mill River Rd., Ardsley, N.Y.

General Aniline & Film Corp., 140 W. 51 St., New York, N.Y.

Glendale Optical Co., Inc., 130 Crossways Park Dr., Woodbury, L.I., N.Y. 11797

Goodall Manufacturing Corp., 1205 E. Sanborn St., Winona, Minn.

Gotcher Engineering & Mfg. Co. P.O. Box 721, Clarksdale, Miss.

W. R. Grace & Co., Clarksville, Md. 21029

W. R. Grace & Co., Whitney Seed Div., P.O. Box 250, Buffalo, N.Y. 14240

John H. Graham & Co., Inc., 105 Duane St., New York, N.Y.

Gravelly Tractors, Div. Studebaker Corp., 1 Gravelly Lane, Dunbar, W. Va. 25064

Great Lakes Chemical Corp., P.O. Box 2200, West Lafayette, Ind. 47906

Green Lawn Laboratories, Inc., 4844 Main St., Skokie, Ill.

The Gregg Co., P.O. Box 149, Riverton, N.J.

Grumman Aircraft Corp., S. Oyster Bay Rd., Bethpage, L.I., N.Y.

Gulf Oil Co., Gulf Bldg., Pittsburgh, Pa.

Gyrodyn Co. of America, Flowerfield Rd., St. James, L.I., N.Y.

H

Hadfield Sod Roller Co., 4643 Sherwood, Oxford, Mich. 48051

Halline Utility Equipment Co., 5525 S.E. 28th St., Portland, Oreg.

Clifford B. Hannay & Son, Inc., 422 Maple St., Westerlo, N.Y. 12193

Hanson Equipment Co., P.O. Box 270, Beloit, Wis. 53512

Hayes Spray Gun Co., 98 N. San Gabriel Blvd., Pasadena, Calif.

Heckendorn Mfg. Co., Inc., Cedar Point, Kans.

Henderson Mfg. Co., P.O. Box 355, Fisher, Ill.

Hercules Incorporated, 910 Market St., Wilmington, Del. 19801

H & G Tool Co., 22474 Sherwood, Warren, Mich.

Highway Equipment Co., 616 D. Ave., N.W., Cedar Rapids, Ia. 52405

Hiller Aircraft Corp., 1350 Willow Rd., Palo Alto, Calif.

Hoffco, Inc., 25 Washington Ave., Richmond, Ind. 47374

Homelite Div., Textron, Inc., Riverdale Ave., Port Chester, N.Y. 10573

Hooker Chemical Corp., 65 Iroquois St., Niagara Falls, N.Y. 14302

Houston Chemical Corp., 200 Madison Ave., New York, N.Y.

Howard Rotavator Co., Inc., P.O. Box 100, Harvard, Ill. 60033

H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill 60611

Hub States Chemical and Equipment, 2002 No. Illinois St., Indianapolis, Ind. 46202

Humble Oil & Refining Co., Houston, Texas

Hunt-Pierce Corp., 230 Old Gate Rd., Milford, Conn.

Hydroponic Chemical Co., Inc., P.O. Box 97-C, Copley, Ohio

Hypro, Inc., 375 Fifth Ave., N.W., New Brighton, St. Paul, Minn. 55112

Ideal Crane Div., Bert Parkhurst & Co., 15051 E. Admiral Pl., Tulsa, Okla. 74116
 Imco, Inc.,
 P.O. Box 547, Afton, Wyo.
International Harvester Co., 401 N. Michigan Ave., Chicago, Ill. 60611
 International Minerals & Chem. Corp., Old Orchard Rd., Skokie, Ill.
 International Paper Co., Special Products Dept., 220 E. 42nd St., New York, N.Y.
 Irrigation Accessories Co., P.O. Box 11214, Portland, Oreg. 97211

J-K-L

Jacobsen Mfg. Co., 1721 Packard Ave., Racine, Wis. 53403
 James-Way Equipment Co., P.O. Box 1349, Wichita Falls, Tex. 76307
 Jari Corp., 2940 Pillsbury Ave., Minneapolis, Minn.
 Johns-Manville Corp., 22 E. 40th St., New York, N.Y. 10016
 Kalium Chemicals, Ltd.,
 200 Park Ave., New York, N.Y.
 Kel Instruments Co., Inc.,
 P.O. Box 466, New Brunswick, N.J.
 Kemp Mfg. Co.,
 1027 E. 20th St., Erie, Pa.
 Koyker Manufacturing Co., Box 898, Sioux Falls, S.D. 57101
 Karl Kummerling, Inc., 4536 Lincoln Way, East, Massillon, O. 44646
 Lakeshore Equipment & Supply Co., 10237 Berea Rd., Cleveland O. 44102
 Lakes Supply Co., Inc.,
 P.O. Box 101, Dundee, Ill. 60118
 LaMotte Chemical Products Co., Chestertown, Md.
 Larson Machine, Inc., 1017 N. Santa Fe St., Princeville, Ill. 61559
 O. E. Linck Div., Walco-Link Corp., 1234 State Highway 46, Clifton, N.J.
 Lindig Manufacturing, Inc., 1875 W. County Rd. "C", St. Paul, Minn. 55113
 Loamite Corp., One Bush St., San Francisco, Calif.
 Lobel Chemical Corp., 100 Church St., New York, N.Y. 10007
Locke Manufacturing Companies, Inc.,
 P.O. Box 9175, South Charleston, W. Va. 25309

M

Mallinckrodt Chemical Works, 3600 N. Second St., St. Louis, Mo. 63160
 Marlow Pumps Div., ITT Bell & Gossett, Inc., P.O. Box 200, Midland Park, N. J. 07432
 Martin Tire & Supply Inc., 154 N. Emporia, Wichita, Kans. 67202
 Martindale Electric Co., 1375 Hird Ave., Cleveland, O. 44107
 Massey-Ferguson Inc.,
 1901 Bell Ave., Des Moines, Iowa
 McCabe-Powers Body Co., 8900 Frost Ave., St. Louis, Mo. 63134
 McCulloch Corp., 6101 W. Century Blvd., Los Angeles, Calif.
 McLaughlin Gormley King Co., 1715 5th St., S.E., Minneapolis, Minn.
 Meadow Bros. Nursery Supplies, P.O. Box 277B, Altadena, Calif. 91001
 The Ben Meadows Co.,
 533 Amsterdam Ave., Atlanta, Ga.
 Melnor Industries, Inc.,
 1 Carol Place, Moonachie, N.J.
 Melroe Mfg. Co., Gwinner, N. Dak.

**See Advertisements
 in this issue
 of Suppliers
 Listed in Boldface**

Merck Chemical Div., Merck & Co., Rahway, N.J. 07065
Merion Sod Farms, Inc., 44533 Sterritt, Utica, Mich. 48047
 Metasol Products, Merck & Co., 200 Wagaraw Rd., Hawthorne, N.J.
 Michigan Chemical Corp.,
 500 N. Bankson St., St. Louis, Mo.
 Miller Chemical & Fertilizer Corp.,
 3006 W. Cold Spring Lane,
 Baltimore, Md. 21215
 Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles, Calif.
 Milwaukee Sewerage Commission,
 P.O. Box 2079, Milwaukee, Wis. 53201
 Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa. 15208
 Minnesota Wanner Co., 5145 Eden Ave. S., Minneapolis Minn. 55436
 Mitts & Merrill, Inc., 109 McCoskry St., Saginaw, Mich., 48601
 Mobile Aerial Towers, Inc.,
 2314 Bowser Ave., Ft. Wayne., Ind. 46803
 Mobil Chemical Co., Industrial Chemicals Div., 401 East Main St., Richmond, Va. 23208
 Mock Seed Co., 13th & Smallman, Pittsburgh, Pa.
 Monarch Mfg. Works, Inc., 2501 E. Ontario St., Philadelphia, Pa. 19134
 Montrose Chemical Co.,
 104-12 Lister Ave., Newark, N.J.
 Morton Chemical Co., 110 N. Wacker Dr., Chicago, Ill. 60606
 Mott Corp., 500 Shawmut Ave., LaGrange, Ill. 60525
 MTD Products, Inc., 5389 W. 130th St., Cleveland, O. 44111
F. E. Myers & Bro. Co., 400 Orange St., Ashland, Ohio 44805

N

National Chemsearch Corp.,
 P.O. Box 217, Irving, Tex. 75060
 Nalco Chemical Co.,
 180 N. Michigan Ave., Chicago, Ill.
 Naugatuck Chemical, Div. U.S. Rubber, Naugatuck, Conn.
 New World Products Co., Inc.,
 11126 Rush St., El Monte, Calif. 91733
 Niagara Chemical Div., FMC Corp.,
 100 Niagara St., Middleport, N.Y. 14105
 Northrup, King & Co., 1500 Jackson St., N.E., Minneapolis, Minn. 55413
John Nunes Mechanical Harvesting Co.,
 2518 Loquot Ave., Patterson, Calif. 95363
 Nursery Specialty Products Co.,
 410 Greenwich Ave., Greenwich, Conn. 06830

O

Oakes Mfg. Co., FMC Corp.,
 516 Dearborn St., Tipton, Ind.
 Oberdorfer Pump Div.,
 Thompson Rd., Syracuse, N.Y.

Oil-Dri Corp. of America,
 520 N. Michigan Ave., Chicago, Ill.
 Olin Mathieson Chemical Corp.,
 Chemicals Div., Baltimore, Md.
 Oliver Corp.,
 400 W. Madison St., Chicago, Ill.
 Omark Industries, Inc., 9701 S.E.
 McLaughlin Blvd., Portland, Oreg.

P-Q

Panama Pump Co.,
 Meadow Lane, Hattiesburg, Miss.
 Parker Sweeper Co.,
 91 Bechtle Ave., Springfield, Ohio
 Parco Products Co., Pottstown Ave. & Dotts St., Pottsville, Pa. 18073
S. B. Penick & Co., 100 Church St., New York, N.Y. 10007
 Pennington Mfg. Co.,
 136 Commercial Rd., Addison, Ill.
 Pennsalt Chemicals Corp., 2901 Taylor Way, Tacoma, Wash. 98401
Robert B. Peters Co., Inc., 2833 Pennsylvania St., Allentown, Pa. 18104
 Phelps Dodge Refining Corp.,
 300 Park Ave., New York, N.Y.
 Phillips Petroleum Co.,
 Bartlesville, Okla.
 Pioneer Saws, Ltd., 910 Monaghan Rd., Peterborough, Ontario
 Piper Aircraft Corp.,
 Bald Eagle St., Lock Haven, Pa.
 Pitman Mfg. Co., P.O. Box 605, Grandview, Mo. 64030
 Pittsburgh Plate Glass Co., Chemical Div., One Gateway Center, Pittsburgh, Pa. 15222
 Plant Marvel Laboratories,
 624 W. 119 St., Chicago, Ill.
 H. K. Porter, Inc., 74 Foley St., Somerville, Mass. 02143
B. G. Pratt Co.,
 204 21st St., Paterson, N.J. 07509
 Premier Peat Moss Corp., 25 W. 45 St., New York, N.Y. 10036
 Prentiss Drug & Chemical Co., Inc.,
 101 W. 31 St., New York, N.Y.
 Pulmosan Safety Equipment Corp.,
 30-48 Linden Pl., Flushing, N.Y. 11354
 Quick Manufacturing, Inc.,
 256 Linden Ave., Springfield, Ohio

