

DECEMBER, 1969

WEEDS TREES and TURF



1970 SUPPLIERS' GUIDE & EQUIPMENT DIRECTORY • ARTICLE INDEX

W-M-A

Wilt not, want not

Are you winning the war against winter kill, summer scald and transplant shock? Thousands of growers, nurserymen, grounds maintenance men, landscapers and foresters minimize wilting losses with WILT PRUF. The world's number one anti-desiccant, WILT PRUF was proved 40 to 50 times more effective in stopping excess water-loss than leading substitutes. Test details on request. *Write on your letterhead for 50-page technical manual of applications.*



NURSERY SPECIALTY PRODUCTS, INC.
410 Greenwich Ave., Greenwich, Conn. 06830 / (203) 661-5840

FOR MORE FACTS USE THE POSTAGE FREE CARD

You are invited to use the Reader Service card provided to obtain further information on equipment, materials or supplies appearing in this issue. This card is preaddressed and postage paid.

Your inquiry will be forwarded to the manufacturers in whose products you are interested.

FOR MORE FACTS USE THE POSTAGE FREE CARD

You are invited to use the Reader Service card provided to obtain further information on equipment, materials or supplies appearing in this issue. This card is preaddressed and postage paid.

Your inquiry will be forwarded to the manufacturers in whose products you are interested.

Special for This Issue

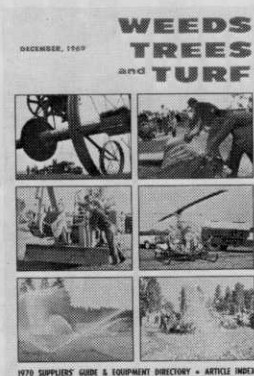
Outlook — '70: What's Happening in Golf	6
<i>Harry C. Eckhoff, facilities development consultant for the National Golf Foundation, reports on the continuing boom in golfing. More than 400 courses are under construction.</i>	
Outlook — '70: Irrigation	8
<i>Next year will be the best yet, says H. M. Clark of Buckner Sprinkler, Co.</i>	
Outlook — '70: Sod Industry	10
<i>Dr. Henry Indyk, executive secretary of the American Sod Producers Association, sees continuing demand for quality sod. Keeping in the business, however, will require keeping abreast of latest developments.</i>	
Outlook — '70: Contract Applying	11
<i>A national organization, professional image, and more education are musts for 1970, says Stan G. Raplee, Jr., of Washington Tree Service, Seattle.</i>	
1970 Suppliers' and Equipment Guide	17
1969 Article Index	45

Regular Features

Editorial: In 1970, Your Windfall or Your Downfall	4
Insect Report	49
Sod Industry Section: How to Cut Sod-Delivery Costs	50
Meeting Dates	53
Industry News: Scotts Professional Turf Seminar	54
New Products	56
Trimnings: Moon dust	62
Classified Advertising	63
Advertisers' Index	63

The Cover

Of course, you save *all* of the issues of WEEDS TREES and TURF magazine! But just in case you're a rare throw-away type — this is the point: Please don't throw away this issue. The manufacturers of practically every product you use are listed in the Suppliers' and Equipment Guide, beginning on page 17. They're listed under the name of the product. They're listed again in alphabetical order and with complete addresses. Want to look up an article in a jiffy? Turn to page 45. The Article Index lists last year's content alphabetically by title and subject matter, with cross references. Chances are good you'll wear this issue completely out by December, 1970 — at the very time we plan to publish the 1971 guide!



WEEDS TREES AND TURF is published monthly by The Harvest Publishing Company. Executive, editorial: 9800 Detroit Ave., Cleveland, Ohio 44102.

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

Subscription Rates: WEEDS TREES AND TURF is mailed free, within the U.S. and possessions and Canada, to qualified persons engaged in the vegetation care industry and related fields in controlled circulation categories. Non-qualified subscriptions in the U.S. are \$7.00 per year; Canada and other countries, \$10.00 per year. Controlled circulation postage paid at Fostoria, Ohio 44830.

© The Harvest Publishing Company, 1969

Member Business Publications Audit



WEEDS TREES and TURF®

Volume 8, No. 12 December, 1969

Gene Ingalsbe
Editor

Alis Anthony
Editorial Assistant

Arthur V. Edwards
Editorial Director

A. J. Michel
Advertising Production

Hugh Chronister
President and Publisher

Dan M. Humphrey
Vice-President, Advertising

Roy Bever
Director of Circulation

ADVERTISING SALES OFFICES

Cleveland, Ohio 44102
9800 Detroit Ave./216+631-6468
William Schmunk, Mgr.

Chicago, Illinois 60601
333 N. Michigan Ave./312+236-9425
Richard Scrymiger, Mgr.

Shawnee Mission (Kansas City),
Kansas 66202
6811 W. 63rd St./913+722-5900
Austin Schnacke, Mgr.

New York, New York 10017
757 Third Ave./212+421-1350
Herbert Laager, Mgr.

Columbus, Ohio 43212
1350 W. Fifth Ave./614+486-9638
Gilman Calkins, Mgr.

Lansing, Michigan 48906
4415 N. Grand River/517+372-5254
Paul Bundschu, Mgr.

Los Angeles, California 90005
The Eschen Company
3142 Wilshire Blvd./213+382-8391
Henry Eschen

San Francisco, California 94104
The Eschen Company
57 Post St./415+781-7440
Al Pierce

In 1970, Your Windfall or Your Downfall?

Permit us to engage in a bit of educated speculation about 1970 and how we think your business will be affected.

Next year will bring a public clamor (that is, as much noise as the "great silent majority" makes about anything) for environment purification and beautification. This is good and bad news.

It's bad news because you can expect more attacks on chemicals. "Cancer-causing . . . poisonous residues . . . water and air pollutants" will be the scare words. Headline hunters will probe deeply into data being collected as the basis for setting new residue tolerances. The deadline for re-registration at the new tolerances is Dec. 31, 1970.

More restrictive legislation can be expected. Licensing of applicators will be more widespread. For the most part, this will be a good thing. It will place chemicals in the hands of applicators who know what they're doing. And it could mean more business for the best in the business.

Caution: One well-publicized mistake by a licensed and professional applicator could conceivably put him out of business and jeopardize the entire industry of his state or region.

Not much easing of the "tight money" situation can be expected. Industries that need vegetation

maintenance, therefore, will be looking for the best — and "guaranteed" — results from money spent. They should turn more to the experts whose business it is to control weeds and insects and to enhance trees and turf.

More municipal contracts are in store for commercial arborists to handle the Dutch elm disease burden.

Homeowner contracts will continue to be the fastest growing segment of turf-management businesses. The homeowners who want immaculate landscaping are also the ones that have neither the time nor the know-how — nor the desire in many cases — to produce the perfection they want.

New wage contracts for many trade unions are almost unbelievable. This means the stiffest competition yet for help. Explore "share the profit" plans, such as commissions or bonuses for work crews that turn up new business.

Despite occasional furors over chemicals, we see the labor problem bringing on greater chemical use along highway, utility, railway and pipeline rights-of-way, on industrial and institutional grounds — anywhere it will reduce hand labor.

But above all, this is the year to be chemically careful.

PATENT APPLIED FOR

roll after roll slab after slab day after day

The Nunes Mechanical Sod Harvester and 3 men can lift, roll or slab and palletize up to 1000 sq. yds. of sod per hour. Field conditions, terrain, soil, sod, are easily and quickly adjusted for, while in operation, with hydraulic controls.

Write for detailed brochure.

Orders now taken for spring delivery.



THE JOHN NUNES MECHANICAL HARVESTING CO. 2006 Loquat Ave., Patterson, California 95363, Phone (209) 892-8776

For More Details Circle (102) on Reply Card



The Mitts & Merrill Brush Chipper . . . most efficient way to reduce branches, limbs, brush

These exclusive features:

- Staggered knife pattern . . . means more cuts per revolution, smoother cutting action, smaller chips of uniform size (reusable as mulch)
- New folding feed chute extends to 60" overall length, eases maneuverability and protects cutting chamber.
- Reversible knives . . . give you twice the service between sharpenings; also self-adjusting with positive lock pin to prevent throw-out

- Heavy duty construction . . . coil spring, torsion type suspension; all tubular steel trailer frame
- Torque converter . . . available on all models

For complete information and list of specifications, contact dealer nearest you or write us direct.

mitts & merrill



There's a Mitts & Merrill Brush Chipper dealer near you — ready to serve.

ARKANSAS, Little Rock
Moody Equipment & Supply Company

CALIFORNIA, Los Angeles
SABCO

CALIFORNIA, Sacramento
Action Equipment Company

COLORADO, Commerce City
Macdonald Equipment Company

CONNECTICUT, Stamford
Muench Company, Inc.

FLORIDA, Jacksonville
Florida Equipment Co. of Jacksonville

ILLINOIS, Rosemont
Illinois FWD Truck & Equipment Company

ILLINOIS, Springfield
Drake-Scruggs Equipment, Inc.

LOUISIANA, Baton Rouge
General Equipment, Inc.

MASSACHUSETTS, Needham Heights
E. J. Bleiler Equipment Co., Inc.

MICHIGAN, Detroit
Contractors Machinery Company

MICHIGAN, Franklin
Cannon Engineering and Equipment Co.

MINNESOTA, Minneapolis
Road Machinery and Supplies of Minneapolis, Inc.

NEBRASKA, Omaha
Omaha Body & Equipment Company

NEW HAMPSHIRE, S. Merrimack
Consolidated Utility Equipment Service, Inc.

NEW JERSEY, Lodi
Dianem Company

NEW YORK, Masapequa Park, Long Island
Equipment Sales & Service Co.

NEW YORK, Albany
R. B. Wing & Son Corporation

NEW YORK, Syracuse
State Equipment Company, Inc.

NORTH CAROLINA, Charlotte
Baker Equipment Engineering Company

OHIO, Massillon, Karl Kuemmerling, Inc.

OKLAHOMA, Enid
Bert Smith Road Machinery Co., Inc.

OREGON, Portland
Cal-Ore Machinery Co.

TENNESSEE, Memphis
Utilities Equipment Company, Inc.

UTAH, Salt Lake City
Truck Equipment Sales Company

VIRGINIA, Richmond
Baker Equipment Engineering Company

WASHINGTON, Seattle
Sahlberg Equipment, Inc.

WISCONSIN, Brookfield
Utility Equipment Company

CANADA, Cooksville, Ontario
A. E. Joslin Machinery & Equipment Limited

Winnipeg, Manitoba
Howard F. Powell (1963) Limited

Montreal, Quebec
Aird Equipment Limited

or contact Mitts & Merrill, Inc., 109 McCoskry St., Dept. WT-85, Saginaw, Michigan 48601

For More Details Circle (110) on Reply Card



Outlook—'70

What's Happening

THE GOLF BOOM continues! More than 11 million golfers from all economic levels of our society play the game regularly and their number is increasing at the rate of about 10% a year.

Despite the tight money situation and high interest rates, developers continue to build new golf courses. Regardless of the type project—be it a housing development, high rise condominiums and apartments, mobile home sites, ski resorts, hunt clubs and equestrian operations or a summer theater venture—somewhere in the master plans will be golfing facilities. More than 430 new golf courses are in some stage of construction throughout the nation today.

Public Growth Phenomenal

For many years, the majority of the nation's golf courses were private country clubs. It was only during the past decade that this picture changed. A study of NGF facility statistics for 1958 and 1968 reveals the following:

Semi-private courses experienced a meteoric rise of 115% during the 10-year period ending Jan. 1, 1969. Municipal operations increased 45% and private clubs 42% during the same decade.

The overall growth for all types was 67%—going from 5,745 courses in 1958 to 9,615 in 1968. Active golfers now total more than 11 million, up from about four million a decade ago. A recent NGF study as to where golfers play gives the following picture: 45% use municipal courses; 35% semi-private and 20% private.

NGF's New Speedy Program

In an effort to help the nation's public golf course operators speed up snail-paced play reported on many courses, NGF initiated a nationwide Speedy Play program in 1968. This program included a series of posters and information sheets.

The posters depicted various violations of etiquette which induce slow play. A precocious little rabbit named Speedy was created to symbolize NGF's attack on slow play. Speedy is pictured as correcting these breaches of etiquette, for example—leaving carts or cars in front of greens and looking too long for a lost ball.

Trends in Operational Policies

Many public golf courses are implementing policies and programs designed to increase golf play, especially for weekdays.

Public golf courses located in heavily industrialized communities have found that assisting various industries in organizing golf leagues and making their golf facilities available for league play on certain days has increased play and income materially. One municipal course in the greater Albany, N.Y. area reported that 40 industrial golf leagues were using its 18-hole facility in 1969.

Some courses are catering to special company and organizational events such as golf outings and picnics and are making their golfing facilities available either on a daily rental basis or individual green fee charge. A semi-private golf course operator in the greater Pittsburgh, Pa., area states his course served 97 days of such golf outings last year.

Likewise numerous private golf associations use public golf courses for their golfing activities. One New York county reported that 17 private golf associations were using its five 18-hole municipal facilities as their home courses.

Semi-private courses frequently have a low-cost annual membership arrangement which requires members to pay a green fee each time they play. A Mid-Atlantic course operator has the following scale of annual membership fees: single person \$50; husband and wife \$75; each additional family member \$15. Holders of such memberships may play 18 holes on weekdays for \$3; weekends and holidays \$4. They may bring guests who may play 18 holes by paying \$1 more than the quoted fee for card-holding members.

Use of powered golf cars has become an accepted practice at all types of golf courses in the United States. A well-managed, well-maintained fleet of golf cars can be one of the golf course's best sources of income. The golf car industry reported on June 30, 1969 (end of fiscal year) that a total of 42,260 golf cars were manufactured during the year—an increase of 15% over the 36,760 units produced in 1968. It is estimated there were 147,000 golf cars in use in 1968.

Courses for Specific Uses

Another trend to help speed up play is to provide different types of facilities which may appeal to golfers of varying playing capabilities. The pattern that is emerging is for 27 or 36 holes of golf—18 regulation length and 9 or 18 regular par-3 or executive type (some par 4 holes). Such variety of facilities will be

By Harry C. Eckhoff
Facility Development Consultant
National Golf Foundation

in GOLF

challenging and interesting to golfers at all levels of capability.

The recent trend to build and operate golf courses for kids only is another movement to ease the pressure on crowded golf courses. Nine such facilities are known to be in operation in the United States today. Six are a part of private club facilities; the other three are municipal.

Bangor, Me., operates—in addition to its 18-hole regulation length layout—a 4-hole, 335-yard course for youngsters ages 6 through 12. Play is free. However, in order to be eligible to use it, youngsters must take at least one golf lesson (also free). Lessons are given every Saturday morning. Juniors up to age 16 may also attend these classes. A special city employee supervises play on the kids' course. Bangor municipal golf course officials report an average play from 25 to 30 a day by youngsters during the golfing season.

Lincoln's Junior Golf Course (Nebraska) is for golfers 15 years of age and under. Here the rules read "Adult golfers may play only during hours when school is in session or after 9:00 p.m."

More than 100 youngsters age 17 and under regularly play the Hazeltine National Junior Golf Course at Chaska (near Minneapolis), Minn. This is a 9-hole, par-3 layout about 820 yards long and built adjacent to the regular 18-hole course.

One very familiar use is the course designed as a recreational focal point for a cluster of subdivision homes. Some recent high rise apartment and condominium projects also include golf facilities for use of the occupants. About 24% of all the new courses opened in the

nation in 1969 were part of real estate ventures.

Similar projects for mobile homes are under development in many areas. One such golf and country club, part of a planned huge mobile home community in Florida, currently has an 18-hole regulation layout and a 9-hole, par-3 under construction. The project provides for 4,000 mobile homes. Purchasers of sites for their mobile homes must agree to a monthly maintenance fee which provides full maintenance for the lawns, grounds and the golf courses.

Many schools, colleges, industries, fraternal organizations, military and Veterans Administration installations throughout the country own and operate golf courses. There are also courses for use of male golfers only.

A northern New Jersey golf course developer opened a new 18-hole facility in June, 1969 (Princeton Hills Golf Academy and Country Club), which is being used solely for golf instruction and golf outings. From mid June to Aug. 30, the facility is used to accommodate five two-week golf schools serving 150 students each. Facilities include motel-type accommodations sufficient to house the student body and faculty. No memberships or daily fee play are contemplated for this operation. When not being used for the golf academy, the entire facility is available on a daily rental basis to industries and other groups wishing to hold golf outings.

Golf courses are springing up these days in many small rural areas of the nation where until a few years ago country clubs of their own existed only in the wishful

thinking of a few residents. Chief assist here has come from long term (up to 40 years), low interest rate loans available to nonprofit associations in rural communities of 5,500 or less population for recreational purposes through the Farmers Home Administration, U.S. Department of Agriculture. Since the program's inception in 1963, FHA has approved 800 such loans through fiscal 1968 for a total of \$88 million. About 600 of these projects included golf courses. Loans often cover 80% of the costs of such ventures.

The major airlines in the United States are using golf as an aid to their business. United Air Lines has a five-year contract with Arnold Palmer and offers commuters between Chicago and New York golf quizzes written by him and awards golf balls as prizes.

Eastern Airlines has its Flying Golfers Club now numbering 20,000 members with Jack Nicklaus as its flying pro, who expects to increase club membership to 50,000.

American Airlines solicits key business accounts to participate in its annual Astrojet Golf Tournament. It also pushes special golf tours to Phoenix—says it will have about 500 of them in 1969 (150% more than last year).

National Airlines sponsored a new \$200,000 open golf tourney this year. Pan American set up a VIP Executive golf school. Julius Boros supervised six week-long instruction sessions at the school located in the Bahamas.

Golf Growth Will Continue

There is every indication that golf course development will continue

to grow in the 1970s. Some 346 new regulation length facilities opened for play in 1969 (NGF's fiscal year ended Sept. 30). Another 381 were in some stage of construction. In addition, NGF files indicate 681 new regulation course prospects and 124 new par-3 prospects for the fiscal year.

Leading states in new golf courses opened for play in 1969 were: Florida (27); Texas (23); Ohio (22); Michigan (17); New York, North Carolina and Pennsylvania (each 15); Illinois (13) and 12 each for California, Georgia, Kentucky, Minnesota and Wisconsin.

Good golf courses are expensive to build. While the cost may vary from \$200,000 to \$2 million, an 18-hole regulation length facility—

completed and ready for play—is seldom accomplished for under \$500,000. Golf courses are also expensive to maintain. Annual maintenance budgets for 18 holes run anywhere from \$50,000 to \$100,000 or more.

There is no indication that there will be any significant decline in interest rates, prices of land or construction costs. If market research results for a specific golf project are favorable, the time to build is NOW.

Golf has become a big business getting bigger each year because it fits snugly with the Leisure Age. It takes about five hours to get around the average golf course. These hours spent getting from the first tee to the 18th green provide creative use of leisure with the out-of-doors and

exercise thrown in.

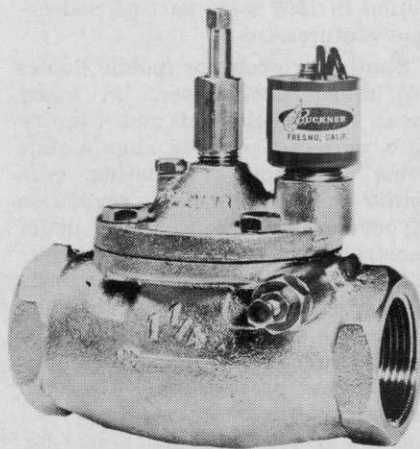
Spending by U. S. golfers for golf products will top \$1 billion in 1969—more than is spent on any other sport. Costs for golf are increasing—initiation fees and dues are rising as are green fees—to help offset mounting labor costs which were up about 8% last year.

Women golfers are increasing rapidly and now number more than two million in the nation. More are taking up the game each month. The number of junior golfers, growing faster than any other division, is just under a million.

The United States, with more than 11 million golfers and about 9,800 golf courses, leads the world in the continuing and apparently limitless expansion of the game of golf.

Outlook—'70

Irrigation



By H. M. CLARK
Buckner Sprinkler Co.
Fresno, Calif.

LOOK TO 1970 for accelerated use of modern irrigation principles for expanding turf acreage in recreation and beautification.

Automatic sprinkler irrigation has grown tremendously and, undoubtedly, will continue to be a major factor in encouraging the expansion and improvement of golf courses and other recreational areas, as well as beautification of cities, highways, and industrial areas.

Many things point to the sharply expanded use of automatic irrigation, including the constant search for lower maintenance costs, more efficient controlled use of water, and accurate night watering.

The landscape architect's first concern is that everything planted in accordance with his design can and will be properly maintained. He is, also, aware of the difficulty and cost of any labor, wasted water, or awkward restrictions on the use of water; and he knows that accurate and regular applications of water are the best assurance of superior land-

scaping results. These factors can apply to a school; small business, such as restaurants, motels; an entire shopping center; or highway and city street plantings.

Many new golf courses already are in the planning stages for 1970. As a result of the proved advantages of automatic systems, these new courses, as well as many existing golf courses with manual irrigation systems, undoubtedly, will get modern automatic irrigation this coming year.

The trend to retire the old manual and waterwagon methods of irrigating city and highway planting that started in a small way with the advent of dependable automatic irrigation equipment a few years ago is now in high gear.

We will see great strides in 1970 in increased production, sales, and installation of automatic irrigation on both new and old landscaping.

With the rapid increase in the demand for automatic sprinkler irrigation equipment, manufacturers

have constantly had their research departments keyed to better automatic valves, a wider range of dependable underground rotary sprinklers with improved quality, larger diameters, and better water distribution patterns. Controllers with features to meet many specialized watering requirements and simplified installation are presently or soon will be on the market.

Another factor required in this fast-growing market was the training and experience necessary to develop knowledgeable automatic sprinkler system installers. This is quite a new field, but, from only a few knowledgeable installers 10 years ago, the number has now grown to a point where there are dependable, experienced contractors readily available throughout the country.

Unless there are drastic changes in the present economy, 1970 will be the largest to date in the sprinkler irrigation industry for turf and general landscaping projects.

DO IT RIGHT THE FIRST TIME!

If breezes threaten to blow your herbicide off target, and maybe onto desirable plant growth...

If rainy weather keeps your crews off the roads, inflicting costly delays on your already tight schedule...

If you are spending too much time in pre-mixing your herbicides, or in refilling your tanks, and you end up with a lot of wasted material and money...

Or, if you've sprayed, and the broad-leaved weeds and grasses still abound...

Then, you should have done it right the first time with Visko-Rhap* invert emulsion herbicides.

Visko-Rhap, in special formulations of 2,4-D, 2,4,5-T, and Silvex, from Hercules.

*TRADEMARK OF HERCULES INCORPORATED



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

BOSTON, MASSACHUSETTS • CHICAGO (OAK BROOK), ILLINOIS • DALLAS, TEXAS • GREENVILLE, MISSISSIPPI
KANSAS CITY (OVERLAND PARK), KANSAS • LOUISIANA, MISSOURI • MINNEAPOLIS, MINNESOTA • MONTGOMERY,
ALABAMA • SCOTTSDALE, ARIZONA • PORTLAND, OREGON • RALEIGH, NORTH CAROLINA • SAN FRANCISCO, CALIFORNIA



Sod Industry

By DR. HENRY W. INDYK*

LOOKING at the future of the sod industry obviously is a more difficult task than reminiscing about its past. A more comfortable and positive position would be to observe rather than predict.

It is evident, from a brief look into the past, that the progress and developments of the sod industry are of rather recent date. One of the most striking developments has been the rapid emergence of sod production as a highly specialized and sophisticated industry from the "pasture stage" of long standing. The primary stimulus for such rapid advancement was the realization that there was a demanding market for a high-quality sod. The industry quickly and successfully responded to satisfy this market.

Striking improvements in sod

quality were achieved through the adoption of intensive turfgrass cultural practices, improved turfgrass varieties of known genetic purity and high-quality seed. The improved quality of sod more than any other single factor stimulated the surging interest in the use of sod.

A continued increase in the use of sod as a means of establishing home lawns and other turfgrass areas can be expected as long as the sod industry continues to provide high-quality sod of improved turfgrass varieties. Statements of this nature should not be misinterpreted to mean that there shall be or there presently exists a large unsatisfied demand. The industry has kept pace with the demand and there is every reason to expect it will continue to do so.

The need for more efficient production will become increasingly critical. In view of the rising costs of all factors of production whereas the price tag on the sod has remained somewhat stable, it will become increasingly difficult to maintain a desirable profit margin. Under this type of "squeeze" that is presently in effect, it becomes highly essential to take a critical look at the total operation to seek out more efficient means of production.

Mechanization will become a prime consideration in achieving more efficient production. Considering not only the high cost of labor but also the difficulties encountered in obtaining satisfactory labor, sod production must become a mechan-

ized industry. Furthermore, there is no immediate hope for improvement in the labor market. The area in many sod operations that is most in need of mechanization is the harvesting and handling. Great and rapid advancements in the harvesting and handling of sod have made equipment available that has substantially reduced not only the costs but also the drudgery of this phase of sod production.

It is interesting to note that many of the developments in sod harvesting have been developed by individuals actively engaged in sod production. The major stimulation was their recognition of the need for achieving a more efficient means of production.

Closely associated with mechanization in the sod production industry is a need for mechanization in sod placement. A breakthrough in this area was observed at the American Sod Producers Summer Field Day conducted last August in New Jersey. Sod placement is plagued by similar labor problems as the production phase. The development of efficient mechanization in sod placement will be a major factor influencing the future interest and demand in the use of sod for the establishment of turfgrass areas.

Many new turfgrass varieties will become available. The industry will no longer be a predominantly single variety industry. It will become increasingly important to become acquainted with new varieties to de-



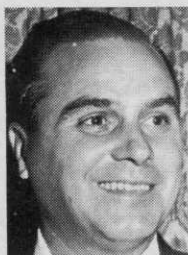
Indyk

* Extension specialist in turfgrass management, Rutgers University. Executive Secretary of the American Sod Producers Association.

termine this adaptation and acceptance within a specific marketing area. Many of the new varieties will be similar in appearance. Positive identification on the basis of visual morphological characteristics will become increasingly difficult. The value and necessity of sod certification programs, as a means of assurance of genetic identity, will become more evident.

In addition to new turfgrass varieties, other technological advances can be expected. The necessity of staying abreast of new developments will become increasingly important. Various means of gaining turfgrass knowledge pertinent to the production of sod are presently available. Turfgrass conferences and field days, publications such as *Weeds Trees and Turf*, and membership in state, regional or the national sod producer organizations provide unlimited opportunity for keep up-to-date.

In order to be a part of a rapidly advancing and progressive sod industry, a sod producer no longer can afford to be content with the accomplishments of the 60s but must look forward and be a part of the changes that will be coming in the 70s.



Outlook—'70

Contract Applying

By STAN G. RAPLEE, JR., Washington Tree Service, Inc.
Past President, Pacific Northwest Pesticide Applicators, Inc.

ON OCT. 14, 15, 16, Seattle had the dubious honor of being host to a three-day hearing on the banning of DDT. While no decision will be made until the end of December, we feel there may be some restrictions forthcoming.

The hearings pointed out two things. First, there is a well-prepared group fighting the use of DDT and all chlorinated hydrocarbons. If your state has not yet gone through this, be prepared. Opponents are organized and have a big lead on us. Under such names as "environmental council," they appeal to the public. The news media, while crying they are not biased, most certainly are. They favor headlines. Secondly, we must do something to improve our public image. Because we are mostly small businesses, and unable to do much by ourselves, I

would say one of the most important things that must be done is to at least lay ground work for a national organization in 1970. Our association, Pacific Northwest Pesticide Applicators, Inc., now includes both Washington and Oregon. The job is a big one, but it's the old story of "united we stand, divided we fall."

1970 should be a good year if we do the right things. Our cancellations indicate tighter money. A lot of people still look at spraying of trees and shrubs as a luxury, but most of them will find they have become accustomed to living without insects. They will be back. In the meantime, there are literally thousands of people who aren't aware our service even exists.

The sellers' market we have had the past few years is slowing down. More attention will have to be giv-



**THE ONE
FOR MANY JOBS...**

L-25, L-40, L-60
Lindig Earth Processing Equipment with capacities from 4 to over 200 cu. yds.



GOLF COURSE SEWAGE SLUDGE GREENHOUSE ATHLETIC FIELD



Rotary Screener with Cleaner Brush

One machine can shred and screen soil for your golf course. Turn sewage sludge cake into a useable fertilizer and soil conditioner. Prepare and maintain growth materials for your greenhouse, conservatory, or gardens. Help build and maintain safe recreation and athletic areas . . . with fields and tracks of shredded and screened materials.

One machine can help you with all these needs when it is a Lindig Shredder/Screeners. Exclusive Lindig hi-speed hammer-mill shredding delivers processed materials of unequalled quality at lowest cost. And only Lindig offers a Screener Attachment that mounts *directly* onto the shredder. It's *one* full mobile unit, requiring no extra power unit or support frame for screening.



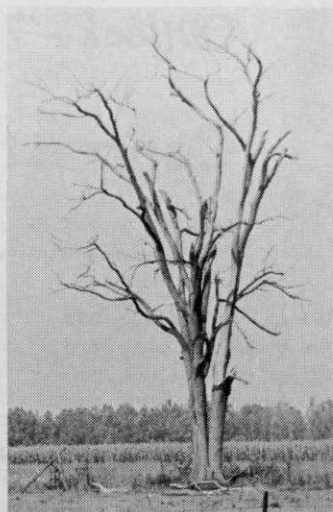
LINDIG

MANUFACTURING CORPORATION
1875 West County Road C • St. Paul, Minnesota 55113
(612) 633 3072, Cable: LINMANCO



Write for Lindig Catalog

For More Details Circle (114) on Reply Card



On the Canadian Side of Lake Erie,

If you're fighting for more budget or seeking more business that's related to Dutch Elm Disease, suggest to the people to whom you're directing your plea that they take a trip across the Canadian side of Lake Erie. The ravages of DED there should easily prove your case. A trip along Highway 3 this summer afforded the traveler a poignant look at the progressive total destruction of elms. Rondeau Park, straight north across Lake Erie from Cleveland, still has a number of healthy elms. But as you travel, east on Highway

3, passing St. Thomas and Tillsonburg, the number of diseased and dying elms increases sharply. The presence of DED is more noticeable in this region because of the high population of elms. The pictures above were made between Tillsonburg and Simcoe. They were taken from one spot by rotating the camera in a full circle. Beginning from the left, the direction is northwest, northeast, southeast, southwest, and west. Elm skeletons diminish gradually as you continue eastward. They've either fallen to the ground or have been removed. A service station attendant at Dunnsville

Contract Appling

en to sales, but resist the temptation to drop prices. It's more important than ever to keep a good set of records, not just for taxes at the end of the year, but also for checking anytime to tell if you are making a profit.

Among other things ahead for us in 1970 is a new concept in education. The Washington Chapter of the Pacific Northwest Pesticide Applicators, Inc., will put on a 10-week course, financed and taught by our own industry.

We shall attempt to teach our employees more of the things we want them to know. In previous years, we have gone through the extension service. This year, because in reality no one knows better than we do which subjects are pertinent, we decided to teach the program ourselves.

If all goes well we hope to expand this into a 20-week apprenticeship course each winter.

One of the best ways to show a good public image is to perform a good service in a professional manner. To do this it is imperative that we send well trained men into the field.

What's ahead for 1970? In summary: a national association, a professional image, more education, and hopefully, of course, to show a profit!

Typical WTT Business Involves Six Operations, Survey Shows

Readers of WEEDS TREES and TURF magazine represent an industry that amasses an estimated \$5.25 billion in sales annually. This projection comes from the more than 30,000 WTT operators whose businesses accrue an average annual volume of \$175,725.

The figures were disclosed in an industry survey conducted this summer. Questionnaires were sent to

2,000 readers, selected at random by computer. A 22.5% response was achieved without follow-up.

The composite business employs 22 persons, indicating a labor force of more than 700,000 in the industry of vegetation management.

Respondents indicated that their businesses are engaged in an average of six different operations. These functions are listed in Table 1. Golf

TABLE 2: TYPES OF OPERATIONS

Question: Which operation listed accounts for the major portion of your business?

	Percent*
Golf Course Superintendent	21.9%
Custom Pesticide Applicator	20.6%
Rights-of-Way Maintenance	16.4%
Arborist	16.4%
Park Maintenance	15.1%
Commercial Turf Maintenance	11.0%
Residential Turf Maintenance	10.5%
Sod Production	6.5%
Other (Miscellaneous)	2.3%
Total	120.7%

*Multiple answers account for the percentage greater than 100.



Dutch Elm Disease Moves Steadily Westward

indicated that town's residents have only memories of elms. Pointing behind the station, he said: "There used to be a whole line of elms along that lake. I don't think there's one in town now. They're working hard on the problem in Ottawa, but I guess they don't have it whipped yet."

The westward march of DED in the United States prompted the Environmental Sciences Council of the Pikes Peak Region to study the problem last year. The group's first report was published in September. The study echoes the apparent frustration at Ottawa — that the history of

Dutch Elm Disease is one of man's inability to prevent its spread. Lacking a cure, the Colorado group advises these delaying tactics: (1) Sanitation practices that will eliminate diseased elmwood where the beetle breeds; (2) a vigorous tree health maintenance program, including, fertilizing and watering; and (3) spraying to coat the bark with a chemical that will kill every visiting beetle and inhibit infection. One state law now in the book in Colorado requires that the bark be removed from any kind of elm wood stored for fireplaces, or any other purpose.

course operation and custom applying account for the greatest portion of business, with other services as indicated by Table 2.

In service-type businesses, the homeowner contract was cited by 37% of the respondents as the fastest growing segment. Twenty-one percent listed governmental contracts from county to federal level. Others listed were: Industrial weed control, 15%; utility rights-of-way, 10%; industrial ornamental horticulture, 7%; and municipal contract, 6%.

Chemicals and fertilizer are widely used and are big annual cost items. Respondents giving figures reported purchasing a total of \$6.4 million in chemicals or an average of \$22,787 per operator. About half of the operators use herbicides and insecticides; 40% use fumigants; 20%, miticides; 14%, soil fumigants; and 9% nematocides.

Operators disclosing fertilizer expenditures reported a total purchase of \$4.7 million or \$17,713 per operator.

Forty-one operators reporting from the random sampling engage in aerial application. Of these, 63.4% use fixed wing; 48.8%, helicopters.

Vegetation management takes a wide range of costly equipment. Op-

erators were asked for the dollar value of their equipment at 1969 prices. Those answering listed total inventory at \$36,192,526, or \$137,093 per operator.

The composite business has this strange array of equipment: 2 aerial bucket lifts, 1 automobile, 1 brush chipper, 1½ golf carts, 1

automatic irrigation system, 1 underground irrigation system not automatic; four mowers of which two are reel and two are any one of five other types, 2 chain saws, 1½ of any one of four different types of sprayers, 1½ tractors, 8 trucks, and any number of 43 other pieces of equipment.

TABLE 1: TYPES OF OPERATIONS

Question: Which of the following operations fit your business?

	Percent*
Pesticide Application	69.2%
Fertilizer Application	63.6%
Tree Care	58.1%
Insect Control	57.0%
Turf Management	53.4%
Tree Planting	52.2%
Landscaping	52.2%
Ornamental Care	51.0%
Brush Control	41.1%
Soil Preparation	34.2%
Irrigation Installation	26.0%
Aquatic Weed Control	25.3%
Sod Installation	24.2%
Sod Production	14.0%
Other (Miscellaneous)	5.7%
Total	627.2%

*Multiple answers account for a percentage greater than 100, indicating that an average of more than six different operations are significant in the typical vegetation management business.

Texas A&M Conference Covers the Question:

What Kind of Weed Control?



Industrial weed control isn't a question of "whether" but of "what kind, how much, and what cost?"

Answering the latter three questions often becomes the responsibility—and the opportunity—of weed control specialists, for industry management isn't always certain of what kind of control is needed.

That's a summation of the Fourth Annual Industrial Weed Control Conference sponsored by Texas A & M University, College Station. About 150 persons representing the various aspects of the weed control industry met to contribute toward the conference's three-fold objective of the kind, degree and cost of weed control.

Before the nuts and bolts sessions got under way, a U.S. Department of Interior official stated his agency's policy on pollution, a watchword for the entire chemical industry during the 70s.

Victor W. Lambou, of the Interior's water pollution section, said the policy is this:

- Restrict pesticide use to situations where there is no suitable alternative;

- Use the safest pesticide at the lowest effective rate;

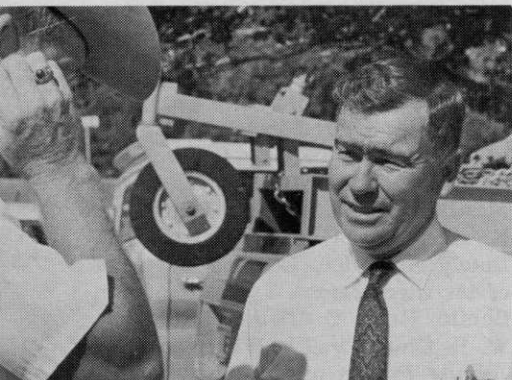
- Phase out the more persistent pesticides, such as DDT, when effective substitutes are developed; and

- Eliminate immediately those persistent pesticides considered most hazardous to fish and wildlife.

Lambou reminded that pesticides used in interstate commerce must be



Field demonstrations of both mechanical and chemical control of weeds and brush wound up the Texas A&M conference. Buddy Wolfe, using a John Bean sprayer and Stull Chemical Company's invert emulsion, manipulated the foam-like solution from fogging to a concentrated stream reaching out more than 100 feet. Cliff Ennis of Engler Manufacturing, demonstrated a slope mower for problem areas.



Dr. Wayne G. McCully of Texas A&M was conference chairman.

registered. He also reviewed the re-registration of chemicals that is now going on.

Chemical manufacturers must prove by Dec. 31, 1970, that their pesticides at certain residue levels meet the safe-use criteria established by the government. Failure to meet the new standards means the product will not be re-registered and in effect be banned from use.

Herbicides that are intended for use in and around water, he said, must be backed up with toxicity data and residue data for irrigated crops, meat, poultry, eggs, fish, shellfish, and potable water.

Some companies, Lambou said, "may find it not economically feasible to get the data, so some labels may be withdrawn."

Panelists covered about every method of weed control, but generally concluded that the most effective and least-cost approach was to establish a continuing program.

An example came from R. L. Robinson of the Texas Electric Service Company. Robinson's program beneath high-line towers and inside sub-station yards is to apply 20 lbs./acre of diuron the first year, 15 lbs. the second year, and 10 lbs. every year thereafter.

An experiment of cutting down to 8 lbs./acre "to really save some money," Robinson said, has meant instead that he must begin again with first-year rates. He set the cost of the continuing program at about \$100 per acre.

Some comparative costs for maintaining a pipeline right-of-way were reported by Howard S. Bell of Shell Pipeline Company of Houston.

Cost of pipeline maintenance as related to weed control, he said, is tied to the access needed, visibility required, and the degree of protection necessary to avoid fire and erosion damage.

Bell presented these per-mile costs for maintaining a 60-ft. right-of-way: \$50 for mowing ground cover; \$200 to \$300 for chemical spraying of ground cover; \$200 to \$300 for aerial control of canopy; \$410 to \$600 for ground spray of canopy and side trim; \$570 for mechanical canopy and side trim.

Aerial application presents both unique disadvantages and advantages, he said. Among disadvantages, he cited:

—aircraft use restrictions because of varying county regulations;

—application rates that must insure three to five times longer control, enabling the spreading of application cost over several years to make it pay out; and

—added danger of damaging adjacent field crops.

Among decided advantages:

—Since timing of application is critical, aerial application can complete the job quickly enough to achieve maximum efficiency.

—Aerial application can bring control to otherwise inaccessible areas.

Boosts for aerial application, Bell added, have been invert emulsions to minimize drift, refined application equipment such as the micro-foil boom, and chemicals with broader control spectrums.

Concurrent panel sessions dealt with weed control methods around plant sites and parks, roads and streets, railroads, water and ditchbanks, and so on.

Methods ranged from spraying and mowing separately, or spraying in conjunction with mowing, searing then reburning with either fuel oil or propane, one-time burning, herbiciding and burning, dredging, to designing facilities at the outset to ease maintenance costs or eliminate the need for weed control entirely.

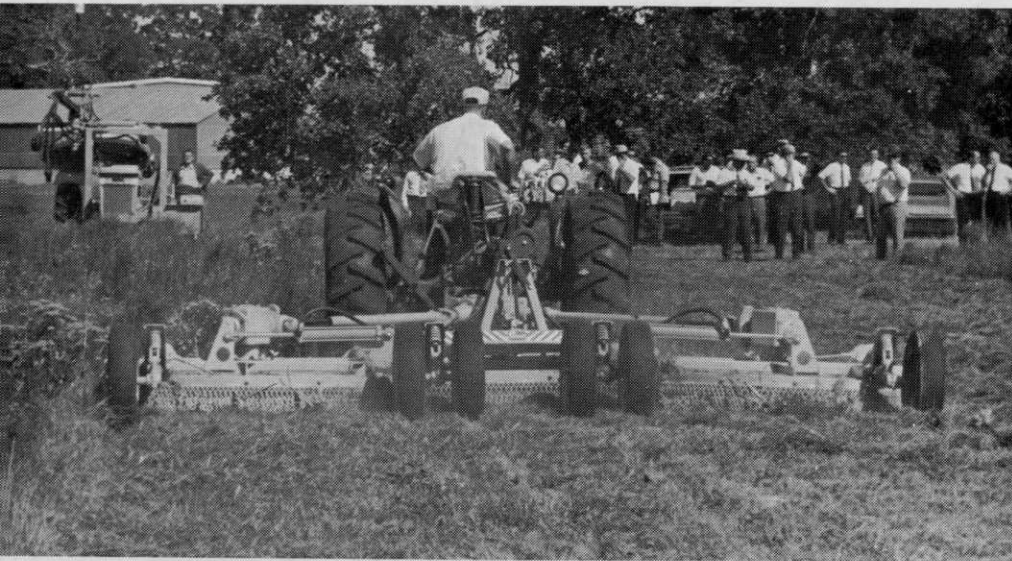
Use of mulches, selective herbicides, or just plain concrete around such obstructions as utility poles, trees, mailboxes, traffic signs, fences, etc., can reduce mowing costs significantly.

Using the right chemical is critical, warned several speakers, or else you can produce a bigger problem. For example, a water-soluble soil sterilant used on a highway right-of-way could bring on roadbed erosion.

"Weed control has become a sci-



The talking point for this 1,000-gal. spray tank is its baffle construction. The two halves are molded separately then sealed together in tongue-and-groove fashion, adding strength, say Red Ewald, Inc., representatives. The spray rig comes with 100 feet of hose. The company is headquartered at Karnes City, Tex.



Grass and some weeds up to three feet high enabled mower companies to demonstrate the maximum effectiveness of their machines. The top picture shows a Servis rotary mower; the bottom, a Caldwell flail mower.

ence of prescription," pointed out Turney Hernandez of duPont. You must define your objective, he explained, in terms of whether you want bare ground, abatement, selective weeding, chemical trimming, or weedy plant control.

If the work is to be done through contract, it is important, said one applicator, that bids are asked for and evaluated on similar specifications.

Concerning vegetation management through mowing, as with chemicals, there is a "best-suited" and "most economical" machine for a particular need, said Cecil Willis of the Houston Parks Department.

"I personally prefer the flail-type mower because of the safety factor," he said. "But regardless of type of mower used or money and equipment available, if you cannot main-

tain what you have created, you have defeated your goal in vegetation management.

"Let quality control and ease of maintenance be your guides."

Safety will become a stronger factor in mower selection in Texas when a liability law goes into effect at the beginning of the year. The law makes the state vulnerable to suit over personal injury or property damage caused by mowers.

Conference sessions closed with a panel of industry representatives reporting on the latest chemicals and equipment in use for vegetation control. Some of these products were demonstrated the final afternoon of the three-day conference.

Dr. Wayne G. McCully of Texas A & M was conference chairman. His program committee consisted of Robert Haas, Garlyn O. Hoffman,

B. J. Ragsdale, E. D. Robison, Allen F. Wiese, and Lambert Wilkes.

The new advisory committee is: Gene Bockholt of Houston, Otha Birkner of Bay City, Tom Mobley of Kilgore, Dave Yazell of Albuquerque, N. M., Henry Steiner of McAllen, J. D. Maples of Houston, R. L. Robinson of Ft. Worth, J. C. Bouvy of Tyler, Clifford E. Cross of McAllen, James D. Grant of San Benito, Huett C. Cloud of Houston, W. R. Churchwell of Plainview and Johnny Pustka of Rosenberg.

Hercules Says Toxaphene Is Not a 'Hard' Pesticide

Toxaphene is a different kind of chlorinated hydrocarbon pesticide, claims its manufacturer, Hercules, Inc., Wilmington, Del.

Recent publicity about the so-called "hard" pesticides has resulted in a rash of inquiries about toxaphene, said a company spokesman. To clear the air, a news release has been distributed to explain how toxaphene is different.

To begin with, toxaphene is made from the gum of southern pine trees; other chlorinated hydrocarbons are petroleum-based, the company stated.

Toxaphene is not persistent, listing 10th in residue occurrence of the ten most widely used pesticides, according to Food and Drug Administration surveys.

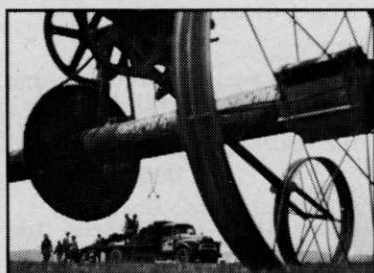
The Hercules release says that USDA tests have shown that toxaphene actually de-magnifies in the food chain. And since it does not magnify biologically, it cannot become toxic through increasing levels of magnification, the statement concludes.

"Most chlorinated hydrocarbons are, to varying degrees, toxic chronically," the company release stated, "however toxaphene is not. It produces, for example, no toxic effects in chronic feeding studies at 25 ppm, compared with 1 ppm for DDT and 0.5 ppm for dieldrin.

"In fact, when toxaphene-organo-phosphate combinations have been used to replace organo-phosphates alone, acute toxicity hazards to the applicator and wildlife have been reduced."

A half-dozen institutions were listed as having done research on toxaphene. The product has been in commercial use for more than 20 years, the company spokesman said.

WEEDS TREES and TURF[®]



Weeds Trees and Turf presents in this section its annual guide to suppliers of vegetation control chemicals and equipment 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 also will 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.

An index to editorial content for 1969 follows the Suppliers' Guide. Subjects and titles, cross-referenced, are listed for all major features, news stories, conference reports, editorial opinion, columns and letters. Contributing editors are listed at the end of the index.

1970 Suppliers' and Equipment Guide

●
ARTICLE
INDEX

HERBICIDES

SOIL STERILANTS**AMIZINE**

Amchem Products, Inc.
W. R. Grace & Co.
Nalco Chemical Co.

AMMONIUM SULFATE

Aceto Chemical Co., Inc.
The J. J. Dill Co.
W. R. Grace & Co.
Phillips Petroleum Co.
Summers Fertilizers, Inc.

ASSULT

West Chemical Products Co.

ATRATOL

Geigy Agricultural Chemicals

ATRAZINE

The J. J. Dill Co.
Geigy Agricultural Chemicals
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Nalco Chemical Co.
O. M. Scott & Sons Co.
Southern Mill Creek Products Co., Inc.
U.S.S. Agri-Chemicals Div.

BORATE COMPOUNDS

American Potash & Chemical Corp.
Chipman Div., Rhodia Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Nalco Chemical Co.
Southern Mill Creek Products Co., Inc.
U.S. Borax & Chemical Corp.

BORATE MIXTURES

Chipman Div., Rhodia 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.
Hub States Chemical & Equip. Corp.

BOROCIL IV

U. S. Borax & Chemical Corp.

BROMACIL (HYVAR X)

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Hub States Chemical & Equip. Corp.
Nalco Chemical Co.
Southern Mill Creek Products Co., Inc.
Stull Chemical Co.

CALCIUM CHLORIDE

The Dow Chemical Co.
Fence Painter Corp.
Pittsburgh Plate Glass Co.

CHLOREA

Chipman Div., Rhodia Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.

DALAPON

Aceto Chemical Co., Inc.
The J. J. Dill Co.
The Dow Chemical Co.
W. R. Grace & Co.
Nalco Chemical Co.
Southern Mill Creek Products Co., Inc.

DIURON

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Nalco Chemical Co.
Southern Mill Creek Products Co., Inc.

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.
Southern Mill Creek Products Co., Inc.

HIBOR

U.S. Borax & Chemical Corp.

MBG

Hooker Chemical Corp.

MONOBOR-CHLORATE

Green Lawn Laboratories, Inc.
Southern Mill Creek Products Co., 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.
Southern Mill Creek Products Co., Inc.

PBA

Nalco Chemical Co.

PRAMITOL

The J. J. Dill Co.
Geigy Agricultural Chemicals
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Nalco Chemical Co.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.

PHYTAR 560

The Ansul Co.

SIMAZINE

The J. J. Dill Co.
Geigy Agricultural Chemicals
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Nalco Chemical Co.
Southern Mill Creek Products Co., Inc.

SODIUM ARSENITE

Allied Chemical Corp.
R. H. Bogle Co.
Chapman Chemical Co.
Chevron Chemical Co., Ortho Div.
Chipman Div., Rhodia, Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Miller Chemical & Fertilizer Corp.
Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Corp.
B. G. Pratt Co.

SODIUM CHLORATE

Chipman Div., Rhodia, Inc.
The J. J. Dill Co.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
Hooker Chemical Co.

Nalco Chemical Co.
Pennwalt Chemicals Corp.

TBA

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

TCA

Allied Chemical Corp.
Amchem Products, Inc.
The J. J. Dill Co.
The Dow Chemical Co.
Fence Painter Corp.
Nalco Chemical Co.
Robeco Chemicals, Inc.

TRITAC

Great Lakes Chemical Div.

TRITAC-D

Great Lakes Chemical Div.

URAB

Allied Chemical Corp.

UREABOR

Green Lawn Laboratories, Inc.
Southern Mill Creek Products Co., Inc.
U.S. Borax & Chemical Corp.

UROX

Allied Chemical Corp.
Green Lawn Laboratories, Inc.
Southern Mill Creek Products Co., Inc.
West Chemical Products, Inc.

VACATE

Diamond Shamrock Chemical Co.

VAPAM

Stauffer Chemical Co.

WEED OUT

Fence Painter Corp.

PREEMERGENCE**ALANAP**

W. R. Grace & Co.
Thompson-Hayward Chemical Co.
Uniroyal Chemical, Div. of Uniroyal, Inc.

ALANAP PLUS

Uniroyal Chemical, Div. of Uniroyal, Inc.

AMIBEN

Amchem Products, Inc.

AZAK

Hercules Incorporated
Summers Fertilizers, Inc.

BALAN

Elanco Products Co.

BANDANE

The J. J. Dill Co.
Green Lawn Laboratories, Inc.
O. M. Scott & Sons Co.
Velsicol Chemical Corp.

BANEFIN

Elanco Products Co.
U.S.S. Agri-Chemicals Div.

BETASAN

The J. J. Dill Co.
W. R. Grace & Co.
O. M. Scott & Sons Co.
Stauffer Chemical Co.
U.S.S. Agri-Chemicals Div.

CALCIUM PROPYL ARSENATE

Boyle-Midway Div.
Green Lawn Laboratories, Inc.
Vineland Chemical Co.

CASORON

W. R. Grace & Co.
Great Lakes Chemical Div.
Thompson-Hayward Chemical Co.

CHLORDANE

Armour Agricultural Chemical Co.
Boyle-Midway Div.
Chipman Div., Rhodia, Inc.
Ross Daniels, Inc.
The J. J. Dill Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hub States Chemical & Equip. Corp.
Niagara Chem. Div., FMC Corp.
S. B. Penick & Co.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.
U.S.S. Agri-Chemicals Div.
Velsicol Chemical Corp.

CIPC

Pittsburgh Plate Glass Co.
Thompson-Hayward Chemical Co.

DACTHAL

Amchem Products Inc.
Armour Agricultural Chemical Co.
Diamond Shamrock Chemical Co.
The J. J. Dill Co.
Fence Painter Corp.
W. R. Grace & Co.
Great Lakes Chemical Div.
Southern Mill Creek Products Co., Inc.
Thompson-Hayward Chemical Co.
U.S.S. Agri-Chemicals Div.

DIPHENAMID

Elanco Products Co.
W. R. Grace & Co.
TUCO Products Co.