R

Rain Bird Sprinkler, 7045 N. Grand, Glendora, Calif. 91740
 Rain-O-Mat Sprinklers
 11701 E. Washington Blvd.,
 Whittier, Calif. 90602
 Ra-Pid-Grow Corp.,
 88 Ossian, Dansville, N.Y.
 Rear's Mfg. Co.,
 P.O. Box 3347, Eugene, Oreg.
 Reichhold Chemicals, Inc., 525 N. Broadway, White Plains, N.Y.
 Reinco Inc., P.O. Box 584
 Plainfield, N.J. 07061
 B. G. Reilly Co.,
 P.O. Box 231, N. Scituate, R.I.
 Remington Arms Co., Inc., 25000 S. Western Ave., Park Forest, Ill 60466
 Rental Equipment Mfg. Co., 2778 S. Tejon, Englewood, Colo. 80110
 Republic Aviation Corp., Helicopter Div., Farmingdale, L.I., N.Y.
 Residex Corp., 225 Terminal Ave., Clark, N.J. 07066
 Reynolds Metals Co., 6601 W. Broad St., Richmond, Va. 23218
 Robeco Chemicals, Inc.,
 51 Madison Ave., New York, N.Y.
 Roberts Chemicals, Inc.,
 P.O. Box 546, Nitro, W. Va.
 Rockland Chemical Co., P.O. Box 204,
 West Caldwell, N.J. 07006

Rogers Mfg. Co., Inc., 220 N. Mahaffie St., Olathe, Kans. 66061
 Rohm and Haas Co., Independence Mall West, Philadelphia, Pa. 19105
 Rolatape, Inc., 1301 Olympic Blvd., Santa Monica, Calif.
 Root-Lowell Corp., 322 W. Main St., Lowell, Mich. 49331
 Rosco Manufacturing Co., 3118 Snelling Ave., Minneapolis, Minn.
 Roseman Mower Corp., 2300 W. Lake Ave., Glenview, Ill. 60025
 Roussel Corp., 155 E. 44 St., New York, N.Y.
Rowco Mfg. Co., Inc., 48 Emerald St., Keene, N.H. 03431
 Roxy-Bonner, Inc., 2000 Pioneer Rd., Huntingdon Valley, Pa. 19006
 Royer Foundry & Machine Co., 158 Pringle St., Kingston, Pa. 18704
 Rudd Manufacturing, Inc., P.O. Box 537, Ripon, Calif. 95366
Ryan Equipment Co., 2055 White Bear Ave., St. Paul, Minn. 55109

S

Safety Test & Equipment Co., Inc. P.O. Box 898, Shelby, N.C.
 Schneider Metal Mfg. Co., 1805 S. 55 Ave., Chicago, Ill.
 Scott Aviation Corp., 255 Erie St., Lancaster, N.Y.
 The O. M. Scott & Sons Co., 160 Main St., Marysville, Ohio
 Sewerage Commission of Milwaukee, P.O. Box 2079, Milwaukee, Wis.
 Shell Chemical Co., Agricultural Chem., Div., 100 W. 51 St., New York, N.Y.
 Shepard Chemical Industries, Inc., 595 Madison Ave., New York, N.Y.
 The Sherwin-Williams Co., 101 Prospect Ave., Cleveland, Ohio
 Side-O-Matic Unloader Corp., P.O. Box 429, York, Pa.
 Signal Oil & Gas Co., Houston Div., P.O. Box 5008, Houston, Texas
 Sikorsky Aviation Div., United Aircraft Corp., Stratford, Conn.
 Silver Creek Precision Corp., 282 Central Ave., Silver Creek, N.Y.
 Simplicity Mfg. Co., Inc., Spring St., Port Washington, Wis. 53074
 Skil Corp., 5033 Elston Ave., Chicago, Ill.
 Skyworker Div., Transair Co., Inc., P.O. Box 360, Delaware, Ohio
 D. B. Smith & Co., 414 Main St., Utica, N.Y.
 Seymour Smith & Son, Inc., 900 Main St., Oakville, Conn. 06779
 Smith-Douglas Div., Borden Chemical Co., 5100 E. Virginia Beach Blvd., Norfolk, Va.
 Snow Aeronautical Corp., P.O. Box 516, Olney, Texas
 Sodmaster, 3456 N. Washington Ave., Minneapolis, Minn. 55412
 Sohio Chemical Co., P.O. Box 628, Lima, Ohio
 Solo Industries, Inc., 5100 Chestnut Ave., Newport News, Va. 23605
South Dakota Kentucky Bluegrass Assn., P.O. Box 823, Huron, So. Dak. 57350
 Southern Mill Creek Products, Inc., P.O. Box 1096, Tampa, Fla. 33601
 Southwest Potash Div., American Metal Climax, Inc., 1270 Ave. of the Americas, New York, N.Y. 10020
 Speedex Tractor Co., 367 N. Freedom St., Ravenna, Ohio
 Spraying Systems Co., 3201 Randolph St., Bellwood, Ill. 60104
Stanford Seed Co., P.O. Box 230, Plymouth Meeting, Pa. 19462

Stauffer Chemical Co., Fertilizer Div., 636 California St., San Francisco, Calif.
 Stauffer Chemical Co., Agricultural Chemical Div., 380 Madison Ave., New York, N.Y. 10017
 Wm. Steinen Mfg. Co., 29 E. Halsey Rd., Parsippany, N. J. 07054
 Stepan Chemical Co., Edens & Winnetka, Northfield, Ill. 60093
 Stihl American, Inc., 194 Greenwood Ave., Midland Park, N.J.
 Stone Conveyor Co., Inc., Main St., Honeoye, N.Y. 14471
Stull Chemical Co., P.O. Box 6386, San Antonio, Tex. 78209
 Sudbury Laboratory, Box 2471 Sudbury, Mass. 01776
 Summers Fertilizers, Inc., Kapco Div., P.O. Box 487, Somerset, Pa. 15501
 Sun Industry, Inc., 12418 W. Rosemary, New Berlin, Wis.
 The Sun-Mastr Corp., 603 S. Kansas Ave., Olathe, Kansas
 Sunnyhill Research & Mfg. Co., Imperial, Pa.

T

Tarrant Mfg. Co., 27-29 Jumel Pl., Saratoga Springs, N.Y.
 Tecumseh Products Co., 900 North St., Grafton, Wis. 53024
 Telsco Industries, P.O. Box 18205, Dallas, Tex.
 Tenneco Oil Co., P.O. Box 18, Houston, Tex.
 Tennessee Corp., Ind. Chemicals Div., 55 Marietta St., N.W., Atlanta, Ga. 30301
 Thompson Equipment Co., N. Washington St., Starkville, Miss.
 Thompson-Hayward Chemical Co., P.O. Box 2383, Kansas City, Kans. 66110
 The Thompson Manufacturing Co., 2251 E. 7 St., Los Angeles, Calif.
 Thor Power Tool Co., 175 N. State St., Aurora, Ill. 60507
 Thuron Sprayer Mfg. Co., 12200 Denton Dr., Dallas, Tex. 75234
 Toro Manufacturing Corp., 8111 Lyndale Ave. S., Minneapolis, Minn. 55420
 Tote Systems Div., Hoover Ball and Bearing Co., 656 S. 7th, Beatrice, Nebr.
 Tradewinds, Inc., P.O. Box 1191, Tacoma, Wash. 98401
 Trailevator Div., Magline Inc., Mercer St., Pinconning, Mich.
 Tree-Ject Co., 1309 Grove Ave., Waycross, Ga. 31501
 Triumph Machinery Co., Willow Grove St., Hackettstown, N.J. 07840
 Troy Blanket Mills, 132 W. 34 St., New York, N.Y.
 Tryco Mfg. Co., Inc., P.O. Box 1277, Decatur, Ill. 62525
 TUCO Products Co., Div. of Upjohn Co., 7171 Portage Rd., Kalamazoo, Mich. 49002
 Tyler Corp., E. Highway #12, Benson, Minn.

U

U.S. Borax & Chemical Corp., 3075 Wilshire Blvd., Los Angeles, Calif. 90005
 U.S. Industrial Chemicals Co., 99 Park Ave., New York, N.Y.
 Union Carbide Corp., Agricultural Products, 270 Park Ave., New York, N.Y. 10017

Uniroyal Chemical, Div. of Uniroyal, Inc., Elm Street Naugatuck, Conn. 06770

Universal Metal Products Div., Leigh Products, Inc. 460 Main St., Saranac, Mich. 48881
 Universal Motor Co., 1552 Harrison St., Oshkosh, Wis.
 Utility Chemical Co., 145 Peel St., Paterson, N.J. 07524

V

The Vandermolen Co., 378 Mountain Ave., N. Caldwell, N.J. 07006
 Vaughan's Seed Co., Chimney Rock Rd., Bound Brook, N.J.
 Velsicol Chemical Corp., 341 E. Ohio St., Chicago, Ill. 60611
 Verde Lawn, Inc., P.O. Box 11157, Tucson, Ariz. 85706
 Vermeer Manufacturing Co., P.O. Box 190, Pella, Iowa 50219
 Viking Mfg. Co., P.O. Box 68, Manhattan, Kans. 66502
 Viking Pump Co., 4th & Shutte Sts., Cedar Falls, Iowa
 Vineland Laboratories, Inc., 2285 E. Landis Ave., Vineland, N.J. 08360
 Vulcan Materials Co., P.O. Box 545 Wichita, Kans. 67203

W-X-Y-Z

Waco Lickity Log Splitter Div., Piqua Engineering, Inc., 234 1st St., Piqua, Ohio
 R. M. Wade & Co., 1919 N.W. Thurman St., Portland, Oreg. 97209
 Walker Mfg. Co., Fowler, Kans. 67844
 Walsh Manufacturing Co., 1200 Fisher St., Charles City, Ia. 50616
 "Water-In" Inc., P.O. Box 421, Altadena, Calif.
 Waukesha Motor Co., W. St. Paul Ave., Waukesha, Wis.
 Waverly Petroleum Products Co., 3018 Market St., Phila., Pa.
 Wayne Manufacturing Co., 1201 E. Lexington St., Pomona, Calif.
 H. N. Webster Mfg., P.O. Box 623, Sebring, Fla.
 West Point Products Corp., West Point Pike, West Point, Pa.
 Western Peat Co., 5800 Monroe St., Sylvania, Ohio
 Weyerhaeuser Co., Tacoma Bldg., Tacoma, Wash.
 The Whitaker Manufacturing Co., 5719 W. 65 St., Chicago, Ill. 60638
Whitney Seed, Div., W. R. Grace & Co., P.O. Box 250, Buffalo, N.Y. 14240
 Wichita Equipment Co., Inc., P.O. Box 1329, Wichita Falls, Tex.
 Wilbur-Ellis Co., 970 S. Goodrich Blvd., Los Angeles, Calif.
 Willson Products Div., Ray-O-Vac Co., 2nd & Washington Aves., Reading, Pa.
 Andrew Wilson, Inc., Baltusrol Way, Springfield, N.J.
 Wood Treating Chemicals Co., 5137 Southwest Ave., St. Louis, Mo. 63110
 Wright Saw Div., Thomas Industries, 207 E. Broadway, Louisville, Ky.
 W-W Grinder Corp., 2957 N. Market, Wichita, Kans.
 Wyandotte Chemicals Corp., 1532 Biddle Ave., Wyandotte, Mich. 48192
 Yazoo Mfg. Co., Inc., P.O. Box 4207, Jackson, Miss. 39216
 York Modern Corp., Mill & Watson St., Unadilla, N.Y. 13849
 Zonolite Div., W. R. Grace & Co., 135 S. LaSalle St., Chicago, Ill. 60654

**WEEDS
TREES
and TURF** 1967 **Article Index**

An alphabetical reference to subjects and titles of all major feature articles, feature columns, news stories, letters published in *Weed Trees and Turf* in 1967. A list of authors of this year's articles follows the Directory.

KEY

- (fa) feature article (nf) news feature (ns) news story
- (c) feature column (L) letter (br) book review
- (cr) conference report (o) obituary

	Issue Pg.
A	
AAN Makes Landscape Awards (ns)	Jan 13
Across-the-Board Tree Culture at 22nd Midwest Shade Tree Conference (cr)	Apr 33
Adequate Turf Stands Under Shade Are Possible With Careful Culture (fa)	May 26
Advanced Helicopter In Service In Maine (ns) (Aerial Application) Helicopter Device Makes Dry Aerial Spreading Possible (ns)	Nov 19
A Knotty Problem (L)	Jan 5
(Alligatorweed) Researchers Study New Methods For Combating Aquatic Weeds (fa)	Oct 6
American Association of Nurserymen Stage 92nd Annual Convention (ns)	Sep 20
American Sod Association Stages First Field Day (fa)	Aug 26
American Sod Producers Launch Drive For Members (ns)	Nov 21
A.M.S. Pridham Honored At Cornell Conference (ns)	Sep 21
Anti-Roll Bars May Make Tractors Safer (ns)	Oct 21
Approves of Sod Editorial (L)	Jan 5
Aquatic Vegetation Control—a Major Segment of the Industry (fa)	Aug 16
Aquatic Weed Control Becomes Technical Operation, by Douglas G. Bennett (fa)	May 16
(Aquatic Weed Control) New Underwater Menace, Eurasian Watermilfoil by Robert D. Blackburn and Lyle W. Weldon (fa)	Nov 10
(Aquatic Weeds) Kill of All Noxious Weeds, Goal of Hyacinth Control Society (ns)	Apr 32
Aquatic Weeds, Researchers Study New Methods For Combating, by Dr. Lyle W. Weldon and Robert D. Blackburn (fa)	Oct 6
Arboriculture, National Secretary Sees Dynamic Growth For (fa)	Sep 12
Arborist's Annual, Beauty Combined With Business Management Is Pattern of ISTC and (fa)	Oct 8
Arps PTO Stump Cutter For One-Man Operation (ns)	Apr 43
Carl Asplundh Sr. Dies; Founded Tree Service Co. (o)	Aug 20
B	
Bacteria Break Down Weed Killers (ns)	May 33
(Bahigrasses) Sodman Leases Land and Adapts Local Grass (fa)	Sep 8
Banvel D. PMA-10 Registrations, Velsicol Has (ns)	Jul 26
John Bean Introduces Two Ground Sprayers (ns)	Aug 37
Beauty Combined With Business Management Is Pattern of ISTC and Arborist's Annual (fa)	Oct 8
Bermudagrass Developed for California, Santa Ana—A New Vegetatively Propagated Turf, by Victor B. Younger (fa)	Apr 34
Bermudagrass Kill Good On Highway Shoulders (ns)	May 34
Bermudagrass Turf in Texas Tests, Chemicals Control St. Augustine Grass In, by Dr. B. E. Bordewick (fa)	Oct 23
Betasan OK For Ornamentals (ns)	Jan 24
Black Locust, Know Your Species (c)	Nov 24
Boosts Penngift Crownvetch (L)	Jan 5
Breeding Improved Turfgrasses, by J. A. Long (fa)	Feb 12
Breeding Pest-Resistant Trees, by H. D. Gerhold, E. J. Schreiner, R. E. McDermott, and J. A. Winieski (br)	May 23
"Bulldozer Blight" Countered by Arborist Activities, N. Y. Treemen Hear At Concord (cr)	Mar 36
(Business) Man-Hour Costing, A System Based on Job-Hour Records, by J. David Heiss (fa)	Sep 14
(Business) Successful Arborists Today Are Good Business Managers (fa)	Jun 19
C	
Cables, Braces, Help Shade Tree Survive Violent Storms (ns)	Apr 44
Can Trees Be Fertilized Economically? by Dr. Dan Neely and Dr. E. B. Himelick (fa)	Mar 8
Can You Spot Evergreen Diseases? by, Donald F. Schoeneweiss (fa)	Aug 12
Carpetweed, Know Your Species (c)	Jan 23
Catalog Available, Spray Accessories (ns)	Oct 21
Dr. L. C. Chadwick Retires From University Post in '67 (ns)	Aug 22
(Chain Saw) Solo 635 Chain Saw Has Increased Cutting Power (ns)	Feb 46

Cheat, Know Your Species (c)	Mar 37
Chemical Residues Leave Soil by Various Routes (ns)	Apr 41
"Chemicals Control St. Augustine Grass in Bermudagrass Turf in Texas Tests", by Dr. D. E. Bordewick (fa)	Oct 23
Chemicals Cut Roadside Clearing Costs For Lane County, Oregon, by S. L. Hockersmith (fa)	Jul 8
(Chinch Bugs) "Study Shows Long Range Beneficial Effects of Repeated Ethion Treatment on Turfgrass," by Dr. B. C. Dickinson (fa)	Sep 23
Cinquefoil, Know Your Species (c)	Apr 44
Communications, Effective, Promotion Needed by Weed Control Industry, Ilnicki Tells Jan. NEWCC (cr)	Feb 30
Concerned About Editorial (L)	Mar 7
Contractor Prices Vary Little in Detroit Area (ns)	Apr 38
Cornell Conference, A.M.S. Pridham Honored At (ns)	Sep 21
Crownvetch, Boosts Penngift (L)	Jan 5
Crownvetch Versatility, Maintenance Ease Told (ns)	Jan 17
CSU Scientists Study Grass Reestablishment (ns)	Mar 10

D

(Diquat) Researchers Study New Methods For Combating Aquatic Weeds, by Dr. Lyle W. Weldon and Robert D. Blackburn	Oct 6
Diseases, Can You Spot Evergreen? by Daniel F. Schoeneweiss (fa)	Aug 12
Do You Consider These Factors Before Buying Fertilizers? (fa)	Mar 18
Dow Introduces New 'Copter Spray System' (ns)	Apr 50
Dowpon Chemical Lawn Edger (ns)	Apr 45
Dow Roadside and Range Tour—A Look at New Product Field Tests (fa)	Nov 6
(Duckweed) Researchers Study New Methods For Combating Aquatic Weeds, by Dr. Lyle W. Weldon and Robert D. Blackburn (fa)	Oct 6

E

Effective Communications, Promotion Needed by Weed Control Industry, Ilnicki Tells Jan. NEWCC (cr)	Feb 30
Efficient Tree Removal With 2-Man Crew, by Buckley Johns (fa)	Nov 8
Emphasize Basic Research, Campana Tells Penn Treemen (ns)	Mar 39
(Equipment) Dow Introduces New 'Copter Spray System' (ns)	Apr 50
(Equipment) McCulloch Offers New Chain Saw (ns)	Apr 48
(Equipment) "Power Mite" Tractor Has Wide Range of Implements (ns)	Jan 24
(Equipment) Winterize Your Spray Rig (ns)	Nov 19
Ethion Treatment on Turfgrass, Study Shows Long Range Beneficial Effects on Repeated, by Dr. B. C. Dickinson (fa)	Sep 23

F

Fence Line Vegetation Control, a Problem Researched by Minnesota Highway Engineers, by L. E. Foote and B. F. Himmelman (fa)	Sep 17
(Fertilizer) Three Steps to Compute Small Fertilizer Applications (fa)	Mar 38
Fertilizer—What's It Worth? by David Lofgren (fa)	Mar 16
Fertilizers, Do You Consider These Factors Before Buying? (fa)	Mar 18
Fertilizing Helps Turf Crowd Out Weeds by Dr. Eliot C. Roberts and Flavie E. Markland (fa)	Mar 12
Field Sandbur, Know Your Species (c)	Jun 34
Fungicides for Stripe Smut, Symbic, by J. R. Hardison (fa)	May 28
Fusarium Blight Bluegrass Investigation Scheduled (ns)	Nov 17
Fylking Kentucky Bluegrass, A Kentucky Bluegrass Adapted to Close Mowing, Introducing 0217, by Doyle W. Jacklin (fa)	Jun 27

G

Geigy Markets Atratul 8P, New Granular Weedkiller (ns)	Apr 48
(Greens) VPI's Putting Greens Test Modified Soils, by R. E. Schmidt (fa)	Feb 17
Growing A Vigorous, Strong Root System on Cool Season Turfgrass, by R. E. Schmidt (fa)	Jul 22

H

Helicopter Device Makes Dry Aerial Spreading Possible (ns)	Apr 46
Herbicides for Noncrop Areas, New, by F. L. Timmons (fa)	Jan 9
Herbicides for Sod Field Weed Control by Dr. John A. Meade (fa)	Jan 20
Herbicides Stop Growth of Crabgrass Seedlings (ns)	May 31
Highlights of 1967 (nf)	Dec 8
High Speed Spray Train Knocks Out British Railway Weeds, by Gordon Fisher (fa)	Jan 6
Highway Landscaping, Joint Meeting Deals With (ns)	Jul 24
Highway Maintenance, Phase I. Task-Force Initiate, Phase II. Project Utility (fa)	May 8
Horseweed, Know Your Species (c)	May 29
How to Stage a Young Tree, by W. Douglas Hamilton (fa)	Jan 12
Hub States Offers Knock-Out (ns)	Jan 25

Hyacinth Control Society, Kill of All Noxious Weeds, Goal of the (ns)	Issue Pg. Apr 32
--	---------------------

I

Introducing 0217 Brand, Fylking Kentucky Bluegrass, a Kentucky Bluegrass Adapted to Close Mowing, by Doyle W. Jackin (fa)	Jun 27
Irrigation, Mechanical Wheel-Move System Saves Field Time for McGovern Sod Farms (fa)	Aug 23
(Irrigation) Self-Propelled Sprinkler Now on Market (ns)	Sep 21
ISTC and Arborist's Annual, Beauty Combined With Business Management Is Pattern of (fa)	Oct 8

J

Japanese Beetle, Damage on Turf, Stop (ns)	Jul 26
Joint Meeting Deals With Highway Landscaping (ns)	Jul 24

K

Kill of All Noxious Weeds, Goal of the Hyacinth Control Society (ns)	Apr 32
(Knot Tying) A Knotty Problem (L)	Jan 5

L

Lederer to Serve Both AAN and NLNA (ns)	Nov 18
Limnological Aspects of Recreational Lakes, by K. M. Mackenthun, W. M. Ingram and R. Porges (br)	Apr 43
Lindig Adds Soil Treating Equipment (ns)	Feb 43

M

(Maleic Hydrazide) Fence Line Vegetation Control, a Problem Researched by Minnesota Highway Engineers, by L. E. Foote and B. F. Himmelman (fa)	Sep 17
Man-Hour Costing, A System Based on Job Hour Records, by J. David Heiss (fa)	Sep 14
Mark of the Industry Today Is Professional Tree Care (fa)	May 21
Match Engine Power to Pump Requirements (fa)	Jan 17
McCulloch Introduces Self-Starting Chain Saw (ns)	Aug 37
McCulloch Offers New Chain Saw, Claims 30% More Power (ns)	Apr 48
Mechanical Wheel-Move Irrigation System Saves Field Time for McGovern Sod Farms (fa)	Aug 23
Midwinter Weed Control—Useful Practice for National Institutes of Health, by George P. Rosenkranz (fa)	Oct 18
Missouri Turf Group Begins Second Year (ns)	Jun 30
Most States Operate Chemical Info Centers (ns)	May 31
Mulches Improve Turf Stands, by W. R. Thompson, Jr., and Hiram D. Palmtree (fa)	Dec 48
(Mulches) Vertical Mulching Boosts Root Growth by Wayne C. Morgan (fa)	Feb 20