DNBP

Aceto Chemical Co. Inc.
The Dow Chemical Co.
W. R. Grace & Co.
Niagara Chemical Div., FMC corp.

DYNAP

Uniroyal Chemical, Div. of Uniroyal, Inc.

DYMID

Elanco Products Co.

ENDOTHAL

The J. J. Dill Co.
W. R. Grace & Co.
Pennwalt Chemicals Corp.

EPTAM

Boyle-Midway Div.
The J. J. Dill Co.
W. R. Grace & Co.
Southern Mill Creek Products Co., Inc.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.
U.S.S. Agri-Chemicals Div.

HERBAN

W. R. Grace & Co.
Hercules Incorporated
Summers Fertilizers, Inc.
Thompson-Hayward Chemical Co.

HERBISAN

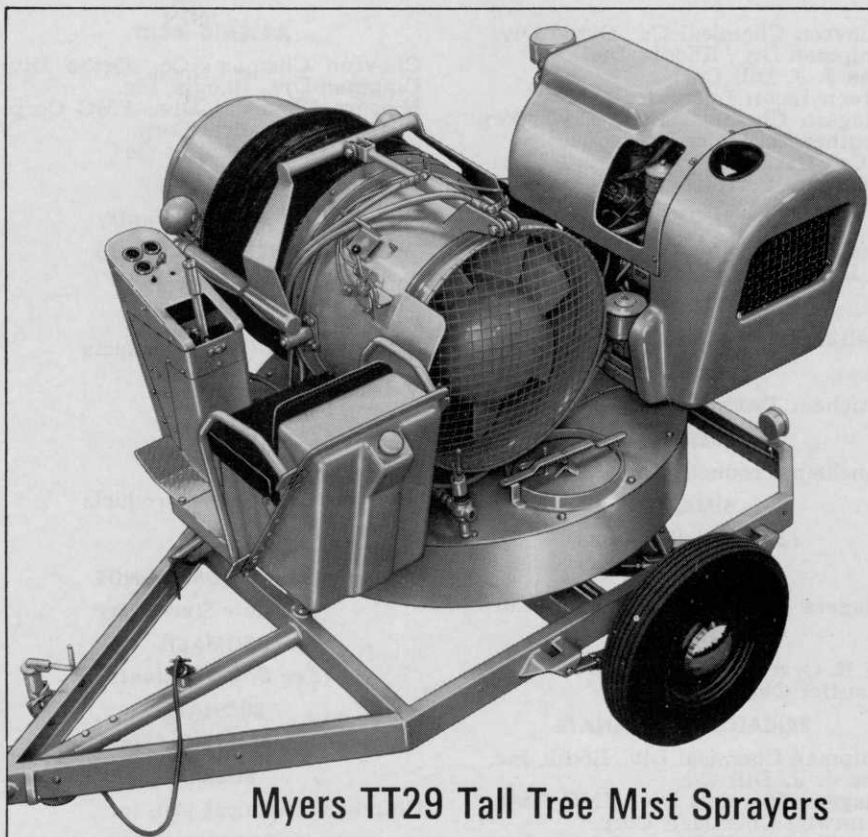
Roberts Chemicals, Inc.

IPC

Aceto Chemical Co. Inc.
Pittsburgh Plate Glass Co.

LEAD ARSENATE

Aceto Chemical Co. Inc.
Allied Chemical Corp.



Myers TT29 Tall Tree Mist Sprayers

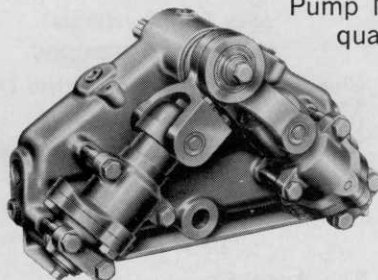
with "Joy Stick" Controls

Especially Effective for: Tall Tree Protection, Mosquito Control, Leaf and Debris Windrowing, Brush Burning and Sanitation Spraying.

New TT29 with "Joy Stick" controls for easy, tireless all day operation. "Joy Stick" turns entire unit full 360° and moves air case up and down for pin point accuracy. Trigger button on stick provides instant on-off of spray material... saves expensive chemicals.

Sprayer is equipped with Myers Du-All Spray Pump No. 6110, 10 gpm - 500 psi. A quality built pump with the highest performance-to-size ratio in the industry. Handles all types of spray material.

For complete information, see your Myers Sprayer Dealer or write:



Myers ...the finest name in power sprayers

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

For More Details Circle (105) on Reply Card

Chevron Chemical Co., Ortho Div.
Chipman Div., Rhodia, Inc.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Southern Mill Creek Products
Co., Inc.
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.

TILLAM

W. R. Grace & Co.
Stauffer Chemical Co.

TRICALCIUM ARSENATE

Chipman Chemical Div., Rodia, Inc.
The J. J. Dill Co.
Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Corp.
The Sherwin-Williams Co.

TRIFLURALIN (TREFLAN)

Elanco Products Co.
W. R. Grace & Co.
Southern Mill Creek Products
Co., Inc.
Weyerhaeuser 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.
U.S.S. Agri-Chemicals Div.

POSTEMERGENCE

AMITROLE-T

Amchem Products, Inc.
American Cyanamid Co.
The J. J. Dill Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Nalco Chemical Co.
Southern Mill Creek Products
Co., Inc.

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.
Southern Mill Creek Products
Co., Inc.

ANSAR 529

The Ansul Co.

ARSENIC ACID

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

ATRAZINE

(See Soil Sterilants)

BANVEL-D (DICAMBA)

Amchem Products, Inc.
The J. J. Dill Co.
O. M. Scott & Sons Co.
Southern Mill Creek Products
Co., Inc.
Velsicol Chemical Corp.

BETASAN

The J. J. Dill Co.
W. R. Grace & Co.
Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.

BORATE COMPOUNDS

(See Soil Sterilants)

BROMACIL

(See Soil Sterilants)

BRONATE

Chipman Chemical Co., Inc.

BUCTRIL

Chipman Chemical Co., Inc.

CACODYLIC ACID

The Ansul Co.
Nalco Chemical Co.
O. M. Scott & Sons Co.
Southern Mill Creek Products
Co., Inc.

CALCIUM ACID METHYL ARSENATE

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

CALCIUM PROPYL ARSENATE

(See Preemergence Herbicides)

CYTROL

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

DACAMINE

Diamond Shamrock Chemical Co.
The J. J. Dill Co.
W. R. Grace & Co.
Great Lakes Chemical Div.

DACONATE

The Diamond Shamrock Co.

DALAPON

(See Soil Sterilants)

DINITRO COMPOUNDS

Chevron Chemical Co., Ortho Div.
The Dow Chemical Co.
W. R. Grace & Co.
Niagara Chemical Div., FMC Corp.

DIURON

(See Soil Sterilants)

DMA (DSMA)

The Ansul Co.
Boyle-Midway Div.
Chapman Chemical Co.
Chevron Chemical Co., Ortho Div.
W. A. Cleary Corp.
The Diamond Shamrock Chemical
Co.
The J. J. Dill Co.
Nalco Chemical Co.

U.S.S. Agri-Chemicals Div.
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.
Hub States Chemical & Equip. Corp.
Southern Mill Creek Products
Co., Inc.

LINURON

(See Preemergence Herbicides)

MCPA

Aceto Chemical Co., Inc.
Amchem Products, Inc.
Chipman Div., Rhodia Inc.
The Dow Chemical Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Nalco Chemical Co.

MCPP

Aceto Chemical Co., Inc.
Amchem Products, Inc.
Chipman Div., Rhodia Inc.
W. A. Cleary Corp.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Nor-Am Agric. Products Co.
Shepard Chemical Industries, Inc.
U.S.S. Agri-Chemicals Div.
Vineland Chemical Co.

MILOGARD (PROPAGINE)

The J. J. Dill Co.
Geigy Agricultural Chemicals

MONURON

(See Soil Sterilants)

MSMA

Allied Chemical Corp.
The Ansul Co.
Chapman Chemical Co.
W. A. Cleary Corp.
Diamond Shamrock Chemical Co.
Great Lakes Chemical Div.
Nalco Chemical Co.
Southern Mill Creek Products
Co., Inc.
Vineland Chemical Co.

PARAQUAT

Chevron Chemical Co., Ortho Div.

PENTACHLOROPHENOL

The J. J. Dill Co.
The Dow Chemical Co.
W. R. Grace & Co.
Hub States Chemical & Equip. Corp.
Nalco Chemical Co.
Reichhold Chemicals, Inc.
Southern Mill Creek Products
Co., Inc.
Thompson-Hayward Chemical Co.
Vulcan Materials Co.

PHENYLMERCURIC ACETATE (PMA)

Chemley Products
W. A. Cleary Corp.
The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Southern Mill Creek Products
Co., Inc.
U.S.S. Agri-Chemicals Div.
Vineland Chemical Co.

PRAMITOL*(See Soil Sterilants)***PROPAZINE**

The J. J. Dill Co.
W. R. Grace & Co.

PYRAMIN 80-W*(See Preemergence Herbicides)***SILVEX**

Amchem Products Inc.
Boyle-Midway Div.
Chipman Div., Rhodia, Inc.
Diamond Shamrock Chemicals Co.
The J. J. Dill Co.
The Dow Chemical Co.
Green Lawn Laboratories, Inc.
Hercules Incorporated
Nalco Chemical Co.
B. G. Pratt Co.
Southern Mill Creek Products
Co., Inc.

SODIUM ARSENITE*(See Soil Sterilants)***SODIUM CACODYLATE**

The Ansul Co.
Nalco Chemical Co.

TCA*(See Soil Sterilants)***THISTROL**

Amchem Products, Inc.

TILLAM*(See Preemergence Herbicides)***TORDON**

The Dow Chemical Co.
W. R. Grace & Co.

TRYSBEN (TBA)

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

2,4-D

Amchem Products, Inc.
Boyle-Midway Div.
Chevron Chemical Co., Ortho Div.
Chipman Div., Rhodia, Inc.
Diamond Shamrock Chemical Co.
The J. J. Dill Co.
The Dow Chemical Co.
Fence Painter Corp.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hercules Incorporated
Hub States Chemical & Equip. Co.
Monsanto Co.
Nalco Chemical Co.
Pennwalt Chemical Corp.
B. G. Pratt Co.
O. M. Scott & Sons Co.
Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.
Stull Chemical Co.
Summers Fertilizers, Inc.
Thompson-Hayward Chemical Co.
U.S.S. Agri-Chemicals Div.
West Chemical Products Inc.

2,4,5-T

Amchem Products, Inc.
Central Solvents & Chemicals Co.
Chevron Chemical Co., Ortho Div.
Chipman Div., Rhodia Inc.
Diamond Shamrock Chemical Co.
The J. J. Dill Co.
The Dow Chemical Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hercules Incorporated
Hub States Chemical & Equip. Co.
Monsanto Co.
Nalco Chemical Co.
B. G. Pratt Co.
Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.
Stull Chemical Co.
Thompson-Hayward Chemical Co.
U.S.S. Agri-Chemicals Div.

UROX*(See Soil Sterilants)***AQUATIC HERBICIDES****AMITROLE**

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

AMITROLE-T*(See Preemergence Herbicides)***AMMONIUM SULFAMATE***(See Preemergence Herbicides)***AQUALIN**

Shell Chemical Co.

AQUATHOL

The J. J. Dill Co.
W. R. Grace & Co.
Hub States Chemical & Equip. Corp.
Pennwalt Chemicals Corp.
Southern Mill Creek Products
Co., Inc.
U.S.S. Agri-Chemicals Div.

AQUATHOL PLUS

The J. J. Dill Co.
W. R. Grace & Co.
Pennwalt Chemicals Corp.
U.S.S. Agri. Chemicals Div.

CALCIUM HYPOCHLORITE

Pennwalt 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.
Niagara Chemical Div., FMC Corp.
PHELPS Dodge Refining Corp.
Robeco Chemicals, Inc.
Southern Mill Creek Products
Co., Inc.
Vineland Laboratories, Inc.

CUTRINE

Marine Biochemists, Inc.
Southern Mill Creek Products
Co., Inc.

DACAMINE 4D

Diamond Shamrock Chemical Co.
The J. J. Dill Co.

Great Lakes Chemical Div.
Southern Mill Creek Products
Co., Inc.

DALAPON*(See Soil Sterilants)***DICHLONE**

Aceto Chemical Co. Inc.
Allied Chemical Corp.
The J. J. Dill Co.
Naugatuck Chemical Div.
Niagara Chemical Div., FMC Corp.

DIQUAT

Chevron Chemical Co., Ortho Div.
The J. J. Dill Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hub States Chemical & Equip. Corp.
Southern Mill Creek Products
Co., Inc.

DIURON

The J. J. Dill Co.
Southern Mill Creek Products
Co., Inc.

ERBON

The Dow Chemical Co.

FENAC

Amchem Products, Inc.

HYDROTHOL

The J. J. Dill Co.
Pennwalt Chemicals Corp.

MCPA*(See Postemergence Herbicides)***ORTHODICHLOROBENZENE**

Pittsburgh Plate Glass Co.
Robeco Chemicals, Inc.

POTASSIUM ENDOTHAL

The J. J. Dill Co.
Pennwalt 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 Div., Rhodia, Inc.
Southern Mill Creek Products
Co., Inc.
Thompson-Hayward Chemical Co.

COMMERCIAL FERTILIZERS**NITROGEN SOURCES**

—Fast Release—

AMMONIA, ANHYDROUS

Agrico Chemical Co.
Allied Chemical Corp.
American Cyanamid Co.
Best Fertilizers Co.
Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.

Columbia Nitrogen Corp.
The Dow Chemical Co.
E. I. duPont de Nemours & Co., Inc.
W. R. Grace & Co.
Hercules Incorporated
Monsanto Co.
Phillips Petroleum Co.
Pittsburgh Plate Glass Co.
Sohio Chemical Co.
Tennessee Corp.
U.S.S. Agri-Chemicals Div.
Vistron Corp.
Vulcan Materials Co.

AMMONIUM NITRATE

Agrico Chemical Co.
Allied Chemical Corp.
American Cyanamid Co.
Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
Hercules Incorporated
International Minerals & Chem. Corp.
Phillips Petroleum Co.
Sohio Chemical Co.
Southern Mill Creek Products Co., Inc.
Summers Fertilizers, Inc.
U.S.S. Agri-Chemicals Div.
Vistron Corp.

AMMONIUM PHOSPHATE

Agrico Chemical Co.
Allied Chemical Corp.
American Cyanamid Co.
Best Fertilizers Co.
Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
Fertilla Co.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
Monsanto Co.
Phillips Petroleum Co.
Stauffer Chemical Co.
Summers Fertilizers, Inc.
Tennessee Corp.

AMMONIUM SULFATE

Agrico Chemical Co.
Allied Chemical Corp.
American Cyanamid Co.
Best Fertilizers Co.
Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
The Dow Chemical Co.
Fertilla Co.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
Phillips Petroleum Co.
Rohm and Haas Co.
Summers Fertilizers, Inc.
U.S.S. Agri-Chemicals Div.
Vistron Corp.

AQUA AMMONIA

Allied Chemical Corp.
American Cyanamid Co.
Best Fertilizers Co.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
The Dow Chemical Co.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
Hercules Incorporated
Pennwalt Chemicals Corp.
Sohio Chemical Co.
Vistron Corp.

CALCIUM NITRATE

Best Fertilizers Co.
Green Lawn Laboratories, Inc.
Southern Mill Creek Products Co., Inc.
U.S.S. Agri-Chemicals Div.

SODIUM NITRATE

Southern Mill Creek Products Co., Inc.
Summers Fertilizers, Inc.
U.S.S. Agri-Chemicals Div.

UREA

Agrico Chemical Co.
Allied Chemical Corp.
American Cyanamid Co.
Best Fertilizers Co.
Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
E. I. duPont de Nemours & Co., Inc.
Fertilla Co.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
Hercules Incorporated
International Minerals & Chem. Corp.
Phillips Petroleum Co.
Sohio Chemical Co.
Southern Mill Creek Products Co., Inc.
Summers Fertilizers, Inc.
U.S.S. Agri-Chemicals Div.
Vistron Corp.

—Slow Release—

UREA-FORMALDEHYDE

Agrico Chemical Co.
Best Fertilizers Co.
Borden Chem., Smith-Douglass Div.
E. I. duPont de Nemours & Co., Inc.
Green Lawn Laboratories, Inc.
Hercules Incorporated
International Minerals & Chem. Corp.
S & D Products Inc.
Southern Mill Creek Products Co., Inc.
Summers Fertilizers, Inc.

OSMOCOTE, 18-6-12

18-6-12

Sierra Chemical Co.

—Organic Nitrogen—

BONE MEAL, STEAMED

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

COTTONSEED MEAL

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

MANURE, CATTLE

Fertilla Co.

MILORGANITE

Sewerage Commission of Milwaukee

NITRO-GANO

Wilbur-Ellis Co.

PROCESSED SLUDGE

Agrico Chemical Co.
Southern Mill Creek Products Co., Inc.
Summers Fertilizers, Inc.
U.S.S. Agri-Chemicals Div.

POTASH SOURCES

POTASSIUM CARBONATE

Hooker Chemical Corp.

POTASSIUM CHLORIDE

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

POTASSIUM NITRATE

Agrico Chemical Co.
Borden Chem., Smith-Douglass Div.
Green Lawn Laboratories, Inc.
Southern Mill Creek Products Co., Inc.
Southwest Potash Div.
Summers Fertilizers, Inc.

POTASSIUM SULFATE

American Potash & Chemical Corp.
Best Fertilizers Co.
Borden Chem., Smith-Douglass Div.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
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.
Borden Chem., Smith-Douglass Div.
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.
Southern Mill Creek Products Co., Inc.
Summers Fertilizers, Inc.
Wilbur-Ellis Co.

LIQUID

Agrico Chemical Co.
Best Fertilizers Co.
Chevron Chemical Co. Ortho Div.
Cloro-Spray Corp.
Columbia Nitrogen Corp.
Green Lawn Laboratories, Inc.
Growers Chemical Corp.
Hydroponic Chemical Co., Inc.
Kem Mfg. Co.
Phillips Petroleum Co.
Southern Mill Creek Products Co., Inc.
Wilbur-Ellis Co.

PLASTIC COATED

Borden Chem., Smith-Douglass Div.

PHOSPHATE SOURCES

CONCENTRATED

Agrico Chemical Co.
American Cyanamid Co.
Best Fertilizer Co.

Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
Green Lawn Laboratories, Inc.
International Minerals &
Chem. Corp.
Phillips Petroleum Co.
Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.
Tennessee Corp.

ROCK PHOSPHATES

Agrico Chemical Co.
American Cyanamid Co.
Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
W. R. Grace & Co.
International Minerals &
Chem. Corp.
Stauffer Chemical Co.
Tennessee Corp.

—Ammonium Phosphates—

AMMONIUM PHOSPHATE-NITRATE

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

AMMONIUM PHOSPHATE-SULFATE

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

AMMONIUM PHOSPHATE-UREA

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

DIAMMONIUM PHOSPHATE

Agrico Chemical Co.
Allied Chemical Corp.
American Cyanamid Co.
Best Fertilizers Co.
Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
Columbia Nitrogen Corp.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
Hooker Chemical Co.
International Minerals &
Chem. Co.
Monsanto Co.
Phillips Petroleum Co.
Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.
Summers Fertilizers, Inc.
Tennessee Corp.

MONOAMMONIUM PHOSPHATE

Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
Stauffer Chemical Co.
Summers Fertilizers, Inc.
Tennessee Corp.

PHOSPHORIC ACID

Agrico Chemical Co.
Allied Chemical Corp.
Best Fertilizers Co.
Borden Chem., Smith-Douglass Div.
Columbia Nitrogen Corp.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
International Minerals &
Chem. Corp.
Phillips Petroleum Co.
Stauffer Chemical Co.

Tennessee Corp.
U.S. Industrial Chemicals Co.

pH CONTROLLERS

ALUMINUM SULFATE

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

AMMONIUM POLYSULFIDE

Allied Chemical Corp.

ANTHIO

Allied Chemical Corp.

CALCITE, BURNED

Engelhard Minerals & Chemicals Co.

CALCITE, HYDRATED

Engelhard Minerals & Chemicals Co.

CALCIUM CARBONATE

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

DOLOMITE

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

GYP SUM (CALCIUM SULFATE)

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

LIME, CONCENTRATE

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

LIMESTONE

Engelhard Minerals & Chemicals Co.
Summers Fertilizers, Inc.
U.S.S. Agri-Chemicals Div.

LIQUID FISH

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

SULFUR

Best Fertilizers Co.
Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
Southern Mill Creek Products
Co., Inc.
Wilbur-Ellis Co.

SOIL CONDITIONERS

BARK

Best Fertilizers Co.
Weyerhaeuser Co.

CALCINED CLAY

Engelhard Minerals & Chemicals Co.
Floridin Co.
Oil-Dri Corp. of America
Southern Mill Creek Products
Co., Inc.
Waverly Petroleum Products Co.
Wyandotte Chemicals Corp.

CANE

Fertilla Co.

CELATOM

Eagle-Picher Industries, Inc.

CORN COBS

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

DIATOMITE

Eagle-Picher Industries, Inc.
JohnsManville Corp.

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

WOOD CHIPS

Fitchburg Engineering Corp.

MULCHES

CALCINED ABSORBENT CLAY

(See Soil Conditioners)

EROSION CONTROL MULCHES

American Excelsior Corp.
Conwed Corporation
Engelhard Minerals & Chemicals Co.
The Larutan Corp.
Weyerhaeuser Co.

LANDSCAPE MULCHES

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

SEEDING MULCHES

American Excelsior Corp.
Conwed Corporation
International Paper Co.
Troy Blanket Mills

PERLITE

(See Soil Conditioners)

VERMICULITE

(See Soil Conditioners)

MISCELLANEOUS COMPOUNDS

ANTICAKING CONDITIONERS

Armour Industrial Chemicals Co.
Eagle-Picher Industries, Inc.
Engelhard Minerals & Chemicals Co.
The Larutan Corp.
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 & PLANT MATERIALS

Asgrow Seed Co.
Chanderlin Seed Co.
Cole Nursery Co.
Elanco Co.
Ferry Morse Seed Co.
Green Lawn Laboratories, Inc.
Jacklin Seed Co.
Maple Leaf Mills, Ltd.
McGovern Sod Farms
Merion Bluegrass Assoc.
Mock Seed Co.
Nunes Turfgrass Nurseries
Northrup, King & Co.
Oregon Chewings Fescue &
Creeping Red Fescue Comm.
Oregon Highland Bentgrass Comm.
Oregon Fine Leaf Fescue
Commission
Oregon Orchardgrass Seed
Producers Comm.
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

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

TREE KILLERS

The Ansul Co. (Silvisar 510, 550)
Chipman Div., Rhodia Inc.
The J. J. Dill Co.
The Dow Chemical Co.
Fence Painter Corp.
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.
Floridin Co.
Green Lawn Laboratories, Inc.

KAOLINS (CLAY)

Engelhard Minerals & Chemicals Co.

TALC

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

VERMICULITE

(See Soil Conditioners)

TRACE ELEMENTS

BORAX

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

BORO-SPRAY

American Potash & Chemical Corp.

COPPER CHELATE

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

COPPER SULFATE

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

GRANULAR ORGANIC IRON COMPLEX

Eagle-Picher Industries, Inc.

IRON CHELATE

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

IRON, MICRONIZED

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

IRON SULFATE

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

MAGNESIUM CARBONATE

Borden Chem., Smith-Douglass Div.

MAGNESIUM-SULFATE

The J. J. Dill Co.

MANGANESE CHELATE

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

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

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

MULTI-KEMIN

Niagara Chemical Div., FMC Corp.

SOLUBOR

U.S. Borax & Chemical Corp.

ZINC CHELATE

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

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.
Retzloff Chemical Co.
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.
Retzloff Chemical Co.
Rohm and Haas Co.
Stepan Chemical Co.
Stull 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 Div., Rhodia Inc.
W. A. Cleary Corp.
Colloidal Products Corp.
The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Emery Industries, Inc.
General Aniline & Film Corp.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
B. G. Pratt Co.
Retzloff Chemical Co.
Rohm and Haas Co.
Southern Mill Creek Products
Co., Inc.
Stepan Chemical Co.
Stull 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.
Chipman Div., Rhodia Inc.
W. A. Cleary Corp.
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.
The Larutan Corp.
Niagara Chemical Div., FMC Corp.
Retzloff Chemical Co.
Roberts Chemicals, Inc.
Rohm and Haas Co.
Southern Mill Creek Products
Co., Inc.
Stepan Chemical Co.
Thompson-Hayward Chemical Co.
Thuron Industries, Inc.
Vineland Chemical Co.
"Water In," Inc.
Weyerhaeuser Co.

SPRAY THICKENING AGENTS

ATTAGELS

Englehard Minerals & Chemicals Co.

DACAGIN

Diamond Shamrock Chemical 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.

CYCOCEL

American Cyanamid Co.

GIBREL

Metasol Products, Merck & Co.

MALEIC HYDRAZIDE

Aceto Chemical Co. Inc.
The Ansul Co.
W. R. Grace & Co.
Nauugatuck Chemical Div.
Uniroyal Chemical, Div. of Uniroyal,
Inc.

PHOSFON

Mobil Chemical Co.

RETARD

The Ansul Co.

the GREAT one! **Highland Colonial Bent**

Just possibly, Highland Colonial Bent-grass is the greatest value in grass seed today!

A highly attractive blue-green, cool-season grass, it is one of the most economical of the fine-bladed varieties and has every attribute required for a truly luxurious turf.

Highland Bent may be seeded alone or in a mixture... is adaptable to many soils and climates... is durable under heavy foot and light vehicle traffic and thrives on close-cutting to 1/4 inch.

With some 8 million seeds per pound, the potential number of plants is great. Highland is also popular for overseeding in Southern regions.

If you would like complete data on cultural practices, seeding rates, fertilization, etc., please write to:

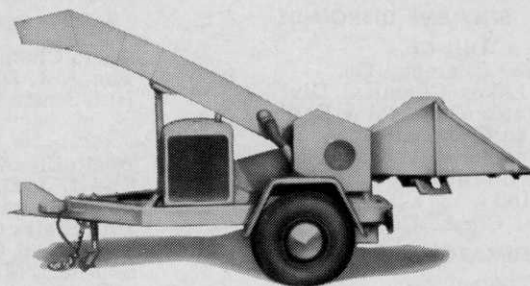


Oregon Highland Colonial Bentgrass Commission

Suite one / Rivergrove Building
2111 Front Street N.E. / Salem, Oregon 97303

For More Details Circle (106) on Reply Card

**We never tire of hearing
our customers brag....**



... about how much better and more economical
our chippers are than anything else they've used.