N

(National Arborist Association) National Secretary Sees Dynamic Growth for Arboriculture (fa)	Sep 12
National Institutes of Health, Midwinter Weed Control—Useful Practice for, by George P. Rosenkranz (fa)	Oct 18
National Secretary Sees Dynamic Growth for Arboriculture (fa)	Sep 12
Need for Variety of New Turfgrasses Stressed at Michigan's 37th Annual Conference (cr)	Apr 28
New Herbicides for Noncrop Areas, by F. L. Timmons (fa)	Jan 9
New Underwater Menace, Eurasian Watermilfoil, by Robert D. Blackburn and Lyle W. Weldon (fa)	Nov 10
New Webworm Reported at Central Plains Turf Meet (ns)	Jan 25
Non-Slip Floor Coating Resists Chemicals (ns)	Oct 21

O

Ohio Tree, Turf, Nursery Men Meet Together in Jan. (ns)	Jan 13
Organizing New Spray Group (L)	Jan 5
Ortho Paraquat Now OK for Non-Crop Use (ns)	Oct 30
Orville Freeman Keynotes August Meeting of ISTC (ns)	Jul 18
OSU Short Course Talks Turf in Columbus, Jan. 23 (cr)	Mar 32
0217 Fylking Kentucky Bluegrass Seed For Sale (ns)	Nov 19

P

Panels Planned for WSA's February Washington Conclave (ns)	Jan 22
Panorama: New Turf Maintenance Equipment (fa)	May 14
(Paraquat) Researchers Study New Methods for Combating Aquatic Weeds, by Dr. Lyle W. Weldon and Robert D. Blackburn (fa)	Oct 6
PMA-10 Registrations, Velsicol Has Banvel D, (ns)	Jul 26
Portrait of an Industrial Weed Killer, by Paul E. Pedersen (fa)	Jan 14
(Pramitol) Portrait of an Industrial Weed Killer, by Paul E. Pedersen (fa)	Jan 14
Prescription Forests Now Feasible (ns)	May 23
Princeton Turf Unveils Production Sod Harvester (ns)	Mar 42

P

Profit, Safety, Unusual Tree Problems Accented at Indiana Arborists' January Meeting, by Dr. Paul E. Tilford (cr)	Feb 40
(Pumps) Match Engine to Pump Requirements (fa)	Jan 17
Pursiane Speedwell, Know Your Species (c)	Feb 37

R

Railway Weeds, High Speed Spray Train Knocks Out British, by Gordon Fisher (fa)	Jan 6
Recordbreaking International Turf Show Attracts 3,000-plus to Washington, D. C. (ns)	Mar 20
Red Maple, Know Your Species (c)	Jul 21
Red Oak, Know Your Species (c)	Sep 28
Researchers Study New Methods For Combating Aquatic Weeds, by Dr. Lyle W. Weldon and Robert D. Blackburn (fa)	Oct 6
Richlawn's "Turfmaster" Eases Sod Harvesting (fa)	Feb 26
Right-of-Way Brush Control—Multimillion Dollar Management Problem for Industry (fa)	Jun 16
Right-of-Way Vegetation Management Book Planned (ns)	May 24
Rocky Mountain Producers Form Sod Association (ns)	Jun 30
Rutgers Releases '66 Turf Research Report (ns)	Jan 22

S

Safety, Unusual Tree Problems Accented at Indiana Arborists' January Meeting, Profit, by Dr. Paul E. Tilford (cr)	Feb 40
Santa Ana—A New Vegetatively Propogated Turf Bermudagrass Developed for California by Victor B. Younger (fa)	Apr 34
Sarolex Found Effective Against Florida Nematodes (ns)	May 30
(Seeding) Contractor Prices Vary Little in Detroit Area (ns)	Apr 38
Select Street and Lawn Trees (fa)	Aug 9
Self-Propelled Sprinkler Now on Market (ns)	Sep 21
Seven Times As Many Weeds at Low Mowing Heights (ns)	Oct 22
Shortleaf Pine, Know Your Species (c)	Oct 27
Slippery Elm, Know Your Species (c)	Dec 52
Sod-Called Fire Resistant Plants Are Not (ns)	Oct 21
Sod Association, Rocky Mountain Producers Form (ns)	Jun 30
Sod Editorial, Approves of (L)	Jan 5
(Sod Field Day) American Sod Association Stages First Field Day (fa)	Aug 26
Sod Field Weed Control, Herbicides for, by Dr. John A. Meade (fa)	Jan 20
(Sod Harvesting) Richlawn's Turfmaster Eases Sod Harvesting (fa)	Feb 26
(Sod Installation) Contractor Prices Vary Little in Detroit Area (ns)	Apr 38
Sodman Leases Land and Adapts Local Grass (fa)	Sep 8
Sodmen Move to Form National Group (fa)	Mar 26
Sod Over Concrete Proves an Unusual Innovation (ns)	May 31
Sod Producers Form National Group (ns)	Aug 25
Soil Treating Equipment, Lindig Adds (ns)	Feb 43
Solo 425 Hand Sprayer Is Lightweight, Compact (ns)	Jan 26
Solo 635 Chain Saw Has Increased Cutting Power (ns)	Feb 46
Solve Tree Production Problems, by Michael Newton (fa)	Apr 16
Southern Weed Meet Sets Industrial Control Talks (cr)	Jan 16
Sprayer Accessories Catalog Available (ns)	Oct 21
Sprayer Is Lightweight, Compact, Solo 425 Hand	Jan 26
Spraymen Concerned With New Products and Better Service at Seattle Annual (fa)	Nov 15
(Spray-O-Rama) Spraymen Concerned With New Products and Better Service at Seattle Annual (fa)	Nov 15
Stake a Young Tree, How to, by W. Douglas Hamilton (fa)	Jan 12
St. Augustine Grass in Bermudagrass Turf in Texas Tests, Chemicals Control, by B. E. Bordewick (fa)	Oct 23
Stop Japanese Beetle Damage on Turf (ns)	Jul 26
Stripe Smut, Systemic Fungicides for, by J. R. Hardison (fa)	May 28
Study Shows Long Range Beneficial Effects of Repeated Ethion Treatment on Turfgrass, by Dr. B. C. Dickinson (fa)	Sep 23
Stump Cutter for One-Man Operation, Arps Ptd (ns)	Apr 43
Successful Arborists Today Are Good Business Managers (fa)	Jun 19
Suppliers Personnel Changes (ns)	May 33
Suppliers Personnel Changes (ns)	Apr 50
Survey '67: New Herbicides for Noncrop Areas by F. L. Timmons (fa)	Jan 9
Survey '67: Turfgrass Management Training, Part 1 (fa)	Feb 8
Survey '67, Turfgrass Management Training Part 2 (fa)	Apr 24
Survey '67, Turfgrass Management Training Part 3 (fa)	Jun 6
Survey '67, Turfgrass Management Training Part 4 (fa)	Jul 12
Systemic Fungicides for Stripe Smut, by J. R. Hardison (fa)	May 28

T

Texas Tests, Chemicals Control St. Augustine Grass in Bermudagrass Turf in, by Dr. B. E. Bordewick (fa)	Oct 23
Three Steps to Compute Small Fertilizer Applications (fa)	Mar 38
Thrips Foiled by New Chemicals (ns)	Aug 22
(Tordon) Dow Roadside and Range Tour—A Look at New Product Field Tests (fa)	Nov 6

(Tordon 10K pellets) Right-of-Way Brush Control—
Multimillion Dollar Management Problem for
Industry (fa)Jun 16

Trained Graduates Can Cut Operating Costs,
by Dr. John H. Madison (fa)Jun 8

Training, Survey '67: Turfgrass
Management, Part 1 (fa)Feb 8

Training, Survey '67: Turfgrass
Management, Part 2 (fa)Apr 24

Training, Survey '67: Turfgrass
Management, Part 3 (fa)Jun 6

Training, Survey '67: Turfgrass
Management, Part 4 (fa)Jul 12

(Tree Care) "Bulldozer Blight" Countered by Arborist
Activities, N. Y. Treemen Hear at Concord (cr)Mar 36

(Tree Care) Cables, Braces Help Shade Tree
Survive Violent Storms (ns)Apr 44

(Tree Care) Can Trees Be Fertilized
Economically? by Dr. Dan Neely and
Dr. E. B. Himelick (fa)Mar 8

(Tree Care) Efficient Tree Removal With
2-Man Crew, by Buckley Johns (fa)Nov 8

Tree Care, Mark of the Industry Today Is
Professional (fa)May 21

(Tree Care) Successful Arborists Today Are
Good Business Managers (fa)Jun 19

Tree Cavity Work—Needs to be Based on
Judgment of the Professional (fa)Jul 7

Tree Culture at 22nd Midwest Shade Tree
Conference, Across-the-Board (cr)Apr 33

Tree Disease Damage Spotted From Air (ns)Aug 37

Tree, How to Stake a Young, by
W. Douglas Hamilton (fa)Jan 12

Tree Mover, Vermeer Adds Truck-Mounted (ns)Jan 26

(Trees) Prescription Forests Now Feasible (ns)May 23

Tree Production Problems, Solve, by
Michael Newton (fa)Apr 16

Trees, Select Street and Lawn (fa)Aug 9

(Turf Care) Dowpon Chemical Lawn Edger (ns)Apr 45

(Turf) CSU Scientists Study Grass
Reestablishment (ns)Mar 10

(Turf) Introducing 0217 Brand, Fyking Kentucky
Bluegrass, by Doyle W. Jacklin (fa)Jun 27

Turf Maintenance Equipment, Panorama: (fa)May 14

Turf in Columbus, OSU Short Course Talks Turf in (cr)Jan 23

Turf Producers Form the Virginia Cultivated
Turfgrass Association (cr)May 24

Turf Show Attracts 3,000-plus to Washington, D. C.,
Recordbreaking International (ns)Mar 20

Turf Stands Under Shade Are Possible With
Careful Culture, Adequate (fa)May 26

Turf, Stop Japanese Beetle Damage on (ns)Jul 26

(Turf) Study Shows Long Range Beneficial Effects of
Repeated Ethion Treatment on Turfgrass,
by B. C. Dickinson (fa)Sep 23

(Turf) Watering Practices as a Function of Clipping
Height and Frequency, by J. R. Watson (fa)Jun 10

Turf With Fertilizer, Weed, by Robert W. Schery (fa)Nov 20

Turf, When, Where and How to Sod for,
by Dr. P. E. Rieke, and Dr. R. E. Lucas (fa)Oct 14

Turfgrass, Growing a Vigorous, Strong Root System on
Cool Season, by R. E. Schmidt (fa)Jul 22

Turfgrass Management: A University Field of
Specialization Qualifying Students for the
Industry, by Eliot C. Roberts (fa)Jul 14

Turfgrasses, Breeding Improved, by J. A. Long (fa)Feb 12

Turfgrasses Stressed at Michigan's 37th Annual Conference,
Need for New (cr)Apr 28