Of course, we design and build them that way. The heart is the 300-pound flywheel and high-speed, tapered blade which chew smoothly, inexorably, through the work material with the safe flexibility that only Asplundh's special engineering features can provide.

Don't take our word. Ask for the specifications brochure "Asplundh Chippers to Fit Your Need" and for a free, no-obligation demonstration. You'll see why an Asplundh Chipper is best for you... and as good as you'd expect from the world's largest tree expert company.

ASPLUNDH CHIPPER COMPANY

HAMILTON STREET, CHALFONT, PENNA. 18914

A division of the Asplundh Tree Expert Co.

THE CHIPPER WITH THE TRADEMARK OF QUALITY



For More Details Circle (107) on Reply Card

STREPTOMYCIN

Metasol Products, Merck & Co.

**SOIL FUMIGANTS
& NEMATOCIDES****BEDRENCH**

Niagara Chemical Div., FMC Corp.

BROMIDE

Great Lakes Chemical Div.

BROMODINE

C & R Products Development, Inc.

BROM-O-GAS

Great Lakes Chemical Div.

CHLOROPICRIN

The J. J. Dill Co.
The Dow Chemical Co.
Great Lakes Chemical Div.
Michigan Chemical Co.
Southern Mill Creek Products Co., Inc.

DASANIT

Chemagro Corp.
Southern Mill Creek Products Co., Inc.

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.
Southern Mill Creek Products Co., Inc.
U.S.S. Agri-Chemicals Div.

ETHYLENE DIBROMIDE

The J. J. Dill Co.
The Dow Chemical Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Michigan Chemical Co.
Niagara Chemical Div., FMC Corp.
Southern Mill Creek Products Co., Inc.
Velsicol Chem. Corp.

FUMAZONE (NEMAGON)

The J. J. Dill Co.
The Dow Chemical Co.
Southern Mill Creek Products Co., Inc.

METHYL BROMIDE

The J. J. Dill Co.
The Dow Chemical Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Michigan Chemical Co.
Niagara Chemical Div., FMC Corp.
Southern Mill Creek Products Co., Inc.
U.S.S. Agri-Chemicals Div.
Velsicol Chemical Corp.
Vulcan Materials Co.

MYLONE

Union Carbide Corp.

NEMAGON

Shell Chemical Co., Ag Chem. Div.
U.S.S. Agri-Chemicals Div.

SOILBROM-85

Great Lakes Chemical Div.

SAROLEX

Armour Agricultural Chemical Co.
Geigy Agricultural Chemicals
Southern Mill Creek Products Co., Inc.
U.S.S. Agri-Chemicals Div.

TELONE

The Dow Chemical Co.

TERR-O-GAS

Great Lakes Chemical Div.

VAPAM (VPM)

The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
W. R. Grace & Co.
Stauffer Chemical Co.
U.S.S. Agri-Chemicals Div.

VORLEX

W. R. Grace & Co.
Great Lakes Chemical Div.
Nor-Am Agric. Products, Inc.

VPM

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

MITICIDES**ARAMITE**

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

BIDRIN

W. R. Grace & Co.
B. G. Pratt Co.
Shell Chemical Co.,
Ag. Chem. Div.

BINAPACRYL

Niagara Chemical Div., FMC Corp.

CHLOROENZILATE

Aceto Chemical Co., Inc.
The J. J. Dill Co.
Hub States Chemical & Equip. Corp.

CYGON

Aceto Chemical Co., Inc.
The J. J. Dill Co.
W. R. Grace & Co.
Hub States Chemical & Equip. Corp.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.
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.
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Southern Mill Creek Products Co., Inc.
Stauffer Chemical Co.

DIMITE

The Sherwin-Williams Co.

ETHION

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

B. G. Pratt Co.
U.S.S. Agri-Chemicals Div.

GENITE

Allied Chemical Corp.
W. R. Grace & Co.

KARATHANE

(See Fungicides)

KELTHANE

The J. J. Dill Co.
W. R. Grace & Co.
Hub States Chemical & Equip. Corp.
Rohm and Haas Co.

MORESTAN

Chemagro Corp.
The J. J. Dill Co.

MOROCIDE (BINAPACRYL)

W. R. Grace & Co.
Niagara Chemical Div., FMC Corp.

PENTAC

Great Lakes Chemical Div.
Hooker Chemical Corp.

SYSTOX

Chemagro Corp.
The J. J. Dill Co.
Niagara Chemical Div., FMC Corp.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.

TEDION

The J. J. Dill Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Niagara Chemical Div., FMC Corp.
Thompson-Hayward Chemical Co.

TOXAPHENE

Chipman Chemical Co., Inc.
W. R. Grace & Co.
Niagara Chemical Div., FMC Corp.
Thompson-Hayward Chemical Co.

TRITHION

The J. J. Dill Co.
W. R. Grace & Co.
Stauffer Chemical Co.

INSECTICIDES**ABATE**

American Cyanamid Co.
The J. J. Dill Co.
W. R. Grace & Co.
Hub States Chemical & Equip. Corp.

AKTON

Shell Chemical Co., Agr. Chem. Div.
Southern Mill Creek Products Co., Inc.

ALDRIN

Chipman Div., Rhodia, Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Niagara Chemical Div., FMC Corp.
Shell Chemical Co.,
Ag. Chem. Div.
Southern Mill Creek Products Co., Inc.
Summers Fertilizers, Inc.
Thompson-Hayward Chemical Co.

ARSENICAL COMPOUNDS

Allied Chemical Corp.
Chipman Div., Rhodia, Inc.
Green Lawn Laboratories, Inc.
The J. J. Dill Co.

Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Corp.
The Sherwin-Williams Co.
Southern Mill Creek Products
Co., Inc.

ASPON

Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.

AZINPHOSMETHYL (GUTHION*)

Chemagro Corp.
The J. J. Dill Co.
Niagara Chemical Div., FMC Corp.
Southern Mill Creek Products
Co., Inc.

BACILLUS THURINGIENSIS

Bioferm Corp.
International Minerals & Chemical
Corp.
Pennsalt Chemical Corp.

BAYGON (BAYER (39007)

Chemagro Corp.
The J. J. Dill Co.
W. R. Grace & Co.
Hub States Chemical & Equip. Corp.
Southern Mill Creek Products
Co., Inc.
Thompson-Hayward Chemical Co.
West Chemical Products, Inc.

BAYTEX

Chemagro Corp.
The J. J. Dill Co.
W. R. Grace & Co.
Southern Mill Creek Products
Co., Inc.

BETANAPHTHOL

The Sherwin-Williams Co.
Allied Chemical Corp.
Chipman Div., Rhodia, Inc.
Diamond Shamrock Co.
The J. J. Dill Co.

BHC

W. R. Grace & Co.
Hooker Chemical Corp.
Hub States Chemical & Equip. Corp.
Niagara Chemical Div., FMC Corp.
Southern Mill Creek Products
Co., Inc.

BIDRIN

(See Miticides)

CHLORDANE

(See Preemergence Herbicides)

COPPER ARSENATE, BASIC

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

CRYOLITE

Aceto Chemical Co., Inc.
Pennsalt Chemicals Corp.

CYGON (DIMETHOATE)

Aceto Chemical Co., Inc.
American Cyanamid Co.
The J. J. Dill Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
B. G. Pratt Co.
Southern Mill Creek Products
Co., Inc.
Thompson-Hayward Chemical Co.

DDD (TDE)

Allied Chemical Corp.
W. R. Grace & Co.
Niagara Chemical Div., FMC Corp.
Rohm and Haas Co.

Southern Mill Creek Products
Co., Inc.

DDT

Allied Chemical Corp.
Bonide Chemical Co., Inc.
Chevron Chemical Co., Ortho Div.
Chipman Div., Rhodia Inc.
Diamond Shamrock Chemical Co.
The J. J. Dill Co.
Faesy & Besthoff, Inc.
Gabriel Chemicals, Ltd.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hub States Chemical & Equip. Corp.
Montrose Chemical Co.
Niagara Chemical Div., FMC Corp.
S. B. Penick & Co.
Pennwalt Chemicals Corp.
B. G. Pratt Co.
Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.

DDVP (VAPONA)

The J. J. Dill Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
S. B. Penick & Co.
B. G. Pratt Co.
Shell Chemical Co.,
Ag. Chem. Div.
Southern Mill Creek Products
Co., Inc.
Thompson-Hayward Chemical Co.
West Chemical Products, Inc.

DEF

Chemagro Corp.

DELNAV

(See Miticides)

DIAZINON

Armour Agricultural Chemical Co.
The J. J. Dill Co.
Geigy Agricultural Chemicals
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
S. B. Penick & Co.
B. G. Pratt Co.
Southern Mill Creek Products
Co., Inc.
U.S.S. Agri-Chemicals Div.

DIBROM

(See Miticides)

DIELDRIN

Armour Agricultural Chemical Co.
Borden Chem., Smith-Douglass Div.
Chipman Div., Rhodia, Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hub States Chemical & Equip. Corp.
Niagara Chemical Div., FMC Corp.
S. B. Penick & Co.
Pennwalt Chemicals Corp.
B. G. Pratt Co.
Shell Chemical Co.,
Ag. Chem. Div.
Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.
U.S.S. Agri-Chemicals Div.

DIMETHRIN

McLaughlin Gormley King Co.

DIPTEREX

Chemagro Corp.
The J. J. Dill Co.
Hub States Chemical & Equip. Corp.

Southern Mill Creek Products
Co., Inc.

DI-SYSTON

Borden Chem., Smith-Douglass Div.
Chemagro Corp.
Ross Daniels, Inc.
The J. J. Dill Co.
The Dow Chemical Co.
W. R. Grace & Co.
Southern Mill Creek Products
Co., Inc.

DNOC

Niagara Chemical Div., FMC Corp.

DRINOX

Morton Chemical Co.

DYLOX

Chemagro Corp.
The J. J. Dill Co.
W. R. Grace & Co.
Southern Mill Creek Products
Co., Inc.

ENDOSULFAN (THIODAN)

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

ENDRIN

Chipman Div., Rhodia, Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Niagara Chemical Div., FMC Corp.
Shell Chemical Co.,
Ag. Chem. Div.
Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.
Velsicol Chemical Corp.

ETHION

(See Miticides)

GARDONA

Shell Chemical Co., Agri. Chem. Div.

GUTHION

Chemagro Corp.
The J. J. Dill Co.
Niagara Chemical Div., FMC Corp.
Southern Mill Creek Products
Co., Inc.

HEPTACHLOR

Armour Agricultural Chemical Co.
Chipman Div., Rhodia, Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Corp.
B. G. Pratt Co.
Southern Mill Creek Products
Co., Inc.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.
Velsicol Chemical Corp.

KORLAN

The J. J. Dill Co.
The Dow Chemical Co.
Hub States Chemical & Equip. Corp.
Southern Mill Creek Products
Co., Inc.

LEAD ARSENATE

(See Preemergence Herbicides)

LETHANE

The J. J. Dill Co.
Hub States Chemical & Equip. Corp.
Rohm and Haas Co.
Southern Mill Creek Products
Co., Inc.

LIME SULFUR

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

LINDANE

Aceto Chemical Co., Inc.
Boyle-Midway Div.
Chevron Chemical Co., Ortho Div.
Chipman Div., Rhodia, Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hooker Chemical Corp.
Hub States Chemical & Equip. Corp.
Niagara Chemical Div., FMC Corp.
S. B. Penick & Co.
Pennwalt Chemicals Corp.
B. G. Pratt Co.
Robeco Chemicals Inc.
Southern Mill Creek Products Co., Inc.
Thompson-Hayward Chemical Co.
Vineland Laboratories, Inc.

MALATHION

Aceto Chemical Co. Inc.
American Cyanamid Co.
Armour Agricultural Chemical Co.
Borden Chem., Smith-Douglass Div.
Boyle-Midway Div.
Chipman Div., Rhodia, Inc.
The J. J. Dill Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hub States Chemical & Equip. Corp.
Niagara Chemical Div., FMC Corp.
S. B. Penick & Co.
Pennwalt Chemicals Corp.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.
Stauffer Chemical Co.
Thompson-Hayward Chemical Co.
U.S.S. Agri-Chemicals Div.
West Chemical Products, Inc.
Vineland Laboratories, Inc.

MATACIL

Chemagro Corp.

METALDEHYDE

Aceto Chemical Co., Inc.
Commercial Solvents Corp.
Great Lakes Chemical Div.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.

META-SYSTOX-R

Borden Chem., Smith-Douglass Div.
Chemagro Corp.
The J. J. Dill Co.
W. R. Grace & Co.
Niagara Chemical Div., FMC Corp.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.

METHOXYCHLOR

Allied Chemical Corp.
Armour Agricultural Chemical Co.
Boyle-Midway Div.
The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Niagara Chemical Div., FMC Corp.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.
West Chemical Products Inc.

METHYL PARATHION

American Cyanamid Co.

W. R. Grace & Co.
Great Lakes Chemical Div.
Hercules Incorporated
Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Corp.
Stauffer Chemical Co.
Velsicol Chemical Corp.

MORESTAN

Chemagro Corp.

OILS, DORMANT

Borden Chem., Smith-Douglass Div.
Chevron Chemical Co., Ortho Div.
The J. J. Dill Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.

OILS, SUMMER

The J. J. Dill Co.
Great Lakes Chemical Div.
Niagara Chemical Div., FMC Corp.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.

PARATHION

American Cyanamid Co.
American Potash & Chemical Corp.
Chevron Chemical Co., Ortho Div.
Chipman Div., Rhodia, Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Monsanto Co.
Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Corp.
Stauffer Chemical Co.
Velsicol Chemical Corp.

PARIS GREEN

Chipman Div., Rhodia, Inc.
Southern Mill Creek Products Co., Inc.

PENTACHLOROPHENOL

The J. J. Dill Co.
The Dow Chemical Co.
Hub States Chemical & Equip. Corp.
Southern Mill Creek Products Co., Inc.

PHENOTHIAZINE

Prentiss Drug & Chemical Co.
Vineland Laboratories, Inc.

PHORATE (THIMET)

American Cyanamid Co.
Niagara Chemical Div., FMC Corp.
Southern Mill Creek Products Co., Inc.

PHOSDRIN

Chipman Div., Rhodia, Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Shell Chemical Co.,
Ag. Chem. Div.
Southern Mill Creek Products Co., Inc.

PHOSPHAMIDON (DIMECRO)

Chevron Chemical Co., Ortho Div.
W. R. Grace & Co.
Great Lakes Chemical Div.

PYRETHRINS

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

B. G. Pratt Co.
Prentiss Drug & Chemical Co.
Southern Mill Creek Products Co., Inc.
West Chemical Products Inc.

PYRETHRUM-RYANIA

S. B. Penick & Co.

ROTENONE

The J. J. Dill Co.
W. R. Grace & Co.
Hub States Chemical & Equip. Corp.
S. B. Penick & Co.
B. G. Pratt Co.
Southern Mill Creek Products Co., Inc.

RYANIA

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

SEVIN (CARBARYL)

Armour Agricultural Chemical Co.
Borden Chem., Smith-Douglass Div.
The J. J. Dill Co.
W. R. Grace & Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Niagara Chemical Div., FMC Corp.
B. G. Pratt Co.
O. M. Scott & Sons Co.
Stauffer Chemical Co.
Southern Mill Creek Products Co., Inc.
Thompson-Hayward Chemical Co.
U.S.S. Agri-Chemicals Div.
Union Carbide Corp.
Vineland Laboratories, Inc.

SINIOX

Niagara Chemical Div., FMC Corp.

STROBANE

The J. J. Dill Co.
W. R. Grace & Co.
McLaughlin Gormley King Co.
Niagara Chemical Div., FMC Corp.
Thompson-Hayward Chemical Co.

SYSTOX

(See Miticides)

TEPP

Chipman Div., Rhodia, Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Niagara Chemical Div., FMC Corp.

THANITE

The J. J. Dill Co.
Hercules Incorporated
Southern Mill Creek Products Co., Inc.

TOXAPHENE

Chipman Div., Rhodia, Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Hercules Incorporated
Niagara Chemical Div., FMC Corp.
Southern Mill Creek Products Co., Inc.
Thompson-Hayward Chemical Co.

TRICHLORFON (DYLOX, DIPTEREX)

Chemagro Corp.
The J. J. Dill Co.

TRITHION

(See Miticides)

V-C 13

W. R. Grace & Co.
Mobil Chemical Co.
Pennwalt Chemicals Corp.

Southern Mill Creek Products Co., Inc.

ZECTRAN

W. R. Grace & Co.
Great Lakes Chemical Div.
Southern Mill Creek Products Co., Inc.

ZINOPHOS

W. R. Grace & Co.
Southern Mill Creek Products Co., Inc.

FUNGICIDES

ACTI-DIONE

The J. J. Dill Co.
Green Lawn Laboratories, Inc.
Southern Mill Creek Products Co., Inc.
TUCO Products Co.
U.S.S. Agri-Chemicals Div.

AGROX

Chipman Chemical Co., Inc.

BOTRAN

TUCO Products Co.

CADMINATE

Mallinckrodt Chemical Works

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.
U.S.S. Agri-Chemicals Div.
Vineland Chemical Co.

CADMIUM SEBACATE (KROMAD)

Armour Agricultural Chemical Co.
Mallinckrodt Chemical Works
Southern Mill Creek Products Co., Inc.

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.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hub States Chemical & Equip. Corp.
Southern Mill Creek Products Co., Inc.
Stauffer Chemical Co.

CERESAN

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

CHIPCOTE

Chipman Chemical Co., Inc.

CHLORANIL

Aceto Chemical Co. Inc.
W. R. Grace & Co.
Naugatuck Chemical Div.

COPPER SULFATE

(See Aquatic Herbicides)

COPPER SULFATE, TRI-BASIC

The J. J. Dill Co.
Mallinckrodt Chemical Works
Niagara Chemical Div., FMC Corp.
Phelps Dodge Refining Corp.
Southern Mill Creek Products Co., Inc.
Tennessee Corp.

COPPER ZINC CHROMATE

W. R. Grace & Co.
Miller Chemical & Fertilizer Corp.

CORROSIVE SUBLIMATE

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

CYCLOHEXIMIDE

Green Lawn Laboratories, Inc.

CYPREX

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

DACONIL 2787

Armour Agricultural Chemical Co.
Diamond Shamrock Chemical Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
Southern Mill Creek Products Co., Inc.

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.
W. R. Grace & Co.
Southern Mill Creek Products Co., Inc.
U.S.S. Agri-Chemicals Div.

FERBAM

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

FOLPET

Aceto Chemical Co., Inc.
Chevron Chemical Co., Ortho Div.
W. R. Grace & Co.
Green Lawn Laboratories, Inc.
Stauffer Chemical Co.

FORE

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

Southern Mill Creek Products Co., Inc.
U.S.S. Agri-Chemicals Div.

GLYODIN

W. R. Grace & Co.
Niagara Chemical Div., FMC Corp.
Union Carbide Corp.

KARATHANE

Aceto Chemical Co., Inc.
The J. J. Dill Co.
W. R. Grace & Co.
Rohm and Haas Co.
Southern Mill Creek Products Co., Inc.

KROMA-CLOR

Mallinckrodt Chemical Works

KROMAD

Mallinckrodt Chemical Works

MANEB (MANZATE)

Aceto Chemical Co., Inc.
The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Corp.
B. G. Pratt Co.
Rohm and Haas Co.
Southern Mill Creek Products Co., Inc.

MEMMI

The J. J. Dill Co.
Southern Mill Creek Products Co., Inc.
Velsicol Chemical Corp.

MERCURY COMPOUNDS

Armour Agricultural Chemical Co.
Chipman Div., Rhodia, Inc.
W. A. Cleary Corp.
The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Metasol Products, Merck & Co.
Niagara Chemical Div., FMC Corp.
Robeco Chemicals, Inc.
Shepard Chemical Industries, Inc.
Southern Mill Creek Products Co., Inc.
Summers Fertilizers, Inc.
Thompson-Hayward Chemical Co.
U.S.S. Agri-Chemicals Div.
Velsicol Chemical Co.

MOROCIDE

Niagara Chemical Div., FMC

MORSODREN

Nor-Am Agri. Products, Inc.

NABAM

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

NO BUNT

Chipman Div., Rhodia, Inc.

PANOGEN

Armour Agricultural Chemical Co.
Great Lakes Chemical Div.
Nor-Am Agri. Products, Inc.

PENTACHLORONITROBENZENE

W. R. Grace & Co.
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.
O. M. Scott & Sons Co.
Velsicol Chemical Corp.
Vineland Chemical Co.

PIPERALIN

Elanco Products Co.

PIPRON

Elanco Products Co.

POLYRAM

W. R. Grace & Co.
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.
W. R. Grace & Co.
Niagara Chemical Div., FMC Corp.
B. G. Pratt Co.
The Sherwin-Williams Co.
Southern Mill Creek Products Co., Inc.
Stauffer Chemical Co.

TERSAN OM

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

THIMER

W. A. Cleary Corp.

THIRAM

Aceto Chemical Co., Inc.
Armour Agricultural Chemical Co.
W. A. Cleary Corp.
The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Mallinckrodt Chemical Works
Metasol Products, Merck & Co.
Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Corp.
Robeco Chemicals, Inc.
Roussel Corp.
O. M. Scott & Sons Co.
Southern Mill Creek Products Co., Inc.
Summers Fertilizers, Inc.
U.S.S. Agri-Chemicals Div.
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

Aceto Chemical Co., Inc.
E. I. duPont de Nemours & Co., Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Corp.
Rohm and Haas Co.
Southern Mill Creek Products Co., Inc.

ZIRAM

Aceto Chemical Co., Inc.
The J. J. Dill Co.
E. I. duPont de Nemours & Co., Inc.
W. R. Grace & Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Niagara Chemical Div., FMC Corp.
Pennwalt Chemicals Co.
Velsicol Chemical Corp.

2-AMINOBTANE

Elanco Products Co.

EQUIPMENT**AERATORS**

John H. Graham & Co., Inc.
Gravely Corp.
Henderson Mfg. Co., Inc.
International Harvester Co.
Jacobsen Mfg. Co.
F. D. Kees Mfg. Co.
Lakes Supply Co., Inc.
Lindig Mfg. Corp.
Parker Sweeper Co.
Rogers Mfg. Co., Inc.
Royer Foundry & Machine Co.
Ryan Equipment Co.
Silver Creek Precision Corp.
Simplicity Mfg. Co., Inc.
Sweepster, Inc.
Viking Mfg. Co.
West Point Products Corp.
Wheel-Horse Products, Inc.

AERIAL BUCKET LIFTS

Arlo Industries, Inc.
Asplundh Chipper Co.
Deere & Co.
Halline Utility Equipment Co.
Hughes-Keenan Skyworker Div.
Transairco
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.

AERIAL APPLICATORS

Simplex Mfg. Co.

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.
Rear's Mfg. Co.
Root-Lowell Corp.
Silver Creek Precision Corp.
Solo Industries

AIRCRAFT, FIXED WING

Aero Commander Div.,
North American Rockwell

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 HARVESTER

Aquamarine Corp.
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.
Servis Equip. Co.
Special Products Co.
Stihl American, Inc.
Thor Power Tool Co.

BARRELS, PLASTIC-LINED

Century Engineering Corp.
Farmrite Sprayer, Inc.
Hanson Equipment Co.
Larson Machine, Inc.

BARRELS, STEEL

The Broyhill Co.
Larson Machine, Inc.

BINS, PORTABLE

Contree Sales, Inc.
Lely Corp.
Royer Foundry & Machine Co.

BLADES, DOZER SCRAPER

Arps Corp.
Bolens Div., FMC Corp.
Brillion Iron Works, Inc.
J. I. Case Co.
Deere & Co.
Engineering Products Co.
Gravely Corp.
International Harvester Co.
Jacobsen Mfg. Co.
Kromer Co.
Massey-Ferguson, Inc.
Melroe Mfg. Co.
MinnTurf Equipment Designs Corp.
Servis Equip. Co.
Simplicity Mfg. Co., Inc.
Slope Tractor, Inc.
Special Products Co.
Wheel-Horse Products, Inc.

BOATS, AIR

Allied Biological Control Center
Aquanautics, Inc.

BRUSHCUTTER, POWER

Asplundh Tree Expert Co.
John Bacon Corp.

BMB Co., Inc.
Brillion Iron Works, Inc.
Deere & Co.
International Harvester Co.
Hoffco, Inc.
Homelite Div., Textron, Inc.
Kromer Co.
Locke Manufacturing Cos., Inc.
McCulloch Corp.
Pitman Mfg. Co.
Rowco Mfg. Co., Inc.
Stihl American, Inc.
The Vandermolen Co.

BRUSH HOOKS

Asplundh Tree Expert Co.
Bartlett Mfg. Co.
Harder Arborist Supply Co.
Pitman Mfg. Co.

CABLE SUPPLIES

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

CHEMICAL APPLICATORS, GRANULAR

Asplundh Tree Expert Co.
John Bean Div., FMC Corp.
John Blue Co.
Borden Chem., Smith-Douglass Div.
Bowie Machine Works, Inc.
Buffalo Turbine Ag. Equip. Co.
Contree Sales, Inc.
The J. J. Dill Co.
Gandy Co.
Hub States Chemical & Equip. Corp.
Thor Power Tool Co.
International Harvester Co.
Jacobsen Mfg. Co.
Kromer Co.
Larson Machine, Inc.
Lakes Supply Co., Inc.
Lely Corp.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
Tarrant Mfg. Co.
Tryco Mfg. Co., Inc.
Walsh Manufacturing Co.

CHEMICAL APPLICATORS, LIQUID

Ag-King (Div. of TAGS)
Amchem Products, Inc.
Asplundh Tree Expert Co.
Avco Eze Flow Div.
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.
Clark Mfg. Co.
Contree Sales, Inc.
Deere & Co.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
Hub States Chemical & Equip. Corp.
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.
Rear's Mfg. Co.
Root-Lowell Corp.
Silver Creek Precision Corp.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
Superior Chemical Products, Inc.
Tarrant Mfg. Co.
Thompson-Hayward Chemical Co.

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

CHESTS, TOOL

Weather Guard Chest Co.