U

USDA Tests Show Greater Washoff of 2,4-D Ester (ns)Feb 22

Use the Right Chemical Tool for Weed Control in Lawns,
by S. W. Bingham and C. L. Foy (fa)Apr 12

V

Velsicol Has Banvel D, PMA-10 Registrations (ns)Jul 26

Vermeer Adds Truck-Mounted Tree Mover (ns)Jan 26

Vertical Mulching Boosts Root Growth,
by Wayne C. Morgan (fa)Feb 20

Virginia Cultivated Turfgrass Association,
Turf Producers Form the (cr)May 24

VPI's Putting Greens Test Modified Soils,
by R. E. Schmidt (fa)Feb 17

W

Watering Practices as a Function of Clipping Height
and Frequency, by J. R. Watson (fa)Jun 10

Watermilfoil, New Underwater Menace, Eurasian, by Robert D.
Blackburn and Lyle W. Weldon (fa)Nov 10

Webworm Reported at Central Plains
Turf Meet, New (ns)Jan 25

(Weed Control) Chemicals Cut Roadside Clearing
Costs for Lane County, Oregon, by
S. L. Hockersmith (fa)Jul 8

(Weed Control) Dow Roadside and Range Tour—A Look
At New Product Field Tests (fa)Nov 6

(Weed Control) Fence Line Vegetation Control,
by L. E. Foote and B. F. Himmelman (fa)Sep 17

(Weed Control) Geigy Markets Atratal 8P,
New Granular Weedkiller (ns)Apr 48

Weed Control, Herbicides for Sod Field, by
Dr. John A. Meade (fa)Jan 20

Weed Control, Useful Practice for National
Institutes of Health, Midwinter, by
George P. Rosenkranze (fa)Oct 18

(Weed Control) Seven Times As Many Weeds
at Low Mowing Heights (ns)Oct 22

Weed Control in Lawns, Use the Right Chemical Tool for, by
S. W. Bingham and C. L. Foy (fa)Apr 12

(Weed Control) Weed Turf With Fertilizer,
by Robert W. Schery (fa)Nov 20

Weed Killer, Portrait of an Industrial,
by Paul E. Pedersen (fa)Jan 14

Weed Turf With Fertilizer, by Robert W. Schery (fa)Nov 20

(Weeds) High Speed Spray Train Knocks Out British
Railway Weeds, by Gordon Fisher (fa)Jan 6

When, Where, and How to Sod for Turf,
by Dr. P. E. Rieke and Dr. R. E. Lucas (fa)Oct 14

White Ash, Know Your Species (c)Aug 36

Winterize Your Spray Rigs (ns)Nov 19

2,4-D Ester, USDA Tests Show Greater Washoff of (ns)Feb 22

AUTHORS

Bennett, Douglas G., "Aquatic Weed Control Becomes
Technical Operation"May 16

Bingham, S. W., "Use the Right Chemical Tool for
Weed Control in Lawns" with C. L. FoyApr 12

Blackburn, Robert D., "Researchers Study New
Methods for Combating Aquatic Weeds," with
Dr. Lyle W. WeldonOct 6

Blackburn, Robert D., "New Underwater Menace,
Eurasian Watermilfoil," with Dr. Lyle W. WeldonNov 10

Bordewick, Dr. B. E., "Chemicals Control St. Augustine
Grass in Bermudagrass Turf in Texas Tests"Oct 23

Dickinson, Dr. B. C., "Study Shows Long Range
Beneficial Effects of Repeated Ethion
Treatment on Turfgrass"Sep 23

Fisher, Gordon, "High Speed Spray Train Knocks Out
British Railway Weeds"Jan 6

Foote, L. E., "Fence Line Vegetation Control, a
Problem Researched by Minnesota Highway
Engineers," with B. F. HimmelmanSep 17

Foy, C. L., "Use the Right Chemical Tool for Weed
Control in Lawns", with S. W. BinghamApr 12

Hamilton, W. Douglas, "How to Stake a Young Tree"Jan 12

Hardison, J. R., "Systemic Fungicides for Stripe Smut"May 28

Heiss, J. David, "Man-Hour Costing, a System Based
on Job Hour Records"Sep 14

Himelick, Dr. E. B., "Can Trees be Fertilized
Economically?" with Dr. Dan NeelyMar 8

Himmelman, B. F., "Fence Line Vegetation Control, a
Problem Researched by Minnesota Highway
Engineers," with L. E. FooteSep 17

Hockersmith, S. L., "Chemicals Cut Roadside Clearing
Costs for Lane County, Oregon"Jul 8

Jacklin, Doyle W., "Introducing 0217 Brand Fyking
Kentucky Bluegrass, A Kentucky Bluegrass Adapted
to Close Mowing"Jun 27

Johns, Buckley, "Efficient Tree Removal With
2-Man Crew"Nov 8

Lofgren, David, "Fertilizer—What's It Worth"Mar 16

Long, J. A., "Breeding Improved Turfgrasses"Feb 12

Lucas, Dr. R. E., "When, Where, and How to Sod
for Turf," with Dr. P. E. RiekeOct 14

Madison, Dr. John H., "Trained Graduates Can Cut
Operating Costs"Jun 8

Markland, Flave E., "Fertilizing Helps Turf Crowd
Out Weeds," with Dr. Eliot C. RobertsMar 12

Meade, Dr. John A., "Herbicides for Sod Field
Weed Control"Jan 20

Morgan, Wayne C., "Vertical Mulching Boosts
Root Growth"Feb 20

Neely, Dr. Dan, "Can Trees be Fertilized
Economically?" with Dr. E. B. HimelickMar 8

Newton, Michael, Solve Tree Production ProblemsApr 16

Palmtree, Hiram D., "Mulches Improve New Turf
Stands," with W. R. Thompson Jr.Dec 48

Pedersen, Paul E., "Portrait of an Industrial
Weed Killer"Jan 14

Rieke, Dr. P. E., "When, Where, and How to Sod for
Turf," with Dr. R. E. LucasOct 14

Roberts, Dr. Eliot C., "Fertilizing Helps Turf Crowd
Out Weeds," with Flave E. MarklandMar 12

Rosenkranze, George P., "Midwinter Weed Control—Useful
Practice for National Institutes of Health"Oct 18

Schery, Robert W., "Weed Turf With Fertilizer"Nov 20

Schmidt, R. E., "VPI's Putting Greens Test
Modified Soils"Feb 17

Schmidt, R. E., "Growing a Vigorous, Strong Root
System on Cool Season Turfgrass"Jul 22

Schoeneweiss, Donald F., "Can You Spot Evergreen
Diseases?"Aug 12

Thompson, W. R. Jr., "Mulches Improve New Turf
Stands," with Hiram D. PalmtreeDec 48

Tilford, Dr. Paul E., "Profit, Safety, Unusual Tree Problems
Accented at Indiana Arborists' January Meeting"Feb 40

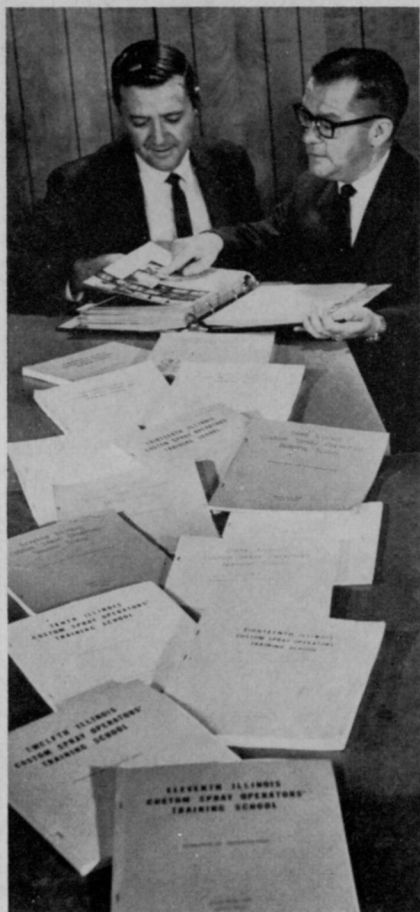
Timmons, F. L., "Survey '67: New Herbicides for
Noncrop Areas"Jan 9

Watson, J. R., "Watering Practices as a Function of
Clipping Height and Frequency"Jun 10

Weldon, Dr. Lyle W., "Researchers Study New Methods
for Combating Aquatic Weeds," with
Robert D. BlackburnOct 6

Weldon, Dr. Lyle W., "New Underwater Menace, Eurasian
Watermilfoil," with Robert D. BlackburnNov 10

Younger, Victor B., "Santa Ana—A New Vegetatively
Propagated Turf Bermudagrass Developed
For California"Apr 34



"Haven't we done this before?" University of Illinois entomologist H. B. "Pete" Petty, right, and agronomist Fred Slife, left, review programs from the last 19 Custom Spray Operators' Training Schools as they complete plans for the 20th. The school will be January 24-25 at the University of Illinois Illini Union, Urbana. Petty and Slife are the only two participants in this year's program who have been on all 19 of the past programs. They will present awards to five individuals who have attended all 20 spray schools.

Illinois Spray School To Be Held Jan. 24-25

The 20th Illinois Custom Spray Operators' Training School will feature the newest research and the latest predictions for 1968.

Chairman H. B. "Pete" Petty, University of Illinois and Natural History Survey entomologists, says the January 24-25 meeting will feature entomologists, agronomists, plant pathologists, and agricultural engineers from the U. of I., other universities and the U. S. Department of Agriculture.

The opening session will start at 9:50 a.m. in the Illini Union in Urbana with a brief review of the 1968 herbicide, insecticide and fungicide recommendations.

Weed Society of America Annual Is Feb. 5-8

Research weed control scientists from the entire Western Hemisphere will meet Feb. 5-8 at New Orleans, La., for the 1968 annual meeting of the Weed Society of America. Headquarters during the meeting will be the Jung Hotel. Registration begins at noon on Monday, Feb. 5, with the final formal session ending at noon, Feb. 8.

President of the society is Dr. Richard Behrnes, professor of weed physiology at the University of Minnesota. Dr. Boysie E. Day, chairman of the University of California Department of Horticultural Science at Riverside, is president-elect and chairman of the New Orleans program. Secretary is Dr. Dayton L. Klingman, Crops Research Division, Agricultural Research Service, USDA, Beltsville, Md., and treasurer and business manager is Dr. F. W. Slife, University of Illinois agronomy department. Chairman for local arrangements at the New Orleans event is Dr. J. B. Baker, Louisiana State University department of Botany and Plant Pathology, Baton Rouge.

Weed Control Research To Highlight N.Y. Meeting

New weed control research will again highlight the Annual Northeastern Weed Control Conference, set for Jan. 3-5, at the Hotel Commodore, New York City, N. Y.

President of the group, Dr. John Gallagher, Amchem Products, Inc., Ambler, Pa., reports that 115 scientific papers will be presented during the 22nd annual meeting of the group. Dr. Gallagher says plans are for an attendance ranging up to 800.

Besides research reports, the representatives of industry, government, regulatory agencies, universities, and utilities will discuss current and future weed control problems. Rights-of-way maintenance, industrial site improvement, aquatic weed control problems and related subjects will feature both formal and informal discussions.

The annual conference is one of 4 regional weed conferences staged each year by the group. Details of the January meeting are available from the secretary of the group, Dr. Arthur Bing, Cornell Ornamentals Research Laboratory, Farmingdale, Long Island, N. Y. Dr. Bing can be reached by telephone at 516 CH 9-1540.