CHIPPERS

Asplundh Chipper Co.
E. W. Bliss Co.
Fitchburg Engineering Corp.
H & G Tool Co.
Mitts & Merrill, Inc.
Papec Machine Co.
Piqua Engineering, Inc.
Safety Test & Equipment Co., Inc.
Trailevator Div., Magline, Inc.
Wayne Manufacturing Co.

CLIMBERS' SPURS

Asplundh Tree Expert Co.
Bartlett Mfg. Co.
W. M. Bashlin Co.

COMBS, TURF

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

CRANES

Arlo Industries, Inc.
J. I. Case Co.
Deere & Co.
Dico Side-O-Matic
Halline Utility Equipment Co.
Hiab Hydraulics, Inc.
Ideal Crane Div.
International Harvester Co.
National Crane Corp.
Pitman Mfg. Co.
Servis Equip. Co.
Weldex

DISKS, CULTIVATING

Allis-Chalmers Mfg. Co.
J. I. Case Co.
Deere & Co.
Engineering Products Co.
Ford Motor Co., Tractor Div.
Gravely Corp.
International Harvester Co.
Massey-Ferguson, Inc.
Wheel-Horse Products, Inc.

DRILLS (Field)

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

DRILLS (Hand & Power Tool)

Bartlett Mfg. Co.
Black & Decker Mfg. Co.
Fairmont Hydraulics
Halline Utility Equip. Co.
Hoffco, Inc.
Skil Corp.
Stihl American, Inc.

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.
Hub States Chemical & Equip. Corp.
H. D. Hudson Mfg. Co.
The Ben Meadows Co.
Root-Lowell Corp.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.

Superior Chemical Products, Inc.
Universal Metal Products Div.
The Vandermolen Co.

FIRST-AID KITS

American Optical Co.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.
Scott Aviation Corp.
Welsh Mfg. Co.

FLAMETHROWERS

John Bean Div., FMC Corp.
Blackwell Burner Co.
Cranco Co.
Gotcher Engineering & Mfg. Co.
H. D. Hudson Mfg. Co.
Solo Motors, Inc.
Superior Chemical Products, Inc.
Tree-Ject Co.
Universal Metal Products Div.
The Vandermolen Co.

FOGGERS

The Vandermolen Co.

FORK LIFTS

Allis-Chalmers Mfg. Co.
International Harvester Co.
Otis Material Handling

FORK LIFT (Attachment for Tractors)

Century Engineering Corp.

FUMIGANT APPLICATORS

John Blue Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Silver Creek Precision Corp.
Southern Mill Creek Products Co., Inc.
West Chemical Products Inc.

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.
Deere & Co.
Ford Motor Co., Tractor Div.
Simplicity Mfg. Co., Inc.
Viking Mfg. Co.
Wheel-Horse Products, Inc.

HARROW, SPRING-TOOTHED

Allis-Chalmers Mfg. Co.
Brillion Iron Works, Inc.
The Broyhill Co.
J. I. Case Co.
Clark Mfg. Co.
Deere & Co.
Engineering Products Co.
Ford Motor Co., Tractor Div.
Gravely Corp.
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.
Clark Mfg. Co.
Deere & Co.
Finn Equipment Co.
Ford Motor Co., Tractor Div.
John H. Graham & Co., Inc.

Give crabgrass

One
week

Two
weeks

Four
weeks



(Like 2 feet in 10 weeks.
It'll also produce 3,000 seeds
to grow on you next time.
Balan™ nips all this in the bud.)

a chance and it'll grow on you.



Six
weeks



Ten
weeks



One of
Elanco's
dependable
weed-control
crew

Untreated, there'll be a bigger crop next time, make no mistake. With your fertilizing and watering, crabgrass plants become fully-equipped seed factories in ten weeks.

Balan puts crabgrass out of business. Other annual weedgrasses, as well. A waterproof, pre-emergence weed killer, Balan forms its protective zone where seeds germinate. Kills 'em for months, despite heavy rains and irrigations.

Works economically even on big areas. Costs \$15-30 an acre. (Certain warm-season areas require two appli-

cations at a heavier rate for year-around control.)

Gives a big margin of safety—when used as directed. Big convenience, too—granules are easily applied with your equipment. Make Balan's crabgrass control a key step in your lawn-care. See your turf supply and equipment distributor now. Or contact us for the name of the distributor nearest you.

ELANCO PRODUCTS COMPANY
• A division of Eli Lilly and Company
• Dept. E-455, Indianapolis, Ind. 46206, U. S. A.

Balan™

ELANCO

(Balan™—benefin, Elanco)

Gravelly Corp.
International Harvester Co.
Oliver Corp.
Wheel-Horse Products, Inc.

HELMETS

American Optical Co.
Asplundh Tree Expert Co.
Glendale Optical Co., Inc.
Great Lakes Chemical Div.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.
Welsh Mfg. Co.
Willson Products Div.

HOSE

Ampulco (Hardie)
Asplundh Tree Expert Co.
John Bacon Corp.
The Broyhill Co.
Century Engineering Corp.
Contree Sales, Inc.
DeVilbiss Co.
The J. J. Dill Co.
Friend Manufacturing Corp.
Great Lakes Chemical Div.
Larson Machine, Inc.
Samuel Moore & Co.
F. E. Myers & Bro. Co.
Sprayco Mfgs., Inc.
Superior Chemical Products, Inc.

HYDRAULIC & AIR POWERED TOOLS

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

HYDRAULIC DUMPING HOISTS

Collins Associates, Inc.

HYDRAULIC LIFTS

Howard Rotavator Co., Inc.
Pitman Mfg. Co.
Trailevator Div., Magline, 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.
Ridge Plastics Co.
R. M. Wade & Co.
Telsco Industries

IRRIGATION RISER VALVES

H. N. Webster Mfg.
Williamstown Irrigation, Inc.

IRRIGATION SPRINKLER HEADS

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

IRRIGATION SYSTEMS, COMPLETE

Adamson Sprinkler Co.
John Bean Div., FMC Corp.
Buckner Industries, Inc.
Febco, Inc.
Irrigation Accessories Co.

Oliver Corp.
Plains Supply Co.
Rain Jet Corp.
Rain-O-Mat Sprinklers
Telsco Industries
The Thompson Manufacturing Co.
Toro Manufacturing Corp.
Turf Irrigation Corp.
Vermeer Manufacturing Co.
R. M. Wade & Co.
Williamstown Irrigation, Inc.

KNIVES, INJECTOR

Contree Sales, Inc.

LEAF BLOWERS

American-Lincoln Corp.
Billy Goat Industries, Inc.
Clipper Mfg. Co.
The J. J. Dill Co.
Finn Equipment Co.
Gravelly Corp.
Jacobsen Mfg. Co.
F. E. Myers & Bro. Co.
Parker Sweeper Co.
Rogers Mfg. Co., Inc.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
Sweepster, Inc.
The Vandermolen Co.

LEVELERS

Deere & Co.
International Harvester Co.
MinnTurf Equipment Designs Corp.
Slope Tractor, Inc.
Special Products Co.
Viking Mfg. Co.
York Modern Corp.

LOADERS, BOOM

J. I. Case Co.
Deere & Co.
Dico Side-O-Matic
Howard Rotavator Co., Inc.
Pitman Mfg. Co.

LOADER, SELF PROPELLED

Erickson Corp.

LOADERS, TRACTOR MOUNTED

Allis-Chalmers Mfg. Co.
Arps Corp.
J. I. Case Co.
Danuser Machine Works
Deere & Co.
Engineering Products Co.
Ford Motor Co., Tractor Div.
Gravelly Corp.
International Harvester Co.
Koyker Mfg. Co.
Massey-Ferguson, Inc.
Melroe Mfg. Co.
Oliver Corp.
Rear's Mfg. Co.
The Sun-Mastr Corp.
Vermeer Manufacturing Co.

LOG SPLITTERS

Piqua Engineering, Inc.
Waco Lickity Log Splitter Div.

MASKS, DUST

Acme Protection Equipment Corp.
American Optical Co.
The J. J. Dill Co.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
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.
Hub States Chemical & Equip. Corp.
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

COMMUNICATION SYSTEMS

Motorola Comm. & Elect., Inc.

CONVEYORS, PORTABLE, BELT

Stone Conveyor Co., Inc.

DIFFERENTIALS

Tecumseh Products Co.

EDGING, LAWN

Ryerson Steel

FLOTATION TIRES & WHEELS

Martin Tire & Supply, Inc.

GARDEN TOOLS

Village Blacksmith

GASOLINE ENGINE

Rudd Manufacturing, Inc.

GEARED ANGLE DRIVES

Tecumseh Products Co.

HYPO-HATCHET INJECTOR

The Ansul Co.

INJECTORS, CHEMICAL, FERTILIZER

Inject-O-Meter Mfg. Co., Inc.

ROTARY LAWN MOWER BLADES

The Whitaker Manufacturing Co.

SICKLE BAR MOWER REPAIRS

The Whitaker Manufacturing Co.

SOLIDS SEPARATOR

A. V. Electronics, Inc.

STORAGE TENDER UNIT

Rudd Manufacturing Co.

TRANSAXLES

Tecumseh Products Co.

TRANSMISSIONS

MinnTurf Equipment Designs Corp.
Tecumseh Products Co.
Turf Racks

MISTBLOWERS, BACKPACK

Asplundh Tree Expert Co.
Buffalo Turbine Ag. Equip. Co.
Burton Supply Co., Inc.
The J. J. Dill Co.
Great Lakes Chemical Div.
Hanson Equipment Co.
Hub States Chemical & Equip. Corp.
H. D. Hudson Mfg. Co.
Silver Creek Precision Corp.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
Superior Chemical Products, Inc.
Tradewinds, Inc.
The Vandermolen Co.

MISTBLOWERS, ELECTRIC

Root-Lowell Corp.

MISTBLOWERS, SELF-PROPELLED

Solo Motors, Inc.

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.
Finn Equipment Co.
F. E. Myers & Bro. Co.
Silver Creek Precision Corp.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
Superior Chemical Products, 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 Motors, Inc.
Southern Mill Creek Products Co., Inc.

MOTORS

Allegretti & Co.
L. M. Cox Mfg. Co.
International Harvester Co.
Onan Div., Studebaker Corp.
Sprayco Mfgs., Inc.
Superior Chemical Products, Inc.
Tecumseh Products Co.
The Vandermolen Co.
Waukesha Motor Co.

MOWERS, BLADES & CUTTING PARTS

The Whitaker Manufacturing Co.

MOWERS, FLAIL

John Bean Div., FMC Corp.
BMB Co., Inc.
Brillion Iron Works, Inc.
J. I. Case Co.
Deere & Co.
Excel Industries, Inc.
Ford Motor Co., Tractor Div.
Gravely Corp.
Henderson Mfg. Co.
Hoffco, Inc.
International Harvester Co.
Lakes Supply Co., Inc.
Massey-Ferguson, Inc.
Mott Corp.
Ryan Equipment Co.
Slope Tractor, Inc.
The Sun-Mastr Corp.

MOWERS, GANG

Allis-Chalmers Mfg. Co.
Bolens Div., FMC Corp.
J. I. Case Co.
Deere & Co.
Ford Motor Co., Tractor Div.
Gravely Corp.
International Harvester Co.
Jacobsen Mfg. Co.
Lakes Supply Co., Inc.
Roseman Mower Corp.
Roxy-Bonner, Inc.
Simplicity Mfg. Co., Inc.
Southern Mill Creek Products 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.
Engineering Products Co.
Ford Motor Co., Tractor Div.
Gravely Corp.
International Harvester Co.
Jacobsen Mfg. Co.
Jari Corp.
Lakes Supply Co., Inc.
Locke Mfg. Co., Inc.
MTD Products, Inc.
Roseman Mower Corp.
Roxy-Bonner, Inc.
Simplicity Mfg. Co., Inc.
Southern Mill Creek Products Co., Inc.
The Sun-Mastr Corp.
Toro Mfg. Corp.
Wheel-Horse Products, Inc.

MOWERS, ROTARY

Allis-Chalmers Mfg. Co.
Ariens Co.
Bachtold Bros.
John Bean Division, FMC Corp.
The Black & Decker Mfg. Co.
John Blue Co.
BMB Co.
Bolens Div., FMC Corp.
Brillion Iron Works, Inc.
Bunton Co.
J. I. Case Co.
Deere & Co.
Engineering Products Co.
Excel Industries, Inc.
Ford Motor Co., Tractor Div.
Gale Products
Goodall Mfg. Corp.
Gravely Corp.
Heckendorn Mfg. Co., Inc.
Homelite Div., Textron, Inc.
International Harvester Co.
Jacobsen Mfg. Co.
Jari Corp.
Kromer Co.
Lakes Supply Co., Inc.
Locke Mfg. Co., Inc.
Massey-Ferguson, Inc.
MTD Products, Inc.
Oliver Corp.
J. R. Pendleton & Son Inc.
Pennington Mfg. Co.
Quick Manufacturing, Inc.
Rear's Mfg. Co.
Servis Equip. Co.
Simplicity Mfg. Co., Inc.
Slope Tractor, Inc.
Speedex Tractor Co.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
The Sun-Mastr Corp.
Thor Power Tool Co.
Toro Manufacturing Corp.
Triumph Machinery Co.
Wheel-Horse Products, Inc.
Yazoo Mfg. Co., Inc.

MOWERS, SICKLE BAR

Allis-Chalmers Mfg. 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.
BMB Co., Inc.
Deere & Co.
Henderson Mfg. Co.
International Harvester Co.
Jacobsen Mfg. Co.
Rental Equipment Mfg. Co.
Rogers Mfg. Co., Inc.
Ryan Equipment Co.
Southern Mill Creek Products Co., Inc.

Sweepster, Inc.
Triumph Machinery Co.
West Point Products Corp.

MULCH BLOWERS

Reinco

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

Ackley Mfg. Co.
Asplundh Tree Expert Co.
John Bacon Corp.
Bartlett Mfg. Co.
W. M. Bashlin Co.
Fairmont Hydraulics
Fanno Saw Works
Friend Mfg. Co.
John H. Graham & Co., Inc.
Hallline Utility Equipment Co.
Harder Arborist Supply Co.
Homelite Div., Textron, Inc.
Hunt-Pierce Corp.
Limb-Lopper Co., Inc.
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.
John Blue Co.
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.
Hydraulic Products Co., Inc.
Hypro, Inc.
Larson Machine, Inc.
Lely Corp.
Marlow Pumps Div.
Midland Prod. Co.
Minnesota Wanner Co.
F. E. Myers & Bro. Co.
Oberdorfer Pump Div.
Simplex Mfg. Co.
Solo Motors, Inc.
Sprayco Mfgs. Co.
Thor Power Tool Co.
Tryco Mfg. Co., Inc.
Universal Motor Co.
Viking Pump Co.
Williamstown Irrigation Inc.

RAKES

Arps Corp.
Asplundh Tree Expert Co.
Bartlett Mfg. Co.
Brillion Iron Works, Inc.

Deere & Co.
Henderson Mfg. Co.
Ford Motor Co., Tractor Div.
International Harvester Co.
Jari Corp.
F. D. Kees Mfg. Co.
Lely Corp.
Rental Equipment Mfg. Co.
Roseman Mower Corp.
Servis Equip. Co.
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.
Friend Mfg. Co.
Glendale Optical Co., Inc.
Great Lakes Chemical Div.
Hub States Chemical & Equip. Corp.
Martindale Electric Co.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.
Scott Aviation Corp.
Superior Chemical Products, Inc.
The Vandermolen Co.
Welsh Mfg. Co.
West Chemical Products, Inc.
Willson Products Div.

ROLLER-SPRAYERS

Friend Mfg. Co.
Lakes Supply Co., Inc.
Rear's Mfg. Co.
Sprayco Mfgs. Co.

ROLLERS, TURF

Big J Products, Inc.
Brillion Iron Works, Inc.
Ford Motor Co., Tractor Div.
John H. Graham & Co., Inc.
Gravely Corp.
International Harvester Co.
Princeton Turf Farms
Rogers Mfg. Co., Inc.
Rosco Manufacturing Co.
Ryan Equipment Co.
Simplicity Mfg. Co., Inc.
Sun Industry, Inc.
Wheel-Horse Products, Inc.

ROOT-FEEDING RODS

John Bean Div., FMC Corp.
Ross Daniels, Inc.
The J. J. Dill Co.
Dobbins Div., Chamberlain Mfg. Corp.
Hub States Chemical & Equip. Corp.
Hydroponic Chemical Co., Inc.
Minnesota Wanner Co.

SAFETY BELTS AND SADDLES, TREE CLIMBERS

Asplundh Tree Expert Co.
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.
Asplundh Tree Expert Co.
Bartlett Mfg. Co.
W. M. Bashlin Co.
John Bean Div., FMC Corp.
Charleston Rubber Co.
Glendale Optical Co.
Great Lakes Chemical Div.
Harder Arborist Supply Co.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Corp.

Safety Test & Equipment Co., Inc.
Scott Aviation Corp.
Southern Mill Creek Products Co., Inc.
The Vandermolen Co.
Welsh Mfg. Co.
Willson Products Div.

SAWS, CHAIN

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

SAWS, MANUAL

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

SAWS, POWER

Ackley Mfg. Co.
American-Lincoln Corp.
Asplundh Tree Expert Co.
John Bacon Corp.
The Black & Decker Mfg. Co.
L. M. Cox Mfg. Co., Inc.
DESA Industries, Inc.
Fairmont Hydraulics
Fanno Saw Works
Friend Mfg. Co.
Gravely Corp.
Great Lakes Chemical Div.
Halline Utility Equipment Co.
Hoffco, Inc.
Homelite Div., Textron, Inc.
Hunt-Pierce Corp.
Limb-Lopper Co., Inc.
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 Motors, Inc.
Stihl American, Inc.
The Sun-Mastr Corp.
Thor Power Tool Co.
Wright Saw Div.

SAWS, CHAIN, PARTS

Foley Mfg. Co.
Omark Industries, Inc.
Pioneer Saws, Ltd.
Sabre Saw Chain, Inc.

SCRAPERS

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

SCREENERS, SOIL

Lindig Manufacturing, Inc.

SCYTHES

Hoffco, Inc.

SEEDERS, BELT TYPE

John Bean Div., FMC Corp.

SEEDERS, DISK TYPE

J. I. Case Co.
International Harvester Co.
Rogers Mfg. Co., Inc.
Vandermolen Export Co.

SEEDERS, HOPPER TYPE

Avco Ezee Flow Div.
Brettrager Manufacturing
Brillion Iron Works, Inc.
J. I. Case Co.
The Cyclone Seeder Co., Inc.
Deere & Co.

The J. J. Dill Co.
Engineering Products Co.
Gandy Co.
Garber Seeders, Inc.
Gravely Corp.
International Harvester Co.
Larson Machine, Inc.
Parker Sweeper Co.
Rogers Mfg. Co., Inc.
Schneider Metal Mfg. Co.
Simplex Mfg. Co.
Sunnyhill Research & Mfg. Co.
The Vandermolen Co.

SEEDERS, HYDRAULIC

Reinco Inc.

SEEDERS, SOD

Brillion Iron Works, Inc.

SERVICES

National Weed Service Inc.

SHEARS

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

SHREDDERS, SOIL

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

SICKLE BAR MOWER

J. I. Case Co.
Deere & Co.
Engineering Products Co.
Ford Motor Co., Tractor Div.
Gravely Corp.
International Harvester Co.
Kromer Co.
Simplicity Mfg. Co., Inc.
Slope Tractor, Inc.
Solo Motors, Inc.
Wheel-Horse Products, Inc.

SOD CUTTERS

Bowie Machine Works, Inc.
Finland Turf Cut Div.
Jacobsen Mfg. Co.
James-Way Equipment Co.
Princeton Turf Farms
Ryan Equipment Co.
Sodmaster
Southern Mill Creek Products Co., Inc.

SOD HARVESTERS

Big J Products, Inc.
John Nunes Mechanical
Harvesting Co.
Shamrock Turf Nurseries
Wiley Miner Associates, Inc.

SOD PLUGGER

Beck Mfg. Co.
Bowie Machine Works, Inc.
James-Way Equipment Co.
Rogers Mfg. Co., Inc.
Southern Mill Creek Products Co., Inc.
West Point Products Corp.

SOD ROLLER

Daymon Mfg. Co.
Hadfield Sod Roller Co.
Ryan Equipment Co.

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.
Jacobsen Mfg. Co.
Rogers Mfg. Co., Inc.
Ryan Equipment Co.
Southern Mill Creek Products Co., Inc.
West Point Products Corp.

SPRAY BOOMS

Ampulco (Hardie)
John Bacon Corp.
John Bean Div., FMC Corp.
The Broyhill Co.
Century Engineering Corp.
Clark Mfg. Co.
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.
Kromer Co.
Larson Machine, Inc.
Mallinckrodt Chemical Works
Master Sprayers, Inc.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Papec Machine Co.
Rear's Mfg. Co.
Root-Lowell Corp.
Simplex Mfg. Co.
Sprayco Mfgs., Inc.
Southern Mill Creek Products Co., Inc.
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.
Clark Mfg. Co.
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.
Hub States Chemical & Equip. Corp.
H. D. Hudson Mfg. Co.
Hydroponic Chemical Co., Inc.
Kromer Co.
Larson Machine, Inc.
Master Sprayers, Inc.
Melnor Industries, Inc.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Rear's Mfg. Co.
Root-Lowell Corp.
Silver Creek Precision Corp.
Sprayco Mfgs., Inc.
Spraying Systems Co.
Southern Mill Creek Products Co., Inc.
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.
Clark Mfg. Co.
Contree Sales, Inc.
Delavan Manufacturing Co.
DeVilbiss Co.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gotcher Engineering & Mfg. Co.
Gravely Corp.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Growers Chemical Corp.
Hanson Equipment Co.
H. D. Hudson Mfg. Co.
Kromer Co.
Larson Machine, Inc.
Master Sprayers, Inc.
Melnor Industries
Monarch Mfg. Works, Inc.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Papec Machine Co.
Rear's Mfg. Co.
Root-Lowell Corp.
Simplex Mfg. Co.
Sprayco Mfgs., Inc.
Spraying Systems Co.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
Superior Chemical Products, Inc.
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.
Amchem Products, Inc.
John Bacon Corp.
John Bean Div., FMC Corp.
The Broyhill Co.
Century Engineering Corp.
Clark Mfg. Co.
Delavan Manufacturing Co.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gotcher Engineering & Mfg. Co.
Gravely Corp.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
Larson Machine, Inc.
Master Sprayers, Inc.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Simplex Mfg. Co.
Sprayco Mfgs., Inc.
Spraying Systems Co.
Southern Mill Creek Products Co., Inc.
Wm. Steinen Mfg. Co.
Thuron Sprayer Mfg. Co.
The Vandemolen 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.
Clark Mfg. Co.
Delavan Mfg. Co.
The J. J. Dill Co.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gravely Corp.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Larson Machine, Inc.
Master Sprayers, Inc.
F. E. Myers & Bro. Co.

Oakes Mfg. Co., FMC Corp.
Spraying Systems Co.
Southern Mill Creek Products Co., Inc.
Wm. Steinen Mfg. Co.
Superior Chemical Products, Inc.
Walsh Manufacturing Co.

SPRAY PUMPS

Hypco, Inc.
Master Sprayers, Inc.

SPRAY RIG LINE MARKERS

The Broyhill Co.
Clark Mfg. Co.
Contree Sales, Inc.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
Rear's Mfg. Co.

SPRAYER, BIFLUID

John Bean Div., FMC Corp.
The Broyhill Co.
Buffalo Turbine Equipment Co.
Clark Mfg. Co.
Dobbins Div., Chamberlain Mfg. Corp.
Farmrite Sprayer, Inc.
Finn Equipment Co.
Great Lakes Chemical Div.
Minnesota Wanner Co.
Simplex Mfg. Co.
Sprayco Mfgs., Inc.
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.
Clark Mfg. Co.
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.
Gravely Corp.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Growers Chemical Corp.
Hanson Equipment Co.
Heckendorn Mfg. Co., Inc.
Hub States Chemical & Equip. Corp.
H. D. Hudson Mfg. Co.
International Harvester Co.
Kromer Co.
Larson Machine, Inc.
Master Sprayers, Inc.
F. E. Myers & Bro. Co.
Papec Machine Co.
Rear's Mfg. Co.
Rogers Mfg. Co., Inc.
Root-Lowell Corp.
Simplex Mfg. Co.
Southern Mill Creek Products Co., Inc.
Sprayco Mfgs., Inc.
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.

Clark Mfg. Co.
Deere & Co.
The J. J. Dill Co.
Dobbins Div.
Farmrite Sprayer, Inc.
Friend Mfg. Co.
Great Lakes Chemical Div.
Hanson Equipment Co.
Hub States Chemical & Equip. Corp.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
F. E. Myers & Bro. Co.
Rear's Mfg. Co.
Root-Lowell Corp.
D. B. Smith & Co.
Southern Mill Creek Products Co., Inc.
Sun Industry, Inc.
Tarrant Mfg. Co.
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.
Clark Mfg. Co.
Cushman Motors
Deere & Co.
The J. J. Dill Co.
Dobbins Div.
Farmrite Sprayer, Inc.
Friend Manufacturing Corp.
Gravely Corp.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
Hub States Chemical & Equip. Corp.
H. D. Hudson Mfg. Co.
Kromer Co.
Larson Machine, Inc.
Marlow Pumps Div.
Master Sprayers, Inc.
Minnesota Wanner Co.
F. E. Myers & Bro. Co.
Oakes Mfg. Co., FMC Corp.
Rear's Mfg. Co.
Rogers Mfg. Co., Inc.
Root-Lowell Corp.
Silver Creek Precision Corp.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
Sprayco Mfgs., Inc.
Sun Industry, Inc.
Superior Chemical Products, Inc.
Tarrant Mfg. Co.
The Thompson Manufacturing Co.
Thuron Sprayer Mfg. Co.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.
The Vandermolen Co.
Walsh Mfg. Co.
West Chemical Products, Inc.

SPRAYERS, COMPRESSED AIR

John Bean Div., FMC Corp.
Blackwell Burner Co.
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.

Southern Mill Creek Products Co., Inc.
Superior Chemical Products, Inc.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.
West Chemical Products, Inc.