Christmas tree disposal problems are being simplified nationwide by use of wood chippers. New York City's Sanitation Department uses Fitchburg Brush Chippers such as the above to reduce trees to chips. Once trees are put through chippers, refuse is hauled to incinerators and burned. City last year required 70 trucks just to deliver trees to chippers. In other areas, chips are used for mulch, and one mid-west city reported it cut disposal costs by one-third by chipping trees. Prior to use of chippers, tree disposal created problems with bulk alone, besides damage to incinerators from tree spikes.

Reprints Available

Survey on Turfgrass Management Training Series

WEEDS TREES AND TURF magazine is making available its series on Turfgrass Management Training which ran earlier this year. This series listed college level training available at 26 colleges and universities across the nation.

A number of universities have requested reprints for use with their own student counseling programs and for use by high school counselors.

If these can be used in your state, contact WTT. Because such information on training can help in informing prospective students about the industry, WTT is making these available at the reprint cost. Cost per thousand for the 10-page reprint will be \$30, plus shipping. Lesser amounts can be ordered at \$5 per hundred, plus postage.

For reprints, write:

WEEDS TREES AND TURF
1900 Euclid Ave.
Cleveland, Ohio 44115

More Powerful Engine Now Being Offered Pilots In Aerial Application Vegetation Control Field



Piper Aircraft Corp. has announced that the Piper Pawnee C agricultural airplane is now being offered with a 260 horsepower Lycoming engine, in addition to the 235 horsepower Lycoming which has been standard on the Pawnee for several years. An optional controllable pitch propeller is also being offered now with the 260 horsepower engine. Details are available from the company at Lock Haven, Pa. 17745.

New Jersey Sod Producers Finance Turf Research Based On Sod Acreage of the Individual Grower



Frank Cacavio, president of the Cultivated Sod Association of New Jersey, Inc., left, presents monetary grant to **Dr. Leland G. Merrill, Jr.**, Dean of the College of Agriculture and Environmental Science, Rutgers—The State University, New Brunswick, New Jersey. The grant was presented by the sod organization to support turfgrass research at Rutgers. Funds for the grant were contributed by the sod producer members of the association on the basis of a sod acreage assessment. The Assessment Fund Committee consisted of Chairman, William Rapp, Rapp Sod Farm, Frank Cacavio, Mercer Sod Farm, Wiley Miner, Princeton Turf Farm, and Dr. Henry W. Indyk, Rutgers University.



Cedrus Deodora, 40 feet in height, was moved by Badger Tree Service, Inc., Phoenix, Ariz., in Operation Green Giant. Arborist W. K. "Bill" Johnson, whose company moved the tree, reports that the "Green Giant" weighed in at 38 tons and required 17 days to move. It was donated to the children of Mesa by a native, Joe Reed, as a living Christmas Tree. Ten months after moving, the tree, which is now located in Mesa's Pioneer Park is thrifty and has grown 6 inches since the 2-block move. Johnson said that a box 12'x12' and 6' in depth was constructed and one board at a time placed in the bottom as the soil was dug from under the tree. During moving, the tree was not cut back. Only a minimum amount of trimming was done. It is the only tree of its type, according to Johnson, in the "Valley of the Sun."



King-sized "heating pad" installed at Lambeau Field, home of the World Champion Green Bay Packers, will keep turf soft and frost-free during late season games. Checking the installation are left to right, Elmer Cloud, installer, Sal Soscia, application engineer for General Electric Company's wiring device department which supplied the cable, and George Halas, General Electric sales engineer. The cable, 14 miles long, covers 73,000 square feet of the Packers' playing field. Power required to "heat" the turf is equivalent to that needed to light 7,800 100-watt bulbs. Halas is an occasional scout for both football leagues and a nephew of George "Papa Bear" Halas, owner and coach of the Chicago Bears.

Meeting Dates



Northeastern Weed Control Conference, Hotel Commodore, New York, N. Y., Jan. 3-5.

Tennessee Turfgrass Association Annual Conference, Andrew Jackson Hotel, Nashville, Tenn., Jan. 8-9.

Western Agricultural Chemicals Association, Northwest Conference, Hilton Hotel, Portland, Ore., Jan. 9-12.

Southern Weed Conference, 21st Meeting, Deauville Hotel, Miami Beach, Fla., Jan. 16-18.

Agricultural Nitrogen Institute, Annual Convention and Trade Show, Marriott Motor Hotel, Atlanta, Ga., Jan. 16-18.

Associated Landscape Contractors of America, Annual Meeting, Conference Center, Williamsburg, Va., Jan. 21-24.

California Weed Conference, 20th Annual, El Rancho Hotel, Sacramento, Calif., Jan. 22-24.

Virginia Turfgrass Conference, Virginia Turfgrass Council and V.P.I., Golden Triangle Motel, Norfolk, Va., Jan. 23-24.

California Weed Conference, El Rancho Hotel, Sacramento, Calif., Jan. 22-24.

California Agricultural Aircraft Association, Annual Meeting, Sahara Tahoe Hotel, Lake Tahoe, Calif., Jan. 24-27.

Arizona Aerial Applicators Association, Annual Meeting, Francisco Grande, Casa Grande, Ariz., Feb. 1-2.

Weed Society of America, 1968 Meeting, Jung Hotel, New Orleans, La., Feb. 5-8.

Annual Agricultural Chemical Conference, Oklahoma State University, Student Union, O.S.U., Stillwater, Okla., Feb. 14-15.

American Sod Producers Association, First Annual Meeting, In conjunction with Golf Course Superintendents Assn. Convention, San Francisco Hilton Hotel, San Francisco, Calif., Feb. 18-23.

Western Society of Weed Science, formerly Western Weed Control Conference, Owyhee Hotel, Boise, Idaho, Mar. 19-21.

Michigan Turfgrass Conference, Annual Meeting, Kellogg Center, Michigan State University, East Lansing, Mich., Mar. 20-21.

Mulches Improve New Turf Stands

By
W. R. THOMPSON, JR.
Agronomist, American Potash Institute
and
HIRAM D. PALMERTREE
Agronomist, Mississippi Cooperative
Extension Service

STANDS of nearly all plantings of fine turf can be improved through the use of mulches. Mulching of newly planted areas will reduce erosion, conserve moisture and temper sharp temperature changes.

Grasses established from seed, such as common bermudagrass, tall fescue, bluegrass, creeping red fescue, and bahiagrass, are easily adapted to mulching techniques.

Turfgrasses such as improved turf—bermudagrasses, zoysias, St. Augustine, and centipede—which must be planted vegetatively using sprigs or stolons, are now being successfully established by stolonizing (broadcasting chopped stolons or sprigs) and then mulching with various mulches. Through the use of specialized machines, sprigs and manufactured mulches can be applied in a one-step operation.

Regardless of the grass planted or method used, prepare a good, firm seedbed. A good seedbed is essential for a successful lawn and eliminates several problems which might develop in lawns. Always plant an adapted variety of turfgrass and use enough seed or plant material to obtain complete and uniform coverage.

When small grain straw is used as a mulch, the lawn should be planted, rolled, and then mulched with straw at a rate equal to 2 to 3 tons of straw per acre.

The availability of small grain straw is dependent upon the season, and straw is objectionable in home lawns because of



Conwed Hydro Mulch is being applied in this instance to a typical slope by hydraulic method. Seed, mulch and fertilizer are mixed, then applied on soil at distances up to 100 ft.

the weed and small grain seeds which come in with the baled straw.

Several manufactured mulches are available for mulching newly planted lawns. Manufactured mulches are packaged mulches and are commercially available any season of the year.

If a manufactured mulch is used, two procedures are possible. First, the same procedure as with straw mulch can be followed, or second, the hydroplanting technique can be employed. With this technique the seedbed is prepared and the seeds or sprigs and manufactured mulch is applied in a single operation with special hydroplanting equipment.

One of the most popular mulches for home lawn areas is the wood-cellulose fiber mulch. This material consists of ground wood fibers, which are dyed a green color for ease of application and aesthetic value during the establishment period. These

materials are usually applied on home lawns or fine turf areas at a rate of 2,000 pounds per acre. Wood fiber mulches are applied in a water slurry or by hydro-mulching techniques. As mentioned previously, seeds, fertilizer, and sprigs or stolons may be applied with the mulch in a one-step operation. This mulch usually loses its green color in direct sunlight after a week, but it does temper the microclimate so that the seedlings benefit from the mulch. This is also an excellent mulch for stolonized or sprigged lawns.

Another available mulch is chopped excelsior. This consists of shredded wood, chopped in lengths of about eight inches. This material can be applied either by hand or with conventional straw mulch spreading equipment. Chopped excelsior mulch can be applied with or without asphalt, but in residential areas the asphalt is usually objectionable. Excelsior at the rate of 2 tons per acre will give



**Ryder-Roller Attachment
for
Ryan Sod Cutters Equipped
With Auto-Cutoff Units**

Now being produced and distributed by
Merion Sod Farms, Inc., Utica, Mich.

Priced low at \$795 f.o.b. Utica, Mich.

Attachment is latest and best working sod roller that allows you to cut, mark, and roll the sod in one easy operation as you ride. Adjustments are very simple and machine will work on all types of soil that can be cut with your cutter. (Now includes turning attachment to push sod aside).

Please address all inquiries to:
MERION SOD FARMS, INC.

44533 Sterritt
UTICA, MICHIGAN
Tel. 313+731-2570

**Keep Your
Weeds Trees and Turf
magazines**

In specially designed

Permanent Binders

Magazines can be inserted
as they are received

Still Just \$3.25

Please send check or money order to

WEEDS TREES AND TURF

9800 Detroit Ave. Cleveland, Ohio 44102

**PETERS
SPECIAL**

**SOLUBLE
FERTILIZERS**

Completely chelated all purpose feeds

Contain all necessary trace elements in a completely available form. -- Contain very effective color tracers -- Contain effective penetrating agents. --

Ideal for all types of foliar, turf and root feeding.

Compatible with all commonly used spray materials.

The finest soluble fertilizers ever made! Try them and see!

*Inquire from your jobber or write direct to us
for further information.*

ROBERT B. PETERS CO., INC.
2833 PENNSYLVANIA ST. ALLENTOWN, PA.

CROWN VETCH

*Controls Erosion and
Greatly Enhances Hillside Beauty*

• • •

**ZERO MAINTENANCE!
NO MOWING!
NO WEEDING!**

• • •

Our seed meets state highway department specifications. Packed in 10-pound sealed, poly bags.

• • •

Write for Price Information
and Attractive Brochure

• • •

STANFORD SEED CO.

P. O. Box 230

Plymouth Meeting, Pa. 19462
215-825-1240

or

P. O. Box 366

Buffalo, N. Y. 14240
716-825-3300

good erosion control and conserve moisture on the newly seeded or sprigged lawns. However, on areas where frequent mowing in early establishment phases is desired, excelsior would be objectionable because the mulch would be scattered over the area by the action of the mower.

Water Soluble Latex Mulch For Home Lawns

Another manufactured mulch that can be used on home lawns is water soluble latex mulch. This mulch has to be applied with similar techniques as the wood fiber mulch. Upon evaporation of the water, a thin film of rubber which reduces soil erosion is left on the surface, but some seedling germination can be retarded by the latex and resinous mulches.

Several mulches are manufactured for use on critical areas. Examples of critical areas are ditches, fills, cuts, or exceptionally steep slopes which would not be sufficiently protected by ordinary mulches. One

of the most popular mulches for lawn critical areas is jute-net, which is a netting of woven jute twine. Jute-net is packaged in blanket type rolls and is held in place on the surface by wire staples. Grasses can be seeded or sprigged prior to application of the mulch. Another critical area mulch is woven paper. This is manufactured by several companies and will protect the soil from erosion for a period of one season while the grass is being established.

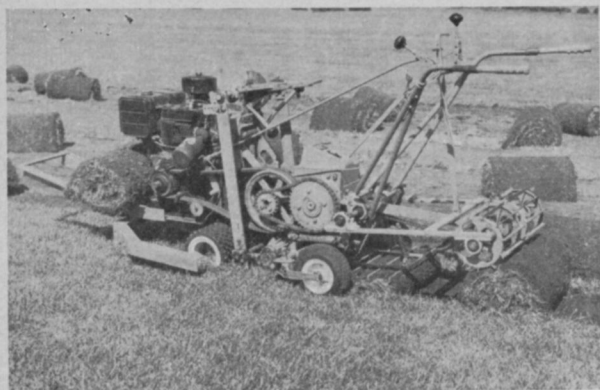
A more recent mulch now on the market is fiberglass. Fiberglass strands are applied with special equipment utilizing compressed air. A rate of 12 pounds of fiberglass per 100 square yards is recommended. The material is good for prevention of erosion, but it could possibly be objectionable if the lawn required close mowing during early establishment periods. This mulch does not deteriorate but becomes covered by soil and vegetation after about one season.

While mulches have several

advantages, there are some disadvantages. The use of straw mulch can increase or create weed problems. Manufactured mulches can increase costs and proper application of these mulches may be difficult due to the requirement of special equipment. Excess applications of any mulch can retard growth and reduce stands.

Regardless of the mulching technique or mulch used, lawn establishment will not be successful unless all necessary steps and good management are followed. These steps of good management would include proper fertilizing, mowing, and the controlling of turfgrass pests.

For January
WTT
Weed Control
Special Issue



Hadfield Automatic Sod Roller

Patent Pending No. 609838

Attaches to any Ryan sod cutter (model C-8 cut off or later).

Rolls sod tight and evenly as cut.

One-man operation does work of 3 men.

Can pay for itself in one month.

- strong steel construction
- smooth continuous operation
- doesn't clog
- easily attached to sod cutter

Rider Attachment Available

TEL. 313 + 628-2000

HADFIELD SOD ROLLER CO.

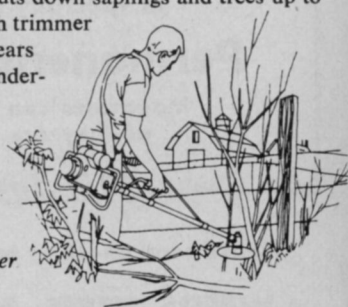
4643 Sherwood

Oxford, Michigan 48051

BRUSHKING[®]

solves weed and brush control problems easily, safely.

Rugged BRUSHKING cuts down saplings and trees up to nine inches diameter; with trimmer attachment, effectively clears weeds, heavy grass and underbrush. No need for toxic chemicals. Safe and easy to operate. Thousands in use the world over. Five models to choose from. Send for free literature and name of nearest dealer



ROWCO MANUFACTURING CO., INC.
Dept. WT127, 48 Emerald Street, Keene, New Hampshire

DROP DEAD



NO SOONER SAID THAN DONE...



with PENICK MALATHION FORMULATIONS

Penick offers a comprehensive variety of formulations for the control of mosquitos, including resistant strains and disease-bearing species, small flying insects, mealybugs, aphids and other turf pests. Combining high killing power with very low mammalian

toxicity, these stable, low-odor pesticides are quick-acting and can be stored for extended periods. They're economical, too. Malathion's unique "reach-out" capability is just one economy factor. We can tell you about a number of others. Just ask us.

PENICK
S. B. PENICK & COMPANY
100 CHURCH ST., NEW YORK, N. Y. 10008
735 WEST DIVISION ST., CHICAGO, ILL. 60610
4161 BECK AVENUE, ST. LOUIS, MO. 63116

*Farm Chemicals &
Insecticides Division*

SLIPPERY ELM

(*Ulmus rubra*)



Drawing from: Manual of the Trees of North America, by Charles S. Sargent, Dover Publications, Inc. Reprinted through permission of the publisher.

Prepared by J. H. Kirch, forester and horticulturist serving as Marketing Manager, Industrial Chemicals, for Amchem Products, Inc.

Slippery elm, sometimes called red elm or moose elm, is a medium-sized tree 60 to 70 feet high and 12 to 30 inches in diameter. It is found on rich, well-drained limestone soils, but will grow on poorer sites. This species is found from the valley of the St. Lawrence River south to Florida and west to North Dakota and Texas.

The leaves are alternate, simple, about 5 to 7 inches long, oval to obovate and dark green. Both leaf surfaces are very rough.

The wood of slippery elm is very resistant to decay, making it useful for posts, railway ties, and agricultural implements.

Slippery elm may be distinguished from American elm (*Ulmus americana*) in several ways. Its leaves are rough above and below. Those of American elm are smooth to very slightly rough above, pubescent below. The inner bark of slippery elm is much more mucilaginous and fragrant than that of American elm. Although the slippery elm resembles American elm in general appearance, the bole is clear for a greater length and the twigs have a tendency to be more ascending.

The fruit of slippery elm is another distinguishing feature. The short-stalked samara consists of a seed surrounded by a wing with no hairs on the margin. American elm fruits are more hairy particularly around the margin of the wing. Both trees bear fruit soon after flowering in the spring. Buds of slippery elm are a dark

Whether a plant species is desirable or undesirable often depends on the situation in which it occurs. This is true of all the trees to be discussed in this series of articles on identification. For example, maple (*Acer rubrum*) is a useful ornamental in landscape plantings because of its early red flowers, pleasing growth habit, and spectacular autumn foliage coloring. It is a nuisance on the right-of-way because of its resistance to chemical treatment. Similar comments could be made about the other species to be described. They have ornamental, and economic value, but not on a utility right-of-way which must be kept clear of tall vegetation. Strong resistance to treatment makes it especially important that a few "problem" species be clearly recognized when they are encountered in clearance work. Otherwise there may be needless disappointment, and waste of time and material through inappropriate treatment. J. H. Kirch.

chestnut brown with 12 overlapping bud scales coated with rusty brown hairs. The buds of American elm are lighter in color and less pubescent.

Slippery elm is easily top killed by foliar applications of 2,4-D/2,4,5-T, ammonium sulphamate, dicamba, 2,3,6-TBA and picloram. If the phenoxy herbicides are used, best rootkill is obtained by combining them with 2,3,6-TBA, dicamba or picloram as a foliage spray, or by applying them as a dormant cane or basal spray in oil. Slippery elm is a vigorous sprouter and careful attention to thorough wetting of the root collar zone is essential regardless of the spray applied.

In basal spraying, better rootkill has been obtained by combinations of 2,4-D and 2,4,5-T alone. 2,4-D alone is very effective on elm.

Aerial sprays of 2,4-D/2,4,5-T applied as an invert emulsion have been effective in top killing this species. Repeat aerial sprays or follow-up basal sprays are needed for complete rootkill. Aerial applications of particulated sprays containing 2,4-D and picloram have given good rootkill on this species and other woody plants growing in association with it. Combinations of 2,4-D/2,4,5-T and dicamba or 2,3,6-TBA applied by helicopter also show promise.

Ammonium sulphamate is often used where crops are present along the rights-of-way. Pellet applications of fenuron or picloram are effective in controlling this species. Care should be taken not to apply these pellets over roots of trees adjacent to the right-of-way.

Classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 1900 Euclid Avenue, Cleveland, Ohio 44115.

Rates: "Position Wanted" 5c per word, minimum \$2.00. All other classifications, 10c per word, minimum \$2.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment.

FOR SALE

PRIME TREE SPRAYING business located in Westchester County, New York, established 20 years ago. Gross volume approximately \$55,000 to \$65,000 a year plus considerable tree surgery work that is referred to other companies in the area. There is more than \$40,000 in equipment which ranges from office data processing machines to 600-gal. hydraulic sprayers. This also includes a modern 2-way radio network with three licensed base stations. There is approximately a \$5,000 inventory. This gross business is done in less than a seven-month period with a payroll of only \$12,500. It nets well into five figures plus other valuable considerations for its owner. The asking price is \$50,000, or we would consider selling the business and equipment separately. Terms arranged. Priced for a quick sale. List of equipment and inventory mailed on request. Mail inquiry to Mr. H. G. Widmark, Pres., Widmark Scientific Control, Inc., Drawer 151, Harrison, N. Y. 10528.

Shade Tree Project

(from page 15)

a delegate to the evaluation committee in addition to Dr. Diller and Dr. L. C. Chadwick, executive director of the International Shade Tree Conference and formerly head of The Ohio State University Division of Floriculture and Ornamental Horticulture. Also on the committee is J. Michalko, Cleveland, O., Shade Tree Commissioner. H. Mike Hill, graduate student at the Research Center, is in charge of the project, and oversees maintenance and project reports. Utilities who are sponsoring the project and their representatives on the committee are: Ohio Edison, R. J. Dreisbach; Toledo Edison, R. May; Cincinnati Gas and Electric, J. T. Farrell; Dayton Power and Light, R. D. Palmer; Cleveland Electric Illuminating, A. D. Shemitz; Ohio Power, R. E. Abbott and G. P. Mitten; and Davey Tree Expert Co., M. W. Staples. Staples is chairman of the evaluation group.

Advertisers

INDEX TO ADVERTISEMENTS

John Bean Division, FMC 3rd Cover	
Brillion Iron Works, Inc.	3
Buffalo Turbine Agricultural Equipment Co., Inc.	31
The J. J. Dill Co.	6
Elanco Products Co. ...28a, 28b, 28c, 28d	
Finland Turf Cut Division, Finneyfrock's	36
Friend Manufacturing Corp.	35
Hadfield Sod Roller Co.	50
Hercules Incorporated ...2nd Cover and 4	
Howard Rotavator Co., Inc.	37
International Harvester Co. ...16, 17	
Locke Manufacturing Companies, Inc.	53
Merion Sod Farms, Inc.	49
The F. E. Myers & Bro. Co.	33
John Nunes Mechanical Harvesting Company ...4th Cover	
S. B. Penick & Co.	51
Robert B. Peters Co., Inc.	49
B. G. Pratt Co.	20
Rowco Manufacturing Co., Inc. ...	50
Ryan Equipment Co.	7
South Dakota Kentucky Bluegrass Association	26
Stanford Seed Co.	49
Stull Chemical Co.	19
Universal Metal Products Div., Leigh Products, Inc.	5
The Vandermolen Co.	34
Whitney Seed Co., Inc.	24

Plan to attend the

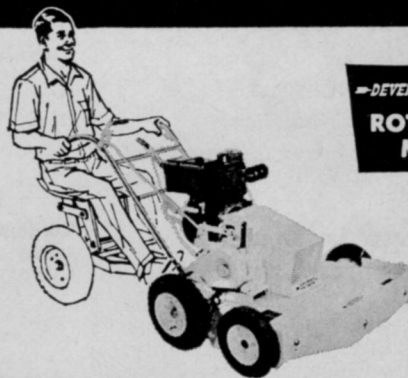
22nd Annual Northeastern Weed Control Conference

JAN. 3-5 HOTEL COMMODORE
NEW YORK, N. Y.

Sessions on turf, aquatic weed control, brush control, new chemicals, horticultural and agronomic crops, and general industrial and agricultural weed control technology.