SPRAYERS, HAND

Ag King (Div. of TAGS)
Ampulco (Hardie)
Bartlett Mfg. Co.
John Bean Div., FMC Corp.
Blackwell Burner Co.
Borden Chem., Smith-Douglass Div.
Broyhill Co.
Buffalo Turbine Ag. Equip. Co.
Century Engineering
Champion Sprayer Co.
R. E. Chapin Mfg. Works, Inc.
Contree Sales, Inc.
The J. J. Dill Co.
Deere & Co.
The C. B. Dolge Co.
Friend Mfg. Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hub States Chemical & Equip. Corp.
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.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
Superior Chemical Products, Inc.
The Thompson Manufacturing Co.
Tradewinds, Inc.
Tryco Mfg. Co., Inc.
Universal Metal Products Div.
The Vandermolen Co.
Walsh Manufacturing Co.
West Chemical Products, Inc.

SPRAYERS, HOSE END

W. D. Allen Mfg. Co.
Ampulco (Hardie)
John Bacon Corp.
Barco Mfg. Co., Inc.
John Bean Div., FMC Corp.
Borden Chem., Smith-Douglass Div.
Broyhill Co.
Century Engineering Corp.
R. E. Chapin Mfg. Works, Inc.
The J. J. Dill Co.
Friend Mfg. Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hayes Spray Gun Co.
Hub States Chemical & Equip. Corp.
H. D. Hudson Mfg. Co.
Hydroponic Chemical Co., Inc.
Larson Machine, Inc.
Master Sprayers, Inc.
Melnor Industries, Inc.
Southern Mill Creek Products Co., Inc.
Superior Chemical Products, Inc.
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 Turbine Ag. Equip. Co.
Champion Sprayer Co.
R. E. Chapin Mfg. Works, Inc.
The J. J. Dill Co.
Friend Mfg. Co.
Great Lakes Chemical Div.
Green Lawn Laboratories, Inc.
Hanson Equipment Co.
Hub States Chemical & Equip. Corp.
H. D. Hudson Mfg. Co.
Ben Meadows Co.

Oakes Mfg. Co., FMC Corp.
Parco Products Co.
Root-Lowell Corp.
D. B. Smith & Co.
Solo Motors, Inc.
Southern Mill Creek Products Co., Inc.
Superior Chemical Products, Inc.
Tradewinds, Inc.
Universal Metal Products Div.
The Vandermolen Co.

SPRAYERS, MOBILE TURF

Mallinckrodt Chemical Works

SPREADERS, DISC-TYPE

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

SPREADERS, HOPPER-TYPE

Avco Ezee Flow Div.
Borden Chem., Smith-Douglass Div.
Brettrager Manufacturing
Champion Sprayer Co.
The Cyclone Seeder Co., Inc.
Deere & Co.
Dempster Industries, Inc.
The J. J. Dill Co.
Fence Painter Corp.
Gandy Co.
Garber Seeders, Inc.
Gotcher Engineering & Mfg. Co.
Gravely Corp.
Great Lakes Chemical Div.
Highway Equipment Co.
International Harvester Co.
F. D. Kees Mfg. Co.
Larson Machine, Inc.
Lely Corp.
Schneider Metal Mfg. Co.
O. M. Scott & Sons
Simplex Mfg. Co.
Southern Mill Creek Products Co., Inc.
Sunnyhill Research & Mfg. Co.
Tarrant Mfg. Co.
Tryco Mfg. Co., Inc.
Tyler Corp.
The Vandermolen Co.

SPRIGGERS

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

SPRINKLERS

F. D. Kees Mfg. Co.

STONE PICKER

Armor Metal Products
McCabe-Powers Body Co.
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.
Wayne Mfg. Co.

SWEEPERS

Billy Goat Industries, Inc.
J. I. Case Co.
Deere & Co.
Gravely Corp.
International Harvester Co.
Jacobsen Mfg. Co.
Kromer Co.

Melroe Mfg. Co.
Parker Sweeper Co.
Rogers Mfg. Co., Inc.
Turf Vac Corp.
Wayne Manufacturing Co.

TANKS, SPRAY

John Bacon Corp.
John Bean Div., FMC Corp.
Blackwell Burner Co.
The Broyhill Co.
Century Engineering Corp.
Clark Mfg. Co.
Contree 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.
Kromer Co.
Larson Machine, Inc.
F. E. Myers & Bro. Co.
Papec Machine Co.
Raven Ind. Inc.
Rear's Mfg. Co.
Simplex Mfg. Co.
Southern Mill Creek Products Co., Inc.
Sprayco Mfgs., Inc.
Superior Chemical Products, Inc.
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.
J. I. Case Co.
Contree Sales, Inc.
Deere & Co.
Engineering Products Co.
Ford Motor Co., Tractor Div.
Gravely Corp.
Howard Rotavator Co., Inc.
International Harvester Co., Inc.
Jacobsen Mfg. Co.
Lakes Supply Co., Inc.
Lely Corp.
MTD Products, Inc.
Quick Manufacturing, Inc.
Oliver Corp.
Rogers Mfg. Co., Inc.
Roseman Mower Corp.
Simplicity Mfg. Co., Inc.
Solo Industries, Inc.
Wheel-Horse Products, Inc.
Yazoo Mfg. Co., Inc.
York Modern Corp.

TIRES, FLotation

Martin Tire & Supply Co.

TOP DRESSERS

Lely Corp.
Ryan Equipment Co.
Sodmaster
Southern Mill Creek Products Co., Inc.

TRACTORS

Allis-Chalmers Mfg. Co.
Bolens Div., FMC Corp.
Bombardier, Ltd.
David Brown Tractors, Ltd.
J. I. Case Co.
Caterpillar Tractor Co.
Deere & Co.
Devere-Locke Div., Locke Mfg. Co.
Erickson Corp.
Engineering Products Co.
Ford Motor Co., Tractor Div.
Gravely Corp.
Homelite Div., Textron, Inc.
International Harvester Co.
Jacobsen Mfg. Co.

Locke Mfg. Cos., Inc.
Massey-Ferguson, Inc.
Meadow Bros. Nursery Supplies
Melroe Mfg. Co.
MTD Products, Inc.
Oliver Corp.
Quick Manufacturing, Inc.
Simplicity Mfg. Co., Inc.
Slope Tractor, Inc.
Speedex Tractor Co.
Toro Manufacturing Corp.
Tradewinds, Inc.
Wheel-Horse Products, Inc.

TRAILERS

The Champion Co.
Deere & Co.
Rogers Mfg. Co., Inc.
Stone Fabricators, Inc.
Trailevator Div., Magline, Inc.

TREE INJECTORS

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

TREE MOVERS

Beseler Equip. Co.
Davey Tree Expert Co.
Ideal Crane Div.
International Harvester Co.
Vermeer Manufacturing Co.

TREE SLINGS

Beseler Equip. 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.
K-D Mfg. Co.
Melnor Industries, Inc.
Rowco Mfg. Co., 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.

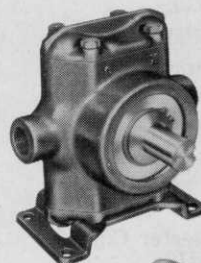
UTILITY VEHICLES

Allis-Chalmers Mfg. Co.
Aquanautics, Inc.
Bombardier, Ltd.
Cushman Motors
Gravely Tractors
W. J. Heinrich Products
International Harvester Co.
Jacobsen Mfg. Co.
Otis Materials Handling
Rogers Mfg. Co., Inc.
Sweepster, Inc.
Tryco Mfg. Co., Inc.
Walker Mfg. Co.
West Point Products Corp.

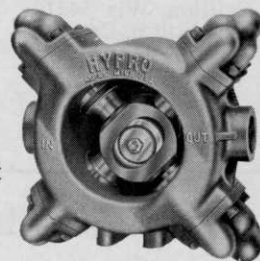
Hypno Pumps

for applying
weed and turf
chemicals

PISTON PUMPS



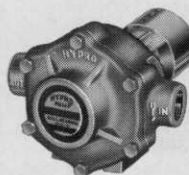
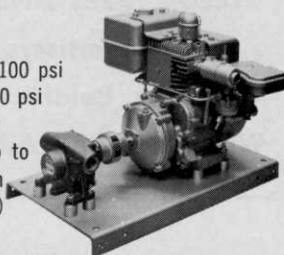
Series
**C5210
BIG TWIN**
10 gpm (at 600
rpm)
400 psi pressure
also available with
gas engine



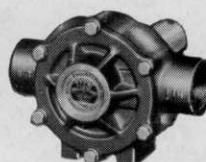
Series
**5400
4-CYLINDER
PUMP**
25 gpm output
at 600 psi

ROLLER PUMPS

Series
GN6310R
6.9 gpm at 100 psi
5 gpm at 200 psi
3 hp engine
(develops up to
250 psi with
4-hp engine)



Series **7560
8-ROLLER PUMP**
Output 12 gpm
(at 540 rpm)
Pressure to 300 psi.



Series **1500
6-ROLLER PUMP**
Output 30 gpm
(at 540 rpm)
Pressure to 150 psi.

Choice of rubber or nylon rollers
Write for complete pump catalog or request
pump recommendation for your need.



Hypno

A division of Lear Siegler, Inc.

347 Fifth Ave. N.W., New Brighton
Saint Paul, Minnesota 55112

For More Details Circle (104) on Reply Card

VACUUMS

Allis-Chalmers Mfg. Co.
Ariens Co.
Billy Goat Industries, Inc.
The Black & Decker Mfg. Co.
Deere & Co.
Kromer Co.
Parker Sweeper Co.
Scott Aviation Corp.
Simplicity Mfg. Co., Inc.
Southern Mill Creek Products Co., Inc.
Tarrant Mfg. Co.
Turf Vac Corp.

VERTICAL SLITTERS, TURF

Rental Equipment Mfg. Co.
Rogers 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.
Brillion, Wis. 54110
Servis Equip. Co.

Alphabetical Listing of Suppliers

WEEDS TREES AND TURF

Advertisers

Listed in Boldface Type
With Complete Addresses

A

Ace Pump Corp.
1650 Channel Ave., Memphis, Tenn.
Aceto Chemical Co., Inc.
126-02 Northern Blvd.
Flushing, N.Y. 11368
Ackley Mfg. Co.
13770 S.E. Ambler Rd.,
Clackamas, Ore. 97015
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.
Aero Commander Div.,
North American Rockwell,
Bethany, Okla. 73008
Ag-King (Div. of TAGS)
Box 7, Preston, Md. 21655
Agrico Chemical Co.,
Div. of Continental Oil Co.,
P.O. Box 346, Memphis, Tenn.
Agiform International Chemicals,
Inc.
P.O. Box 323, Newark, Calif. 94560
Allegretti & Co., 9200 Mason Ave.,
Chatsworth, Calif. 91311

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-Lincon 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
Aquamarine Corp.,
1116 Adams St.,
Waukesha, Wis. 53186
Aquanautics, Inc., 1246 Birchwood
Dr., Sunnyvale, Calif. 94086
Aquatic Controls Corp., 1203 E. Main,
Waukesha, Wis. 53186
Aquatrols Corp. of America, 217
2500 Broadway, 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., 1711 Wisconsin Ave.
New Holstein, Wis. 53061
Asgrow Seed Co.,
P.O. Box 70, Northvale, N.J.
Asplundh Chipper Co.
Hamilton St., Chalfont, Pa.
Asplundh Tree Expert Co.
505 York Rd.,
Jenkintown, Pa. 19046
Atlas Chemical Industries, Inc.,
Wilmington, Del.
Aurora Pump Div.,
New York Air Brake Co.,
Loucks at Dearborn, Aurora, Ill.
Avco Ezee Flow Div.,
420 S. First St.
Coldwater, Ohio 45828
A. V. Electronics, Inc.,
240 S. Tellman,
Fresno, Calif. 93706

B

Bachtold Bros., Inc., Forrest, Ill.
John Bacon Corp.,
State St., Gasport, N.Y. 14067
Barco Mfg. Co., Inc.,
7 Jackson St.,
Worcester, Mass. 01608
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

Beck Manufacturing Co., Box 752,
Auburn, Ala. 36830
Bell Helicopter Co.,
P.O. Box 482, Fort Worth, Texas
Beseler Equip. Co.
5417 Oaklawn Ave. S.
Minneapolis, Minn. 55424
Besler, A Div. of C-C Industries,
4053 Harlan St., Emeryville, Calif.
Best Fertilizers Co.,
1459 3rd St., Oakland, Calif.
Big J Products, Inc.
Rt. 1, Hanna, Ind. 46340
Billy Goat Industries, Inc.,
12820 Seventh St.,
Grandview, Mo. 64030
Bioform Corp., Wasco, Calif.
The Black & Decker Mfg. Co.,
701 E. Joppa Rd.,
Towson, Md. 21204
Blackwell Burner Co.
5033 W. Commerce,
San Antonio, Tex. 78237
E. W. Bliss Co., 80 Second, S.,
Portland, Maine 04106
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
Bombardier Ltd.,
Valcourt, P.Q., Canada
Bonide Chemical Co., Inc.,
382 N. Genesee St., Utica, N. Y.
Borden Chem., Smith-Douglas Div.,
P.O. Box 419, Norfolk, Va. 23501
Bowie Machine Works, Inc.,
P.O. Box 931, Bowie, Tex. 76230
Boyle-Midway Div.,
American Home Products,
685 Third Ave.,
New York, N. Y. 10017
Brettrager Manufacturing,
5410 East St., Saginaw, Mich.
Bridgeport Implement Works, Inc.,
P.O. Box 491, Stratford, Conn.
06497
Brillion Iron Works, Inc., 200 Park
Ave., Brillion, Wis. 54110
Brooks Products Div., The Tool Steel
Gear & Pinion Co., 211 Township
Ave., Cincinnati, Ohio
David Brown Tractor, Ltd.
Meltham, Huddersfield, England
HD7, 3AR
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.
Bunton Co., 4303 Poplar Level Rd.,
Louisville, Ky. 40213
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.,
540 Pennsylvania Ave.,
Ft. Washington, Pa. 19034
Central Solvents & Chemicals Co.,
2540 W. Flournoy St., Chicago, Ill.

Cessna Aircraft Co., Wichita, Kans.
 The Champion Co.,
 400 Harrison St.,
 Springfield, Ohio 45501
 Champion Sprayer Co., 6509
 Heintz Ave., Detroit, Mich.
 Chandlerlin 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.,
 P.O. Box 4913, 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 Div., Rhodia Inc., Box 2009,
 New Brunswick, N.J. 08903
 Clark Mfg. Co.,
 Rt. 1, Independence,
 Atherton, Mo. 64050
 W. A. Cleary Corp., Box 749,
 New Brunswick, N.J. 08903
 Cloro-Spray Corp., 2215-25 N.
 American St., Phila., Pa.
The Cole Nursery Co., R.D. 1, Circle-
 ville, O. 43113
 Collins Associates, Inc., 3318 Glen-
 more 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
 Conwed Corp., 332 Minnesota St.,
 St. Paul, Minn. 55101
 L. M. Cox Manufacturing, Inc., P.O.
 Box 476, Santa Ana, Calif. 92702
 Cranco Co., 7 Clermont
 Ave., Trenton, N.J.
 C & R Products, 5405 N.E. 91 Ave.,
 Portland, Ore. 97220
 N. 21st St., Lincoln, Nebr. 68501
 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.
 Ross Daniels, Inc., 1720 Fuller Rd.,
 West Des Moines, Iowa 50265
 Danuser Machine Works, 1500
 Industrial Blvd., Claremore, Okla.
Davey Tree Expert Co.
 Kent, Ohio 44240
 Davison Chemical Div., W. R. Grace
 & Co., 101 N. Charles St.,
 Baltimore, Md.
 Daymon Manufacturing Corp., 7450
 Weller Rd., Gregory, Mich. 48137
 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
 DESA Industries, 25000 Western
 Ave., Park Forest, Ill. 60466
 DeVilbiss Co., 300
 Phillips Ave., Toledo, Ohio
 Diamond Shamrock Co., 300 Union
 Commerce Bldg., Cleveland, Ohio
 44115
 Dico Side-O-Matic,
 P.O. Box 429, York, Pa. 17405

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 Anthony
 Blvd., Minneapolis, Minn. 55418
 Excel Industries, Inc.,
 Box 385, Hesston, Kan. 67602

F

Faesy & Besthoff, Inc.,
 143 River Rd., Edgewater, N.J.
 Fairmont Hydraulics, Div. of Fair-
 mont 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.
Febco, Inc., 9121 Glenoaks Blvd.,
 Sun Valley, Calif. 91352
 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., 3 Penn Center,
 Pittsburgh, Pa. 15235
 Foley Mfg. Co., 3300 Fifth St., N.E.,
 Minneapolis, Minn. 55418
 Ford Motor Co., Tractor & Imple-
 ment Div., 2500 E. Maple,
 Birmingham, Mich. 48012
 Friend Manufacturing Corp., Pros-
 pect 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., Agri. Chem.
 Group, 7 Hanover Sq.,
 New York, N.Y. 10005
 John H. Graham & Co., Inc.,
 105 Duane St., New York, N.Y.
 Gravely Corp., 1 Gravely Lane,
 Clemons, N.C. 27012
 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.
 Growers Chemical Corp.,
 Milan, Ohio 44846
 Grumman Aircraft Corp., S. Oyster
 Bay Rd., Bethpage, L.I., N.Y.
 Gulf Oil Co.,
 Gulf Bldg., Pittsburgh, Pa.
 Gyrodyne Co. of America,
 Flowerfield Rd.,
 St. James, L.I., N.Y.

H

Hadfield Sod Roller Co., 4643 Sher-
 wood, 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., 301 Charles
 St., S. Beloit, Ill. 61080
 Harder Arborist Supply Co., Box
 111, Hempstead, N.Y. 11550
 Hayes Spray Gun Co., 98 N. San
 Gabriel Blvd., Pasadena, Calif.
 Heckendorn Mfg. Co., Inc.,
 Cedar Point, Kans.
W. J. Heinrich Products, 21013 E.
 Dinuba, Reedley, Calif. 93654
 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.
Hiab Hydraulics, Inc., 3410 Lancaster
 Pike, Wilmington, Del. 19805
 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., 154 E. Erie
 St., Chicago, Ill. 60611
 Hub States Chemical and Equipment,
 2002 No. Illinois St.,
 Indianapolis, Ind. 46202
 Hughes-Keenan Skyworker, Div. of
 Transairco, Inc., P.O. Box B,
 Delaware, Ohio 43015
 Humble Oil & Refining Co.,
 Houston, Texas
 Hunt-Pierce Corp.,
 230 Old Gate Rd., Milford, Conn.
 Hydraulic Products Co., Inc., 501
 East 42nd St., Lubbock, Tex. 79404
 Hydroponic Chemical Co., Inc.,
 P.O. Box 97-C, Copley, Ohio
Hypro, Inc., 375 Fifth Ave., N.W.,
 New Brighton, St. Paul, Minn.
 55112

I
 Ideal Crane Div., Bert Parkhurst & Co., 15051 E. Admiral Pl., Tulsa, Okla. 74116
 Imco, Inc., P.O. Box 547, Afton, Wyo.
 Inject-O-Meter Co., Inc., Box 1044, Clovis, N. M. 88101
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
Jacklin Seed Co., Inc., Dishman, Wash. 99213
 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

K
 Kalium Chemicals, Ltd., 200 Park Ave., New York, N.Y.
 K-D Mfg. Co., P.O. Box 4547, Waco, Tex. 76705
 F. D. Kees Mfg. Co., P.O. Box 8, Beatrice, Nebr. 68310
 Kel Instruments Co., Inc., P.O. Box 466, New Brunswick, N.J.
Kem Mfg. Co., Tucker, Ga.
 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
Knowles Tree Service, 1081 Burkhardt Ave., San Leandro, Calif. 94579
 Kromer Co., Rt. 2, Mound, Minn. 55364

L
 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
 The Larutan Corp., 1440 S. Allec St., Anaheim, Calif. 92805
 Lely Corp., 503 S. Lodge St., Wilson, N. Car. 27893
 Limb-Lopper Co., Inc., 11845 E. Burke St., Santa Fe Springs, Calif. 90670
 O. E. Linck Div., Walco-Linck 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., 1085 Connecticut Ave., Bridgeport, Conn.

M
 Mallinckrodt Chemical Works, 3600 N. Second St., St. Louis, Mo. 63160
 Maple Leaf Mills, Ltd., Oakwood, Ontario, Canada

Marine Bio-Chemists, Inc., P.O. Box 91900, Milwaukee, Wis. 53202
 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
 Master Sprayers, Inc., 1511 West 2nd St., Pomona, Calif. 91766
 McCabe-Powers Body Co., 8900 Frost Ave., St. Louis, Mo. 63134
 McCulloch Corp., 6101 W. Century Blvd., Los Angeles, Calif.
 McGovern Sod Farms, Inc., Melville, L.I., N.Y.
 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.
 Merck Chemical Div., Merck & Co., Rahway, N.J. 07065
Merion Blue Grass Association, 101 Park Ave., New York, N.Y. 10017
 Metasol Products, Merck & Co., 200 Wagaraw Rd., Hawthorne, N.J.
 Michigan Chemical Corp., 351 E. Ohio St., Chicago, Ill. 60611
 Midland Products Co., 787 Susquehanna Ave., Franklin Lakes, N.J. 07417
 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
 MinnTurf Equipment Designs Corp., Suite 204, 7100 France Ave. South, Edina, Minn. 55435
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
 Monsanto Co., 800 N. Lindbergh Bldg., St. Louis, Mo. 63166
 Montrose Chemical Co., 104-12 Lister Ave., Newark, N.J.
 Samuel Moore & Co., Mantua, Ohio 44255
 Motorola Communications & Elec., Inc., 1301 Algonquin Rd., Schaumburg, Ill. 60172
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

National Crane Corp., Waverly, Nebr. 68462
National Weed Services, Inc., P.O. Box 2501, Orlando, Fla.
 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
 Nor-AM Agric. Products, Inc., 20 N. Wacker Dr., Chicago, Ill. 60606
Northrup, King & Co., 1500 Jackson St., N.E., Minneapolis, Minn. 55413
 Norton Construction Products Div., Clipper Mfg. Co., P.O. Box 9604, Kansas City, Mo. 641134
John Nunes Mechanical Harvesting Co., 2518 Loquot Ave., Patterson, Calif. 95363
Nunes Turfgrass Nurseries, Inc., 2006 Loquot Ave., Patterson, Calif.
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., 2 N. Riverside Plaza, Chicago, Ill. 60606
 Omack Industries, Inc., 9701 S.E. McLaughlin Blvd., Portland, Oreg.
 Onan Div., Studebaker Corp., 1400 73rd Ave. N.E., Minneapolis, Minn. 55432
Oregon Fine Leaf Fescue Commission, 605 Weatherly Bldg., Portland, Ore. 97214
Oregon Highland Bentgrass Comm., Suite 1, Rivergro Bldg., 2111 Front St. N.E., Salem, Ore. 97303
 Oregon Orchardgrass Seed Products, Comm., 4491 Liberty Rd. S., Salem, Oregon 97302
 Otis Material Handling, 8000 Baker Ave., Cleveland, Ohio 44102

P
 Panama Pump Co., Meadow Lane, Hattiesburg, Miss.
 Papee Machine Co., Shortsville, N.Y. 14548
 Parker Sweeper Co., 91 Bechtle Ave., Springfield, Ohio
 Parco Products Co., Pottstown Ave. & Dotts St., Pennsburg, Pa. 18073
 J. R. Pendleton & Son, Inc., 11300 Georgia Ave., Wheaton, Md. 20902
 S. B. Penick & Co., 100 Church St., New York, N.Y. 10007
 Pennington Mfg. Co., 136 Commercial Rd., Addison, Ill.
Pennwalt 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.

Piqua Engineering, Inc., P.O. Box 605, Piqua, Ohio 45356
Pitman Mfg. Co., P.O. Box 605, Grandview, Mo. 64030
Pittsburgh Plate Glass Co., Chemical Div., One Gateway Center, Pittsburgh, Pa. 15222
Plains Supply Co., 2702 Avenue A., Lubbock, Tex. 79404
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.
Princeton Turf Farms, P.O. Box 392, Union Valley Rd., Cranbury, N.J. 08512
Pulmosan Safety Equipment Corp., 30-48 Linden Pl., Flushing N.Y. 11354

Q

Quick Manufacturing, Inc., 256 Linden Ave., Springfield, Ohio

R

Rain Bird Sprinkler, 7045 N. Grand, Glendora, Calif. 91740
Rain Jet Corp., 301 S. Flower St., Burbank, Calif. 91503
Rain-O-Mat Sprinklers, 11701 E. Washington Blvd., Whittier, Calif. 90602
Ra-Pid-Gro Corp., 88 Ossian, Dansville, N.Y.
Raven Ind., Inc., Box 1007, Sioux Falls, S. Dak. 57101
Rear's Mfg. Co., P.O. Box 2430, Eugene, Ore.
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
Retzlaff Chemical Co., 3230 Brookfield, Houston, Texas 77045
Reynolds Metals Co., 6601 W. Broad St., Richmond, Va. 23218
Ridge Plastics Co., P.O. Box 2205, Jonesboro, Ark. 72401
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., 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., 1000 Foreman Rd., 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
Ryerson Steel, Box 8000-A, Chicago, Ill. 60680

S

Sabre Saw Chain, Inc., P.O. Box 341, Lewiston, N.Y. 14092
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
S & D Products, 117 Blackhawk Ave., Prairie du Chien, Wis.
Servis Equipment Co., Box 1590, Dallas, Texas 75221
Sewerage Commission of Milwaukee, P.O. Box 2079, Milwaukee, Wis.
Shamrock Turf Nurseries, Hanna, Ind. 46340
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
Sierra Chemical Co., 37650 Sycamore, Newark, Calif. 94560
Signal Oil & Gas Co., Houston Div., P.O. Box 5008, Houston, Texas
Sikorsky Aviation Div., United Aircraft Corp., Stratford, Conn.
Silver Creek Precision Corp., 1875 Elmwood Ave., Buffalo, N.Y. 14207
Simplex Mfg. Co., 5224 N.E. 42nd Ave., Portland, Ore. 97218
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
Slope Tractor, Inc., 114—9th St., Harper, Kan. 67058
D. B. Smith & Co., 414 Main St., Utica, N.Y.
Seymour Smith & Son, Inc., 900 Main St., Oakville, Conn. 06779
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 Motors, 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
Special Products Co., 15000 W. 44th Ave., Golden, Colo. 80401
Speedex Tractor Co., 367 N. Freedom St., Ravenna, Ohio
Sprayco Mfgs., Inc., 2806 N. Mill St., Jackson, Miss. 39216
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., 299 Park 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 Fabricators, 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.
Superior Chemical Products, Inc., 3942 Frankford Ave., Philadelphia, Pa. 19124
Sweepster, Inc., 2810 Baker Rd., Dexter, Mich. 48130

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., Starksville, 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., 12204 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. 48650
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
Turf Irrigation Corp., 73 Mall Dr., Commack, N.Y. 11725
Turf Vac Corp., P.O. Box 7382, Long Beach, Calif. 90807
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.
U.S.S. Agri-Chemicals, Div. of U.S.
Steel Corp., P.O. Box 1685,
Atlanta, Ga. 30301
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., P.O. Box 967,
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
Village Blacksmith, 201 Frederick
St., Watertown, Wis. 53094

Vineland Laboratories, Inc., 2285 E.
Landis Ave., Vineland, N.J. 08360
Vistron Corp., P.O. Box 628,
Lima, Ohio 45802
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.
Weather Guard Chest, 4000 Chip-
pewa, St. Louis, Mo. 33116
H. N. Webster Mfg.,
P.O. Box 623, Sebring, Fla.
Welsh Mfg. Co., 9 Magnolia St.,
Providence, R.I. 02909
Weldex, Old Westboro Rd.,
Grafton, Mass. 01519
West Chemical Products Co., 42-16
West St., Long Island City, N.Y.
11101
West Point Products Corp.,
West Point Pike, West Point, Pa.
Western Peat Co.,
5800 Monroe St., Sylvania, Ohio

Weyerhaeuser Co.,
Tacoma Bldg., Tacoma, Wash.
Wheel-Horse Products, Inc., 515 W.
Ireland Rd., South Bend, Ind. 46614
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.
Wiley Miner Associates, Inc., P.O.
Box 392, Cranbury, N.J.
Williamstown Irrigation, Inc.,
Williamstown, N.Y. 13493
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

Twice the storage space for half the price



STANDARD & SIDE BIN CHESTS

- Rugged all metal construction.
- White baked enamel finish.
- Easily and quickly installed.
- Space between chest and truck floor.
- Removable sliding trays.
- Good rear visibility.
- Locking hasps.
- Can be transferred from one truck to another.
- Chests come in 3 styles



STANDARD SIDE BINS HEAVY DUTY

Write or phone today for complete information

weather guard CHEST

4000 CHIPPEWA • ST. LOUIS, MO. 63116 • Phone: 314-772-4611

BARNEVELD, NEW YORK 13304 | **BURLINGAME, CALIF. 94010**

P.O. Box 345

P.O. Box 1492

Phone: 315-896-2217

Phone: 415-344-6254

For More Details Circle (112) on Reply Card

CROWN VETCH

Controls Erosion and
Greatly Enhances Hillside Beauty

ZERO MAINTENANCE!
NO MOWING!
NO WEEDING!

NOW! FASTER, SURER, PLANTS
EASIER WITH IN PEAT POTS

Write for Price Information and Attractive Brochure

THE STANFORD SEED CO. has over fifty years experience as seed merchants. We have Warehouses located at Buffalo, Pittsburgh, Binghamton and Philadelphia to serve your needs on all turfgrass items. Your inquiries will have our immediate attention.

STANFORD SEED COMPANY

P.O. Box 230

Plymouth Meeting, Pa. 19462

or

215 / 825-1240

P.O. Box 366

Buffalo, N. Y. 14240
716 / 825-3300

For More Details Circle (111) on Reply Card

1970 ARTICLE INDEX

WEEDS TREES and TURF

KEY: Feature article, (fa); news feature, (nf); news story, (ns); conference report, (cr); column, (c); letter, (L); and editorial, (ed).

Issue Pg.

A

Aerial Applicator Training, Vincennes University Adds, (ns)	July 38
(Aerial Spray Mission — Vietnam) Operation Ranch Hand (nf)	Mar. 20
Airboat You Can Build, An, (nf)	Oct. 12
Air Pollutants Damage Plant Life, Says Darley (ns)	Apr. 35
Air Pollution Damages Annual Bluegrass, Deal Says, (ns)	May 26
Air Pollution Negligible from Burning Wood by Bruce M. Hunter (L)	June 18
(Alligatorweed vanishing act, Tulare County, Calif.) Now You See It . . . Now You Don't by William R. Clark (fa)	Nov. 20
AAN (American Association of Nurserymen) Elects William Flemer III (ns)	Sept. 34
AAN Landscaping Film Among 10 Most Popular (ns)	July 33
AAN Membership, Record, (ns)	July 38
AAN Membership Spurts (ns)	Dec. 62
AAN Publishes Guide on 'Truth-in-Lending' (ns)	Aug. 42
AAN Sales Campaign Widens Nursery Industry Markets (ns)	Feb. 32
American Society of Consulting Arborists elects officers (ns)	Sept. 28
ASPA (American Sod Producers Association) Field Days Aug. 4-5 (nf)	July 28
ASPA Sod Field Days Open at Rutgers, Aug. 4 (ns)	June 33
CASPA Growers Tour Florida Sod Farms During 2nd ASPA Annual Meeting (cr)	Mar. 41
(ASPA) Sod Industry Survey — A Comprehensive Study of U.S. Sod Production and Marketing Practices (c)	Mar. 36
American Sod Producers Summer Field Day by Henry W. Indyk (L)	Nov. 34
Anti-Pesticide Suit Reaps Need for Double Dieldrin (ns)	Feb. 28
Applicators, Florida, To License 'Restricted Pesticide', (ns)	Sept. 21
(Aquatic Controls Corporation) Firm Offers Harvesters for Aquatic Plant Control (ns)	Mar. 48
(Aquatic Weed Control) An Airboat You Can Build (nf)	Oct. 12
(Aquatic Weed Control) All Nine Lives . . . How To Kill Cattails by Bert Bordewick (fa)	July 10
(Aquatic Weed Control) Chemically and Mechanically: How One City Manages Aquatic Weeds by Jay L. Blanchard (fa)	Oct. 18
(Aquatic Weed Control) 'Creeping Charlie' Uses Aqualin To Kill Aquatic Weeds (nf)	May 18
(Aquatic Weed Control) Effects and Costs: Aquatic Weed Harvesting by C. Brate Bryant (fa)	Oct. 14
(Aquatic Weed Control) It Takes a Total Water Management Service To Whip This (nf)	Oct. 10
(Aquatic Weed Control) The Monster of Stockbridge Bowl by Jason M. Cortell (fa)	June 14
(Aquatic Weed Control) Noxious Aquatic Weed Control Must Be National Goal, Says Southeast U.S. Group (cr)	Aug. 34
Aquatic Weed Control Potable Water Treatment (nf)	Apr. 8
(Aquatic Weed Control) USDA Technical Report on Controlling Hydrilla Verticillata by Robert D. Blackburn and Lyle W. Weldon (fa)	Oct. 20
Aquatic Weed Problems, More Chemicals Used for, (ns)	Mar. 3
Aquatometer, Australian Seeks, by L. W. Lawlor (L)	July 9
(Aquatometer) Locate Water Supply by George L. Jamieson (fa)	Mar. 8
Arboretum, Students, Public To Enjoy Louisiana Tech's, (ns)	May 30
Arborists' Program Includes New Chemicals, Urban Tree Problems (National Arborist Winter Convention) (nf)	Apr. 21
Arsenic Pesticides, USDA Tightens Regulations for, (ns)	Oct. 38
Associated Landscape Contractors of America, Inc., Names Clarke W. Davis Ex. Dir. (ns)	May 30
Atlas Computes Free Data for Pesticide Formulations (ns)	Dec. 60
Automatic Irrigation for Goodyear Blimp Pad (ns)	Mar. 32
Automatic Irrigation System (nf)	Mar. 6
Automatic Rain Co., Willard Hayes Buys (ns)	Dec. 63
(Aviation) N-Triple A 2nd Annual Fly-In (cr)	Jan. 28

B

Bacterium Curbs Tree Defoliation (nf)	Mar. 19
Balchem Process Retards Migration of Herbicides (ns)	Apr. 35
Bartles Continues Fight Against Wood-Burning Ban (ns)	Apr. 30
Beautification Project, Florida School Considers, (ns)	Apr. 35
Beautification Test Plot (nf)	July 12
Bee Stings, Don't Underestimate, Warns Brandt (ns)	Apr. 25
Beetle-Infested Areas, USDA Extends Quarantine of, (ns)	July 36
Beetles, Elm 'Odor Code' Can Be Altered To Repel, (ns)	July 38
(Benomyl) Stripe Smut Control Found (ns)	Sept. 28
Bermudagrass, For Winter Color, Overseed, by F. V. Juska, A. A. Hanson, and A. W. Hovin (fa)	Sept. 16
'Best Buy' A, (ed)	Sept. 4
Biological Herbicides Rated 'Safe, Effective,' by USDA (ns)	July 33
(Blimp Landing Pad, Irrigation of) Automatic Irrigation for Goodyear Blimp Pad (ns)	Mar. 32
'Block Mulch' Cuts Water Evaporation, Pea Gravel, (ns)	Sept. 32

Issue Pg.

Bluegrass, Deal Says Air Pollution Damages Annual, (ns)	May 26
Bluegrass Has Five-Year Guarantee, Warren's A-20, (ns)	May 25
(Bluegrass Hybrids) Korean Student Works on Turf Hybrids (ns)	Jan. 40
Borbonus Brothers of Idaho, State Fair Booth Promotes Sod Sales for the, (Sod Industry Section) (nf)	Apr. 31
Botanical Garden Nears Fund-Drive Goal, St. Louis, (ns)	Aug. 32
Brazilians Visit (nf)	Aug. 32
Britain Has New Seeder (ns)	Feb. 29
Brush Control Method, Texas A&M Scientists Testing New, (ns)	July 35
Budget Control (nf)	Jan. 25
Bunton Co. Buys Goodall (ns)	Dec. 63
Burning Wood, Air Pollution Negligible From, by Bruce M. Hunter (L)	June 18

C

Calhoun Is Greens Expert (ns)	May 26
California Golf Courses Almost Triple Since 1955 (ns)	Apr. 38
California Program Saves Valuable Roadside Trees (ns)	Apr. 35
Cars, Preventing Law Suits Involving Employees', (ns)	May 30
Cattails, Another Way To Kill, by William E. Wunderlich (L)	Sept. 34
Cattails, How To Kill, (All Nine Lives) by Bert Bordewick (fa)	July 10
(Cemeteries) Power Equipment, Chemicals Save Cemeteries from Weeds (nf)	July 6
(Central Plains Turf Field Day Report) Sand-Based Greens, Grid Field Renovation (cr)	July 20
(Central Plains Turfgrass) Zoysia Fine on Kansas Course (cr)	Dec. 60
Certified 'Supes' Honored at Rocky Mountain Meeting (ns)	Feb. 40
Chemical Pruning Snows Promise (Ohio Research Report) by Dr. P. C. Kozel (fa)	July 12
Chemicals, Be Prepared To Fight Positively for, (ed)	Aug. 6
(Chinchbug Control) Morishita Says Control of Chinch Bug Is A Cinch (ns)	May 30
Cissels Employ a Turf Bird, The, by Marjorie S. Cissel (fa)	July 26
(Collins, R. W., Lawn Spraying, Inc.) Lawn Care Business by Edward G. Dickson (fa)	Jan. 14
Colorado's Kincaid Heads New Shade Tree Group (ns)	Mar. 32
(Columbine Country Club) Budget Control (nf)	Jan. 25
(Columbus and Southern Ohio Electric Co.) Utility Line Clearance . . . Pinning Down Costs by Bernard E. Swisher (fa)	Nov. 14
Contract Applicating: Outlook — '70	Dec. 11
Cutrine Keeps Trout Farm's Spring Water Clean, Safe, for 20 Years, (nf)	Sept. 18

D

Dandelion Control, Winning Turf Combination: Good Seed, Good Fertilizer, and . . . by Dr. Robert W. Schery (fa)	Sept. 14
Davey — Dynamic ISIC Growth Coming (nf)	Aug. 14
(Davey Tree Expert Company, The) How A Leader Operates (nf)	June 8
Davis, Clarke W., appointed Ex. Dir., Associated Landscape Contractors of America, Inc. (ns)	May 30
DDT Ban, Pesticide Commission, Bills Ask, (Sen. Gaylord Nelson) (ns)	Aug. 26
DDT Bill in Washington State, Witnesses Help Kill Proposed, (ns)	Apr. 34
DDT: Opponents Call It Danger to Environment; Killer of Many Life Forms Defenders Say Environment — and Especially People — Endangered without It by Dr. Charles Wurster, Jr. (fa)	Aug. 22
DDT — Scientist Assails Myths (ns)	Dec. 59
(Defoliation) Operation Ranch Hand (nf)	Mar. 20
(DeLallo, Leonard) Ready Market for Long Island Grower (nf)	Feb. 36
Denver Trees Suffer from 'Gastric' Ailment (ns)	Apr. 38
Diamond Shamrock, New Fact Sheets Available (ns)	Dec. 60
Dieldrin, Anti-Pesticide Suit Reaps Need for Double, (ns)	Feb. 28
Dow Story, Whitehead Tells, (ns)	Mar. 46
Drift Free Spraying (nf)	Feb. 26
Dutch Elm Disease, Canadian Side of Lake Erie (nf)	Dec. 12
Dutch Elm Disease, MSU's Butcher Seeks Natural Control of, (ns)	Feb. 32
Dutch Elm Disease, Theories Vary on Cause of, (ns)	Jan. 33

E

Elm Arrester, It's Freers, (nf)	May 20
Elm Forest Suffering Triple Blows, Kansas City's, (ns)	Oct. 25
Elm 'Odor Code' Can Be Altered To Repel Beetles (ns)	July 38
Elm Research Institute (nf)	May 14
Elm Tree Losses a Record in Milwaukee, Wis., Area (ns)	June 36
Emulsifiers, Rhom, and Haas Announces Two New, (ns)	Oct. 39
Emulsions Help Target Herbicides, Invert, (Right-of-Way Spray Control) (nf)	May 6
Europeans Tour Ryan Facilities (nf)	Dec. 58

F

Ferguson Fumigants Offers New Gelled Soil Fumigants (ns)	May 33
Fertilizer Need, Soil Test, Not Plant Use, Basis for, (ns)	July 29
Fertilizing Trees, Neeley Reveals Pros, Cons, (ns)	May 21
(Fescue) Kentucky 31 Tall Fescue — A Shade-Tolerant Turfgrass by F. V. Juska, A. A. Hanson and A. W. Hovin (fa)	Jan. 34
Flemer Elected AAN President (ns)	Sept. 34
Florida School Considers Beautification Project (ns)	Apr. 35
Florida To License 'Restricted Pesticide' Applicators (ns)	Sept. 21
'Florida's 'Super Forests' Yield Select Seedlings"	

Florida Nurserymen Hear Qualities of a Manager (cr)	Dec. 62
by C. Winn Upchurch (fa)	Feb. 12
Fly Control, Malathion Looks Good as Lake, (ns)	July 38
FMC Non-Crop Herbicide Given Federal Registration (ns)	July 34
Ford Booklet Lists Industrial Tractor Line, '69, (ns)	July 36
Fumigants, Ferguson Fumigants Offers New Gelled Soil, (ns)	May 33

G

(Geigy Agricultural Chemicals Sales Co.) Suppliers' Staff Changes (ns)	Feb. 39
Georgia Pre-Tests Seeds To Abate Roadside Weeds (ns)	Feb. 3
Golf Course Damage, Michigan, Also (nf)	July 27
(Golf Course Irrigation) Automatic Irrigation System (nf)	Mar. 6
Golf Course Maintenance Headed Toward Total Turfgrass Perfection (nf)	July 14
(Golf Course Superintendents Assn. of America) Leading Turfgrass Show at Miami Beach (cr)	Mar. 23
Golf Courses, California, Almost Triple Since 1955, (ns)	Apr. 38
Golf, 81 Years of, (nf)	May 10
(Golf Supt.'s Budget) Budget Control (nf)	Jan. 25
Golf, What's Happening, Outlook — '70 (nf)	Dec. 6
Goodyear Blimp Pad, Automatic Irrigation for, (ns)	Mar. 32
(Graham, Tom) Industrial Weed Control (nf)	Feb. 6
Grass Is Sound Absorbent, Illinois Study Indicates, (ns)	May 27
Grass Use, Crop Forecast Reported at Merion Meeting (cr)	July 27
Grass Varieties, Specialists Review New, (Sod Industry Section) (cr)	May 22
Grasses, Characteristics of, as related to The Science of Mowing by J. R. Watson (fa)	June 22
Grau Executive Director, Pennsylvania Group Elects, (ns)	May 21
(Greenbrier Golf Course) Golf Course Maintenance Headed Toward Total Turfgrass Perfection (nf)	July 14
Greens Expert, Calhoun Is, (ns)	May 26
Grid Field Renovation, Sand-Based Greens (cr)	July 20
Gulf Conducting Research on 'Time-Pill' Fertilization (ns)	June 38
Gypsy Moth Tree Damage Trebled Over Past Year (ns)	Nov. 23

H

Hardi-Gardens Establishes 60 Franchises in Texas (ns)	May 24
Heath Goes International; Acquires CMW Sales (ns)	July 37
Helicopter Assn., Board Okays Bylaw Changes for, (ns)	June 36
Helicopter Assn. Elects Rockefeller & McPherson (ns)	Aug. 41
Herbicide Given Federal Registration, FMC Non-Crop, (ns)	July 34
Herbicide Selector Chart (ns)	May 33
Herbicides, Balchem Process Retards Migration of, (ns)	Apr. 35
Herbicides, Invert Emulsions Help Target, (nf)	May 6
Herbicides, Oregon State Accelerates Testing of New, (ns)	June 37
Herbicides Rated 'Safe, Effective' by USDA, Biological, (ns)	July 33
Herbicides, Triazine, Intl. Symposium (ns)	May 30
Hercules Film Depicts 'Visko-Rhap' Efficiency, New, (ns)	Jan. 40
Hercules Predicts Growth in 'Visko-Rhap' Usage (ns)	May 21
Highway Rights-of-Way Weed Control (nf)	Apr. 6
House Bill 1059 (ed)	Apr. 4
Hub States Pesticide Manual Available (ns)	Dec. 62
(Hyacinth Control Society) Noxious Aquatic Weed Control Must Be National Goal, Says Southeast U. S. Group (cr)	Aug. 34
Hybrids, Korean Student Works on Turf, (ns)	Jan. 40
Hydrilla Verticillata: USDA Technical Report on Controlling, by Robert D. Blackburn and Lyle W. Weldon (fa)	Oct. 20

I

Idaho, State Fair Booth Promotes Sod Sales for the Borbonus Brothers of, (Sod Industry Section) (nf)	Apr. 31
(Illinois Turfgrass Foundation, Inc.) Illinois Group Re-Elects Bob Johnson as President (ns)	Mar. 48
Industrial Weed Control (nf)	Feb. 6
Infra-Red Photography, Weeds May Be Detected By, (ns)	June 39
Insect Control, Ohio Bulletin Published on Mite, (ns)	Aug. 32
Intl. Harvester Man Predicts Good Year for Tractor Sales in 1969 (ns)	Feb. 37
ISTC (International Shade Tree Conference) Features Are Announced for 45th Tree Conference (ns)	June 28
ISTC Growth Coming, Dynamic, — Davey (nf)	Aug. 14
(ISTC) Here Are Program Features for Shade Tree Conference (nf)	July 24
(ISTC Report, 45th) Beautifying with Trees Is a Complex Business (cr)	Oct. 32
Intl. Society, Turf Specialists Form, (cr)	Sept. 29
Invert Emulsions Help Target Herbicides (nf)	May 6
Irrigation, Automatic, for Goodyear Blimp Pad (ns)	Mar. 32
Irrigation: Outlook — '70 (nf)	Dec. 8
Irrigation Stressed: Midwest Regional Turf Conference (cr)	Apr. 32
(Irrigation supply) Locate Water Supply by George L. Jamieson (fa)	Mar. 8
Irrigation system, automatic, (nf)	Mar. 6
Irrigation: Turf Beauty Key (nf)	Oct. 28

J

Jaffo's Order: Selective Clearing by Phil Lance (fa)	Aug. 29
Jersey Clean-Up Program Stresses Weed Control (ns)	May 30
John Bean Puts Out New Sprayer-Duster Catalog (ns)	Feb. 29
(Johnson, Charlie P.) 'Creeping Charlie' Uses Aqualin To Kill Aquatic Weeds (nf)	May 18

K

Kansas City's Elm Forest Suffering Triple Blows (ns)	Oct. 25
--	---------

(Kaspar Burgi, Inc.) Massive Tree Transplant by Lou Speer (fa)	Jan. 18
Kentucky 31 Tall Fescue — A Shade-Tolerant Turfgrass by E. V. Juska, A. A. Hanson, and A. W. Hovin (fa)	Jan. 34
Kearney-National Buys West Point (ns)	Dec. 61
(Kimberly Turf Farms) The Cissels Employ a Turf Bird by Marjorie S. Cissel (fa)	July 26
Kingaid Heads New Shade Tree Group, Colorado's, (ns)	Mar. 32
King Ranch Grants \$5,000 for Lawngrass Research (ns)	Nov. 29
Korean Student Works on Turf Hybrids (ns)	Jan. 40

L

Lake Enrichment, Phosphorous Is Key To, (ns)	July 29
Lake Fly Control, Malathion Looks Good As, (ns)	July 38
(Lake Oswego, Ore.) Automatic Irrigation System (nf)	Mar. 6
Landscape Contractors, New Management Announced (ns)	Dec. 59
Landscape Council, Editorial and Content Comments (L)	Oct. 7
Landscape Film Among 10 Most Popular, AAN, (ns)	July 33
Landscape and Lawns, \$1 Buys 16 Publications on, (ns)	July 27
Landscape, Portland Hilton Hotel Brings Downtown, (cr)	Nov. 18
Law Suits Involving Employees' Cars, Preventing, (ns)	May 30
Lawn Care Business by Edward G. Dickson (fa)	Jan. 14
Lawn, Garden Week Plans Announced (ns)	Sept. 25
Lawngrass Research, King Ranch Grants \$5,000 for, (ns)	Nov. 29
Leave the Nursery Business to Us, Uncle (ed)	May 4
(Legislation) House Bill 1059 (ed)	Apr. 4
Levelland, Texas, Goes City-Wide Against Weeds (nf)	Nov. 12
(Licensing) Florida to License 'Restricted Pesticide' Applicators (ns)	Sept. 21
Licensing Law, Michigan Nurserymen Want Effective, (ns)	Jan. 32
Lightning Protection, Van Wormer Give Tips on, (ns)	Feb. 28
Liquid Plant Food, Tree Expert Cites Assets (ns)	Dec. 61
Louisiana Tech's Arboretum, Students, Public To Enjoy, (ns)	May 30
(Louisiana Turfgrass Assn.) 1969 Officers Announced at Louisiana Conference (ns)	Feb. 32
Lubricate or Languish (Maintenance Choice Is Clear) by Stanley E. Metsker (fa)	June 26

M

Magazine Staff Changes Announced (ns)	May 34
(Magnetometer) Locate Water Supply by George L. Jamieson (fa)	Mar. 8
Maintenance Choice Is Clear: Lubricate or Languish by Stanley E. Metsker (fa)	June 26
Malathion Looks Good As Lake Fly Control (ns)	July 38
(Manatee Seed & Sod Co.) Florida's 'Super Forests' Yield Select Seedlings by C. Winn Upchurch (fa)	Feb. 12
Manual, Safe Pesticide Practices Stressed in UC, (ns)	Apr. 35
McDermott, Joe, Is President; Six States' Growers Form Midwest Turfgrass Assn. (cr)	June 28
McPherson, Helicopter Assn. Elects Rockefeller and, (ns)	Aug. 41
(Market survey) November Is For Thanking (ed)	Nov. 4
Massive Tree Transplant by Lou Speer (fa)	Jan. 18
Mercer Sod, Inc., Since 1928 by Phil Lance (fa)	Oct. 26
Merion Bluegrass Assn. (ns)	Nov. 27
Merion Bluegrass Seed To Be Priced Higher (ns)	Sept. 29
Merion Meeting, Grass Use, Crop Forecast Reported at, (cr)	July 27
Metabolism, North Dakota State To Study Pesticide/Plant, (ns)	Oct. 29
Michigan Golf Course Damage, Also (nf)	July 27
Michigan Nurserymen Want Effective Licensing Law (ns)	Jan. 32
Michigan State Expands Park-Recreation Program (ns)	Apr. 3
Michigan State Reports On First Sod Field Day (cr)	Nov. 28
(MSU Cooperative Extension Service) \$1 Buys 16 Publications on Lawns and Landscaping (ns)	July 27
MSU Grass Plots Ready for First Field Day Sept. 10 (ns)	Aug. 32
MSU, Vargas Heads Turfgrass Disease Research at, (ns)	Feb. 27
MSU's Butcher Seeks Natural Control of DED (ns)	Feb. 32
(Microfoil) Drift-Free Spraying (nf)	Feb. 26
Midwest Regional Turf Conference: Irrigation Stressed (cr)	Apr. 32
Midwest Turfgrass Assn., Six States' Growers Form; Joe McDermott Is President (cr)	June 28
Milwaukee, Wis., Area, Elm Tree Losses a Record in, (ns)	June 36
Mite, Insect Control, Ohio Bulletin Published on, (ns)	Aug. 32
Money, Price-Fixing Conspiracy on, ? (ed)	July 4
Monster of Stockbridge Bowl, The, by Jason M. Cortell (fa)	June 14
Morishita Says Control of Chinchbug Is a Cinch (ns)	May 30
Moving Trees Is Ancient Art by Harold Davidson (fa)	Aug. 16
Mowing Hazards: Safety and Beauty; How States Are Working Around (nf)	Sept. 6
Mowing, The Science of (Characteristics of grasses as related to) by J. R. Watson (fa)	June 22
(Mulches) Comparing Mulches — The Long and Short of It by L. E. Foote and D. L. Kill (fa)	Mar. 12
(Mulches) Pea Gravel 'Block Mulch' Cuts Water Evaporation (ns)	Sept. 32

N

National Aerial Applicator Assn. 2nd Annual Fly-In (cr)	Jan. 28
(National Aerial Applicators Assn.) Vincennes University Adds Aerial Applicator Training (ns)	July 38
National Arborist Winter Convention; Arborists' Program Includes New Chemicals, Urban Tree Problems (cr)	Apr. 21
(National Lawn and Garden Week) Lawn, Garden Week Plans Announced (ns)	Sept. 25
(Netherlands) Royal Dutch Society for Natural History) The Glory of the Tree by Dr. B. K. Boom and H. Kleijn (br)	Mar. 31