For details call or write:

Dr. Arthur Bing, Secretary-Treasurer, Northeastern Weed Control Conference, Cornell Ornamentals Research Laboratory, Farmingdale, Long Island, N.Y. 11735
Tel. 516 + CH9-1540



—DEVERE—Locke
**ROTARY
MOWERS**

DEVERE-Locke Rotaries
'Cost LESS per Mowing'
... Easier on operators too!

Ruggedly constructed with plenty of power for quality cuts on any terrain. Years of maintenance-free service. 18" to 60" • 3 to 12½-hp • Riders • Constant cutter speed

Manufacturers of famous **Locke** reel mowers

25" and 30" Single Units • 70" and 75" Triplexes • Electric Starter

Locke

WRITE FOR FREE BOOKLET

Manufacturing Companies, Inc.
5637-Y MacCorkle Ave., S.W. South Charleston, W. Va.

Insect Report

WTT's compilation of insect problems occurring in turfgrasses, trees, and ornamentals throughout the country.

Turf Insects

NORTHERN MASKED CHAFER

(*Cyclocephala borealis*)

Maryland: Larvae heavy and damaging 2 bluegrass lawns in Silver Spring, Montgomery County.

SOUTHERN CHINCH BUG

(*Blissus insularis*)

California: Moderate on St. Augustine grass in Whittier, Los Angeles County. This is a new state record. **Florida:** Killed 5 acres of 80-acre St. Augustine grass pasture at ranch near Bell Glade, Palm Beach County; controls required.

A MARCH FLY

(*Dilophus orbatus*)

California: Adults heavy on turf lawns at Salinas, Monterey County.

AN OLETHREUTID MOTH

(*Bactra verutana chrysea*)

California: Larvae heavy in nutgrass at Wasco, Kern County.

Insects of Ornamentals

PINEAPPLE SCALE

(*Diaspis bromeliae*)

California: Adults heavy on bromeliad nursery stock at Valley Center, San Diego County.

A FALSE SPIDER MITE

(*Brevipalpus russulus*)

Florida: Taken on Thanksgiving cactus (*Zygocactus* sp.) in greenhouse at St. Augustine, St. Johns County. This is a new Department of Plant Industry state record and new host record. Taken on 75 of 100 Thanksgiving cacti at San Mateo, Putnam County, for new county record.

FULLER ROSE WEEVIL

(*Pantomorus cervinus*)

California: Adults heavy, damaged pyracantha leaves at Pacific Grove, Monterey County.

A JAPANESE WEEVIL

(*Pseudocneorhinus bifasciatus*)

Maryland: Adult damage heavy to *Mahonia* sp. in Howard County.

Tree Insects

APHIDS

Maryland: *Lachnus salignus* heavy on weeping willows at several locations

throughout state. *Longistigma car- yae* heavy, laying eggs on sycamore trees at College Park, Prince Georges County.

BARK BEETLES

Virginia: Increased greatly past month but not epidemic. Spot infestations totaled 35 in Chesterfield County and 40 in Henrico County. *Ips* spp. and *Dendroctonus* spp. involved in death of loblolly pine in stands throughout Sussex district. *Ips* spp. on up to 70 trees in scattered areas of Westmoreland, Caroline, King and Queen, and Richmond Counties. *Ips* spp. and *D. frontalis* active in most counties in Richmond district; most numerous (15 spots) in Hanover County. Active in Not-toway, Lunenburg, Mecklenburg, Halifax, and Charlotte Counties; *Ips* spp. dominant. *Ips* spp. and *Dendroctonus* spp. involved in death of 2 acres of Virginia pine at 3 locations in Louisa County; active in few spots in Henry, Pittsylvania, Roanoke, and Patrick Counties.

FALL CANKERWORM

(*Alsophila pomataria*)

North Dakota: More numerous than in 1966; adults and egg masses evident on buildings, trees, and tangle-foot bands in Fargo area, Cass County.

RED-HUMPED CATERPILLAR

(*Schizura concinna*)

California: Heaviest ever recorded in state. Continues to defoliate trees.

RED-HEADED PINE SAWFLY

(*Neodiprion lecontei*)

Virginia: Young larvae defoliated shortleaf and Virginia pine at 4 locations in Wise County and 2 locations in Scott County.

AN ERIOCOCCID SCALE

(*Eriococcus araucariae*)

California: Heavy on Norfolk Island-pines at Solana Beach, San Diego County.

FALL WEBWORM

(*Hyphantria cunea*)

New Mexico: Moderate to heavy on elm, poplar, and cottonwoods in Luna County (Hare); damage heavy on same hosts in most of Dona Ana County.

PINE WEEVILS

Virginia: *Pissodes strobi* damage extensive to white pine in Floyd and Montgomery Counties. *Hylobius pales* damaging 36-acre loblolly pine plantation in Stafford County; loss 5 percent.

Compiled from information furnished by the U. S. Department of Agriculture, university staffs, and WTT readers. Turf and tree specialists are urged to send reports of insect problems noted in their areas to: Insect Reports, WEEDS, TREES AND TURF, 1900 Euclid Ave., Cleveland, Ohio 44115.

Trimmings

Tetanus Shot Lately? Studies show only about one quarter of the population has had a tetanus booster during the past 3 years. This, despite the fact that tetanus organisms are present in the soil at all times. Though most common in farm and garden areas, and where soil has been treated with animal manures, the organisms are also found on city streets, play areas and in the home. Protection amounts to the basic 3 shots with a booster every five years. The emergency horse serum protection is good for only 10 to 14 days, and some people react to this.

Mayflower Trees For 800 Cities. Aero Mayflower Transit Company which headquarters at Indianapolis, Ind., is sponsoring a tree planting program in the 800 cities where the company has agents. Mayflower has picked the English Hawthorn for plantings, the blossom of which was the emblem of the ship, "Mayflower," which brought the Pilgrims to America, and which has long been popularly known as the Mayflower tree. Aero Mayflower President John Sloan Smith reports the company goal is to plant 5000 trees yearly.

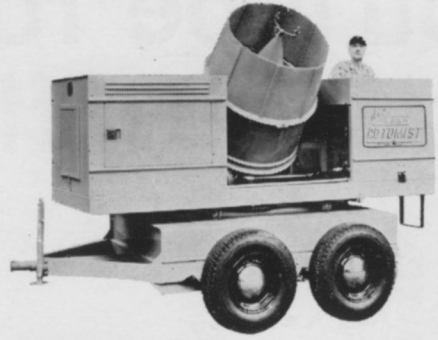
With Tongue In Cheek. We have a question for our good friend Clarke W. Davis, executive-secretary for the National Arborists. Our backyard gardener neighbor feels that with all the new holly plantings in our community there's little need for everyone to buy the male holly. He suggested that everyone buy females for their beauty and that we grow a male in a wheelbarrow which could be transported around the community as needed. Clarke just sent out a helpful news release on such dioecious plants, but he didn't touch on this. How about that Clarke?

S.O.S. To Spraymen. St. Louis spraymen are missing a bet, though it's a bit late in the season for this year. City director of parks, recreation and forestry, Louis Buckowitz, reports his inspectors have found 900 violations involving weeds, trash and rubble. Many of the reports had to do with overgrown lots and areas between walks and curbs. He also reports the heaviest concentration of nasal distress from mold spores and ragweed pollen in years. Unless property owners handle the job, Buckowitz will have his department do the work and place liens against the property. This winter might be a good time for operators in the business to introduce the negligent property owners to the benefits of growth regulating chemicals.

Safety For Sissies? We don't think so and neither does the Smith Welding Equipment Division of Tescom Corp., Minneapolis, Minn. They have just published a comprehensive brochure on using oxygen-fuel gas equipment. It is for anyone who uses welding, cutting and heating techniques and tells how to handle oxygen-fuel gas equipment. Write them for a free copy.

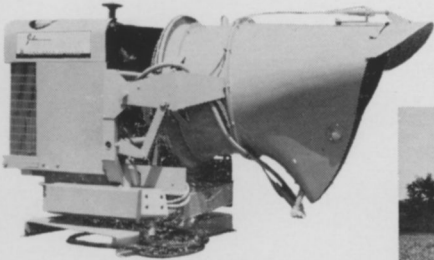


MODEL 100G ROTOMIST® shade tree, sanitation, mosquito control, leaf windrowing. 29" fan delivers 28,000 CFM at 100 mph.



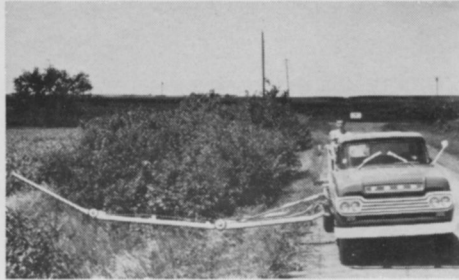
MODEL 303T ROTOMIST biggest performer among mist-type shade tree sprayers. 40" fan, 60,000 CFM air volume.

when it's shrubs or trees,



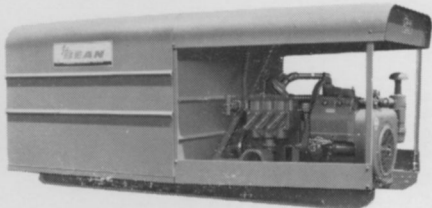
ROTOCAST® specially designed for roadside weed control. Teardrop discharge head provides reach plus close-in coverage.

Contourmatic boom provides maximum flexibility to follow roadside ground or brush line configurations.



TURFKEEPER handles high pressure spraying applications of liquid fertilizer, weed or brush control chemicals. 17-nozzle, 3-section boom, wide flotation tires.

roadside spraying or any other spraying job



SKIDMOUNTED ROYAL heavy-duty high-pressure sprayer models. 25, 35 and 60 GPM @ pressures to 800 PSI. Plus Royalette and Royalier models.

MODEL 1010G SPRAYER designed for golf course operation on a Cushman. 13-nozzle hinged boom, 100-gallon Fiber Glass tank, full-flotation tires.



...select JOHN BEAN

John Bean sprayers offer the widest selection, in air-type or high-pressure models, each one is job-designed for maximum efficiency. Send for free product catalogs, Dutch Elm and mosquito control kits.



POWER SPRAYING EQUIPMENT

JOHN BEAN

DIVISION

Lansing, Mich. - Orlando, Fla. - San Jose, Calif.

you'll be rolling in green stuff



PATENT APPLIED FOR

if you roll with a NU nes sod harvester

With a NU nes Sod Harvester and three men, you can lift, roll, and palletize up to 1,200 square yards of sod per hour. NU nes, developed at Cal-Turf Farms, is designed to handle any length of rolled or slabbed sod. Field grading of sod is done by the tractor operator, who has clear visibility at all times. Hydraulic controls permit quick and easy adjustment for

all conditions. The Sod Harvester travels alongside, never on the turf, during harvesting, and can pick up and roll sod under any moisture condition. Loaded pallets can be spotted for later field removal and be clear of the next harvesting run. If direct truck loading is desired, a conveyor extension is available. The basic power train is a Ford LCG-2110 wheel

tractor. The sod harvester can travel at speeds up to 17 MPH for quick transportation between plots. The efficiency of this all-mechanical operation has been proven on the Cal-Turf Farms, and can solve the problem of harvesting sod quickly and economically for all turf farmers. No more waiting for weather or labor

For more information please contact:

THE JOHN NUNES MECHANICAL HARVESTING CO.
2518 Loquat Ave., Patterson, California, Phone (209) 892-6311



PRINTED IN U.S.A.