	Issue Pg.
New Jersey Arborists Assn. elects officers (ns)	July 32
New Seed Packaging Plant (ns)	Feb. 29
(Noise) Plantings Can Reduce (ns)	Dec. 61
North American Nut Trees, 421-page Book	
Published on, (ns)	July 33
North Dakota State To Study Pesticide/Plant	
Metabolism (ns)	Oct. 29
(Northeast Weed Control Conference) Scientists	
Present New Findings at 23rd Northeast	
Weed Conference (cr)	Feb. 18
NW Applicators Grid for Pesticide Battle (nf)	Nov. 32
NW Turfgrass Assn. Announces 1970 Officers (ns)	Nov. 27
November Is For Thanking (ed)	Nov. 4
Nursery Business to Us, Uncle, Leave the, (ed)	May 4
Nurserymen Make Available New	
Safety Presentation (ns)	Apr. 40
Nut Trees, 421-page Book Published on	
North American, (ns)	July 33

O

Oak Wilt Control Looks Promising, Says Nair (ns)	Feb. 29
'Odor Code', Elm, Can Be Altered To Repel Beetles (ns)	July 38
Ohio Bulletin Published on Mite, Insect Control (ns)	Aug. 32
(Ohio Turf Foundation) 2nd Annual Turf	
Conference (cr)	Feb. 30
(Ohio) Turfgrass Foundation Gives \$10,000	
Grant to OSU (ns)	July 29
Ohio Turfgrass Foundation research grant (ns)	Nov. 34
Ohio Turfgrass Show, 20 Speakers Scheduled for, (ns)	Nov. 34
(Oklahoma City, Okla.) Industrial Weed Control (nf)	Feb. 6
Operation Ranch Hand (nf)	Mar. 20
(Oregon) Automatic Irrigation System (nf)	Mar. 6
Oregon State Accelerates Testing of	
New Herbicides (ns)	June 37

P

(Pacific Supply Cooperative) New Seed	
Packaging Plant (ns)	Feb. 29
Park/Recreation Program, Michigan	
State Expands, (ns)	Apr. 3
(Parks, Topeka, Kan.) Stretch Resources To Place the	
Park Where the People Are by Grier Lowry (fa)	Aug. 8
Pea Gravel 'Block Mulch' Cuts Water Evaporation (ns)	Sept. 32
Pennsylvania Group Elects Grau	
Executive Director (ns)	May 21
Pennsylvania Finds Sod More Profitable Than	
Beef by Phil Lance (fa)	Sept. 26
(Pennwalt) It Takes a Total Water Management	
Service To Whip This (nf)	Oct. 10
Pesticide Application Regulatory Practices (nf)	Feb. 8
Pesticide/Plant Metabolism, North Dakota	
State To Study, (ns)	Oct. 29
Pesticide Practices Stressed in UC Manual, Safe, (ns)	Apr. 35
Pesticide Residue Buildup to Date,	
Study Shows No, (ns)	Apr. 25
Pesticide Suspension, USDA No 'Confession,' USDA, (ns)	Aug. 25
Pesticide Suspension, USDA Delays Decision on, (ns)	Sept. 28
Pesticides, USDA Tightens Regulations for Arsenic, (ns)	Oct. 38
Phosphorus Is Key to Lake Enrichment (ns)	July 29
Photography, Weeds May Be Detected by	
Infra-Red, (ns)	June 39
Pine Sawfly Bite Not Fatal; How To Spray	
if You Wish (ns)	July 35
Planting Trees, Time Study for, by Harold Davidson	
and Tom Speakman (fa)	Aug. 18
Platz Elected President of National Fertilizer	
Solutions Assn. (ns)	Jan. 3
Poa Annua: Control Program by William H. Daniel (fa)	Apr. 12
Polluted Air Retards Growth of White Pine (ns)	Sept. 33
Portland Hilton Hotel Brings	
Landscaping Downtown (cr)	Nov. 18
Potable Water Treatment: Aquatic Weed Control (nf)	Apr. 8
Power Equipment, Chemicals Save Cemeteries	
from Weeds (nf)	July 6
Price-Fixing Conspiracy on Money? (ed)	July 4
(Princeton Turf of Kansas City) How Do You Run a	
Sod Farm in the City? (nf)	Nov. 24
Prison Inmates Study Plant Care (nf)	June 24
Private Property Offers Sanctuary for Sick Trees (ns)	June 39
Professional, What's Tough About Becoming a, (ed)	Oct. 6
(Pursley Zoysia Grass Co.) Florida's 'Super Forests'	
Yield Select Seedlings by C. Winn Upchurch (fa)	Feb. 12

Q

Quality Sod Produces Ready Market for	
Long Island Grower (nf)	Feb. 36
Quarantine of Beetle-Infested Areas,	
USDA Extends, (ns)	July 36

R

Remington Arms Expands Service Center Network (ns)	May 33
(Right-of-Way Spray Control) Invert Emulsions	
Help Target Herbicides (nf)	May 6
Rights-of-Way Weed Control, Highway, (nf)	Apr. 6
Rockefeller & McPherson, Helicopter Assn. Elects, (ns)	Aug. 41
(Rocky Mountain Golf Course Supts. Assn.) Certified	
'Supes' Honored at Rocky Mountain Meeting (ns)	Feb. 40
Rohm and Haas Announces Two New Emulsifiers (ns)	Oct. 39
Rutgers Announces Dates for Turfgrass Studies (ns)	Nov. 35

S

Safe Pesticide Practices Stressed in UC Manual (ns)	Apr. 35
Safety Presentation, Nurserymen Make	
Available New, (ns)	Apr. 40
St. Andrews Brought Game to America:	
81 Years of Golf (nf)	May 10
St. Augustine Decline, Texas A&M Combats, (ns)	May 27
St. Louis Botanical Garden Nears Fund-Drive Goal (ns)	Aug. 32
Sand-Based Greens, Grid Field Renovation (cr)	July 20
Scholarship, Texas Tech Senior Wins	
Weather-matic, (ns)	Feb. 40

Science of Mowing, The, (Characteristics of Grasses as	
Related to) by J. R. Watson (fa)	June 22
Seed Packaging Plant, New, (ns)	Feb. 29
(Seed pre-testing) Georgia Pre-Tests Seeds to	
Abate Roadside Weeds (ns)	Feb. 3
(Seed Technology, Inc.) Turf Analysis Test by	
Dale Kern (fa)	Jan. 6
Seeder, Britain Has New, (ns)	Feb. 29
(Seedling selection) Florida's 'Super Forests'	
Yield Select Seedlings by C. Winn Upchurch (fa)	Feb. 12
(Shade Tree Assn. of Mountain States) Colorado's	
Kincaid Heads New Shade Tree Group (ns)	Mar. 32
Shredders, All the Ways You Can Use Soil, (nf)	Nov. 6
Sick Trees, Private Property Offers Sanctuary for, (ns)	June 39
SMA (Society of Municipal Arborists) Elects	
New Officers (ns)	Jan. 41
Sod Field Day, Michigan State Reports on First, (cr)	Nov. 28
Sod Field Day's Work, All In A: Trim, Sweep,	
Cut, Roll, Lift (nf)	Sept. 22
(Sod) Outlook - '70 (nf)	Dec. 10
(Sod Industry) 'Here's What You Need To Start A	
Sod Farm' by Donald W. Morrill (fa)	Aug. 30
(Sod Industry Section) How to Cut Sod-Handling	
Costs in Half (fa)	Dec. 50
(Sod Industry) Kentucky 31 Tall Fescue - A Shade-	
Tolerant Turfgrass by F. V. Juska, A. A. Hanson,	
and A. W. Hovin (fa)	Jan. 34
(Sod Industry) Ready Market for Long Island	
Grower (nf)	Feb. 36
(Sod Industry Section) The Cissels Employ A Turf	
Bird by Marjorie S. Cissel (fa)	July 26
(Sod Industry Section) Mercer Sod, Inc. . . .	
Since 1928 by Phil Lance (fa)	Oct. 26
(Sod Industry Section) Princeton Turf of Kansas City:	
How Do You Run A Sod Farm in the City? (nf)	Nov. 24
(Sod Industry Section) Sod Winterkill Extensive (nf)	June 31
(Sod Industry Section) Specialists Review	
New Grass Varieties (cr)	May 22
(Sod Industry Section) State Fair Booth Promotes Sod	
Sales for the Borbonus Brothers of Idaho (nf)	Apr. 31
(Sod Industry Survey) A Comprehensive Study of U.S.	
Sod Production and Marketing Practices (c)	Mar. 36
Sod More Profitable Than Beef, Pennsylvanian Finds,	
by Phil Lance (fa)	Sept. 26
(Sod Producers Field Day) MSU Grass Plots Ready for	
First Field Day Sept. 10 (ns)	Aug. 32
Sod Producers Summer Field Day, American,	
by Henry W. Indyk (L)	Nov. 34
Sod Webworm Control, Slide Rule 'Errs' On, (ns)	July 29
Soil Fumigants, Ferguson Fumigants Offers	
New Gelled, (ns)	May 33
Soil Shredders, All the Ways You Can Use, (nf)	Nov. 6
Soil Test, Not Plant Use, Basis for Fertilizer Need (ns)	July 29
Soils, Woodbury's 'Envy' Treats Alkaline Western, (ns)	May 27
(South Florida Golf Course Supts. Assn.) Turf	
Conference Scheduled for Sunny Miami Beach (ns)	Jan. 40
Southern California Assn. Installs New Officers (ns)	Feb. 33
(Southern California Turfgrass Council) Southern	
California Assn. Installs New Officers (ns)	Feb. 33
(Spray boom) Drift-Free Spraying (nf)	Feb. 26
Spray Control, Right-of-Way: Invert Emulsions Help	
Target Herbicides (nf)	May 6
(Spray mission, Vietnam) Operation Ranch Hand (nf)	Mar. 20
(Spray operations) New Hercules Film Depicts	
'Visko-Rhap' Efficiency (ns)	Jan. 40
(Spray-O-Rama: Pacific NW Pesticide Applicators, Inc.)	
NW Applicators Grid for Pesticide Battle (nf)	Nov. 32
Sprayer-Duster Catalog, John Bean Puts Out New, (ns)	Feb. 29
(Spraying, Lawn) Yeats' Northwest Spray Fertilizes	
Home Lawns in Minutes (nf)	Apr. 20
Stockbridge Bowl, The Monster of,	
by Jason M. Cortell (fa)	June 14
Strikes Can Be Avoided . . . Listen	
by A. A. Imberman (fa)	Sept. 10
Stripe Smut Control Found (ns)	Sept. 28
Suspension Order No 'Confession,' USDA Pesticide, (ns)	Aug. 25

T

(Tandex) FMC Non-Crop Herbicide Given Federal	
Registration (ns)	July 34
Texas A & M Scientists Testing New Brush	
Control Method (ns)	July 35
Texas Tech Senior Wins Weather-matic Scholarship (ns)	Feb. 40
Thatch Removal: Turf Management (nf)	Apr. 18
'Time Pill' Fertilization, Gulf Conducting	
Research on, (ns)	June 38
Time Study for Planting Trees by Harold Davidson	
and Tom Speakman (fa)	Aug. 18
(Topeka, Kan., parks) Stretch Resources To Place the	
Park Where the People Are by Grier Lowry (fa)	Aug. 8
(Toxaphene) Not a Hard Pesticide, Hercules Says (ns)	Dec. 16
Tractor Line, '69 Ford Booklet Lists Industrial, (ns)	July 36
(Tractor sales) Intl. Harvester Man Predicts Good Year	
for Tractor Sales in 1969 (ns)	Feb. 37
(Tree Defoliation) Bacterium Curls Tree	
Defoliation (nf)	Mar. 19
Tree Expert Company, The Davey (How A Leader	
Operates) (nf)	June 8
Tree Grows in the Darndest Place, A,	
(Topeka, Kan., church) (nf)	Nov. 33
Tree Grows in the Darndest Places, A,	
(Indiana county courthouse) (nf)	Sept. 12
(Tree Moving) Moving Trees Is Ancient Art	
by Harold Davidson (fa)	Aug. 16
(Tree Planting) Time Study for Planting Trees	
by Harold Davidson and Tom Speakman (fa)	Aug. 18
(Tree Transplants) Massive Tree Transplant	
by Lou Speer (fa)	Jan. 18
Trees, Beautifying with, Is A Complex Business (cr)	Oct. 32
Trees, California Program Saves Valuable Roadside, (ns)	Apr. 35
Trees, The Care and Feeding of, by Richard C. Murphy	
and William E. Meyer (br)	Nov. 11
Trees Could Be Affected by 'Overdose' of	
Weed Killer (nf)	Sept. 34
Trees, Denver, Suffer from 'Gastric' Ailment (ns)	Apr. 38
Trees, 421-page Book Published on North American	

Nut, (ns)	July 33
(Trees) The Glory of the Tree by Dr. B. K. Boom	Mar. 31
and H. Kleijn (br)	May 21
Trees, Neeley Reveals Pros. Cons. of Fertilizing, (ns)	June 39
Trees, Private Property Offers Sanctuary for Sick, (ns)	Oct. 29
Trees and Turfgrasses, Interactions Significant for, (ns)	May 30
Triazine Herbicides Intl. Symposium (ns)	Sept. 18
Trou Farm's Spring Water Clean, Safe, for	Aug. 42
20 Years, Cutrine Keeps, (nf)	Jan. 6
'Truth-in-Lending,' AAN Publishes Guide on, (ns)	Oct. 28
Turf Analysis Test by Dale Kern (fa)	July 26
Turf Beauty Key: Irrigation (nf)	July 34
Turf Bird, The Cissels Employ A,	Sept. 14
by Marjorie S. Cissel (fa)	Apr. 32
Turf Circular, VPI Revises, (ns)	Jan. 40
Turf Combination, Winning: Good Seed, Good Fertilizer,	Feb. 30
and Dandelion Control by Dr. Robert W. Schery (fa)	Nov. 34
Turf Conference, Midwest Regional:	Jan. 40
Irrigation Stressed (cr)	Apr. 18
Turf Conference Scheduled for Sunny Miami Beach (ns)	June 33
Turf Conference, 2nd Annual, (Ohio Turf	Dec. 54
Foundation), (cr)	Sept. 29
Turf Disease, Needed, Chart of,	Jan. 34
by Ferdinand Garbin (L)	June 28
Turf Hybrids, Korean Student Works on (ns)	Mar. 23
Turf Management: Thatch Removal (nf)	Mar. 30
Turf Meet Set July 14-17 in England,	Feb. 37
First World-Wide, (ns)	July 29
(Turf) What's New With "The Grass People" (nf)	Nov. 35
Turf Specialists Form Intl. Society (cr)	Mar. 19
(Turfgrass) Kentucky 31 Tall Fescue — A Shade-	July 16
Tolerant Turfgrass by F. V. Juska, A. A. Hanson,	
and A. W. Hovin (fa)	
Turfgrass Assn., Six States' Growers Form Midwest;	
Joe McDermott Is President (cr)	
(Turfgrass) Conference) Leading Turfgrass Show at	
Miami Beach (cr)	
(Turfgrass) Conference) Ninth Conference Staged by	
Virginia Turf Council (cr)	
Turfgrass Disease Research, Vagas Heads, at MSU (ns)	
Turfgrass Foundation Gives \$10,000 Grant to OSU (ns)	
Turfgrass Studies Dates, Rutgers Announces, (ns)	
(Tussock Moth Caterpillar) Bacterium Curbs Tree	
Defoliation (nf)	
2, 4-D, What Type to Use? by J. S. Coartney and	
A. H. Kates (fa)	

U

UC Manual, Safe Pesticide Practices Stressed in, (ns)	Nov. 35
USDA Awards \$85,293 for Wilt Disease Research (ns)	Nov. 35
USDA, Biological Herbicides Rated 'Safe, Effective,'	
by, (ns)	July 33
USDA Delays Decision on Pesticide Suspension (ns)	Sept. 28
USDA Extends Quarantine of Beetle-Infested Areas (ns)	July 36
USDA Pesticide Suspension Order No 'Confession' (ns)	Aug. 25
USDA Technical Report on Controlling Hydrilla Verticil-	
lata by Robert D. Blackburn and Lyle W. Weldon (fa)	Oct. 20
USDA Tightens Regulations for Arsenic Pesticides (ns)	Oct. 38
(University of Wisconsin) More Chemicals Used for	
Aquatic Weed Problems (ns)	Mar. 3
(University of Wisconsin Researchers) Elm 'Odor Code'	
Can Be Altered To Repel Beetles (ns)	July 38
Utility Line Clearance . . . Pinning Down Costs by	
Bernard E. Swisher (fa)	Nov. 14

V

Van Wormer Gives Tips on Lightning Protection (ns)	Feb. 28
Vargas Heads Turfgrass Disease Research at MSU (ns)	Feb. 37
(Vietnam Spray Mission) Operation Ranch Hand (nf)	Mar. 20
Vincennes University Adds Aerial Applicator	
Training (ns)	July 38
VPI Revises Turf Circular (ns)	July 34
Virginia Turf Council, Ninth Conference Staged by, (cr)	Mar. 40
'Visko-Rhap' Efficiency, New Hercules Film Depicts, (ns)	Jan. 40
'Visko-Rhap' Usage, Hercules Predicts Growth in, (nf)	May 21

W

Wade (R. M., and Co.), New Product, Plant for, (ns)	Nov. 34
Warren's A-20 Bluegrass Has Five-Year Guarantee (ns)	May 25
Washington State, Witnesses Help Kill Proposed	
DDT Bill in, (ns)	Apr. 34
Water (ed)	Oct. 8
Water Management Service To Whip This,	
It Takes a Total, (nf)	Oct. 10
(Water sources) Locate Water Supply by	
George L. Jamieson (fa)	Mar. 8
Water Treatment, Potable: Aquatic Weed Control (nf)	Apr. 8
Weather-matic Scholarship, Texas Tech Senior Wins, (ns)	Feb. 40
Webworm Control, Slide Rule 'Errs' on Sod, (ns)	July 29
Weed Conference, Scientists Present New Findings at	
23rd Northeast, (cr)	Feb. 18
Weed Control, Industrial, (nf)	Feb. 6
Weed Control, Jersey Clean-Up Program Stresses, (ns)	May 30
(Weed Control) What Type 2, 4-D To Use? by	
J. S. Coartney and A. H. Kates (fa)	July 16
(Weed Control) World's Ten Most Hated Weeds (nf)	July 15
Weed Control, Aquatic: Potable Water Treatment (nf)	Apr. 8
Weed Control, Highway Rights-of-Way, (nf)	Apr. 6
Weed Control Program: Poa Annua by	
William H. Daniel (fa)	Apr. 12
Weed Control, What Kind, Texas A-M (cr)	Dec. 14
Weed Killer, Trees Could Be Affected by	
'Overdose' of, (nf)	Sept. 34
(Weed Prevention) Georgia Pre-Tests Seed to	
Abate Roadside Weeds (ns)	Feb. 3
Weed Problems, Aquatic, More Chemicals Used for, (ns)	Mar. 3
Weed Science Society Meeting (Ninth) Features	
New Herbicide Technology (cr)	Apr. 26
Weed Society Announces Three Policy Changes (ns)	June 38
(Weeds Chart) 30 Common Weeds Pictured on	
West Chemical Chart (ns)	Feb. 37

Weeds May Be Detected by Infra-Red Photography (ns)	June 39
West Chemical Chart, 30 Common Weeds	
Pictured on, (ns)	Feb. 37
Whitehead Tells Dow Story (ns)	Mar. 46
White Pine, Polluted Air Retards Growth of, (ns)	Sept. 33
Winter Refresher (ed)	Jan. 4
Wood, Air Pollution Negligible from Burning, by	
Bruce M. Hunter (L)	June 18
Wood-Burning Ban, Bartles Continues Fight Against, (ns)	Apr. 30
Wood Waste Makes Money by Leon Baldwin (fa)	Aug. 20
Woodbury's 'Envy' Treats Alkaline Western Soils (ns)	May 27
World's Ten Most Hated Weeds (nf)	July 15
WTT Businesses Involve Six Operations (ns)	Dec. 12

Y

Yeats' Northwest Spray Fertilizes Home Lawns	
in Minutes (nf)	Apr. 20
You Are Where the Action Is (ed)	June 6

AUTHORS

Baldwin, Leon, "Wood Waste Makes Money"	Aug. 20
Blackburn, Robert D., "USDA Technical Report on	
Controlling Hydrilla Verticillata" with Lyle W. Weldon	Oct. 20
Blanchard, Jay L., "Chemically and Mechanically:	
How One City Manages Aquatic Weeds"	Oct. 18
Boom, Dr. B. K., "The Glory of the Tree"	Mar. 31
with H. Kleijn (br)	July 10
Bordewick, Bert, "How To Kill Cattails (All Nine Lives)"	July 10
Bryant, C. Brate, "Effects and Costs:	
Aquatic Weed Harvesting"	Oct. 14
Capper, Daniel S., "Landscape Council" (L)	Oct. 7
Cissel, Marjorie S., "The Cissels Employ A Turf Bird"	July 26
Clark, H. M., Irrigation: Outlook — '70	Dec. 8
Clark, William R., Now You See It . . .	
Now You Don't (Alligatorweed)	Nov. 20
Coartney, J. S., "What Type 2, 4-D To Use?" with	
A. H. Kates	July 16
Cortell, Jason M., "The Monster of Stockbridge Bowl"	June 14
Daniel, William H., "Poa Annua (Control Program)"	Apr. 12
Davey, Keith L., "Dynamic ISTC Growth Coming"	Aug. 14
Davidson, Harold, "Moving Trees Is Ancient Art"	Aug. 16
Davidson, Harold, "Time Study for Planting Trees"	
with Tom Speakman	Aug. 18
Dickson, Edward G., "Lawn Care Business"	Jan. 14
Eckhoff, Harry C., What's Happening in	
Golf: Outlook — '70	Dec. 6
Foote, L. E., "Comparing Mulches—The Long and	
Short of It" with D. L. Kill	Mar. 12
Hanson, A. A., "For Winter Color, Overseed Bermudagrass"	Sept. 16
with F. V. Juska and A. W. Hovin	Jan. 34
Hanson, A. A., "Kentucky 31 Tall Fescue—A Shade-	
Tolerant Turfgrass" with F. V. Juska and A. W. Hovin	Sept. 16
Hovin, A. W., "For Winter Color, Overseed Bermuda-	
grass" with F. V. Juska and A. A. Hanson	Jan. 34
Hovin, A. W., "Kentucky 31 Tall Fescue—A Shade-Tolerant	
Turfgrass" with F. V. Juska and A. A. Hanson	Jan. 34
Hunter, Bruce M., "Air Pollution Negligible from	
Burning Wood" (L)	June 18
Imberman, A. A., "Listen . . . Strikes Can Be Avoided"	Sept. 10
Indyk, Henry W., Sod Industry: Outlook — '70	Dec. 10
Jamieson, George L., "Locate Water Supply"	Mar. 8
Johnson, Robert W., "Government Control of Nursery	
Business & Federal Reserve System" (L)	Oct. 7
Juska, F. V., "For Winter Color, Overseed Bermuda-	
grass" with A. A. Hanson and A. W. Hovin	Sept. 16
Juska, F. V., "Kentucky 31 Tall Fescue—A Shade-Tolerant	
Turfgrass" with A. A. Hanson and A. W. Hovin	Jan. 34
Kates, A. H., "What Type 2, 4-D To Use?" with	
J. S. Coartney	July 16
Kern, Dale, "Turf Analysis Test"	Jan. 6
Kill, D. L., "Comparing Mulches—The Long and Short	
of It" with L. E. Foote	Mar. 12
Kleijn, H., "The Glory of the Tree" with	
Dr. B. K. Boom (br)	Mar. 31
Kozel, Dr. P. C., "Chemical Pruning Shows Promise"	July 12
Lance, Phil, "Pennsylvanian Finds Sod More	
Lance, Phil, "Pennsylvania Finds Sod More	
Profitable Than Beef"	Sept. 26
Lance, Phil, "Since 1928 . . . Mercer Sod, Inc."	Oct. 26
Lawlor, L. W., "Australian Seeks Aquatometer" (L)	July 9
Lowry, Grier, "Stretch Resources To Place the Park	
Where the People Are"	Aug. 8
Metsker, Stanley E., "Lubricate or Languish"	June 26
Meyer, William E., "The Care and Feeding of Trees"	
with Richard C. Murphy (br)	Nov. 11
Morrill, Donald W., "Here's What You Need To Start	
a Sod Farm"	Aug. 30
Murphy, Richard C., "The Care and Feeding of Trees"	
with William E. Meyer (br)	Nov. 11
(Nelson, Sen. Gaylord) "Bills Ask DDT Ban; Pesticide	
Commission" (ns)	Aug. 26
Raplee, Stan G. Jr., Contract Applying:	
Outlook — '70	Dec. 11
Schery, Dr. Robert W., "Winning Turf Combination:	
Good Seed, Good Fertilizer, and . . . Dandelion Control"	Sept. 14
Speakman, Tom, "Time Study for Planting Trees"	
with Harold Davidson	Aug. 18
Speer, Lou, "Massive Tree Transplant"	Jan. 18
Swisher, Bernard E., "Utility Line Clearance . . .	
Pinning Down Costs"	Nov. 14
Watson, J. R., "The Science of Mowing"	June 22
Weldon, Lyle W., "USDA Technical Report on Controlling	
Hydrilla Verticillata" with Robert D. Blackburn	Oct. 20
Wunderlich, William E., "Another Way To Kill	
Cattails" (L)	Sept. 34
Wurster, Dr. Charles, Jr., "DDT: Opponents Call It Danger	
to Environment; Killer of Many Life Forms; Defenders	
Say Environment—and Especially People — Endangered	
without It"	Aug. 22
Upchurch, C. Winn, "Florida's 'Super Forests'	
Yield Select Seedlings"	Feb. 12
Voorhies, Ken, "Budget Control"	Jan. 25

Insect Report

WTT's compilation of insect problems occurring in turfgrasses, trees, and ornamentals throughout the country.



TURF INSECTS

A FLEA BEETLE

(*Chaetocnema opacula*)

OREGON: Adults collected in Merion bluegrass sample at Central Point, Josephine County. This is a new state record.

SOUTHERN CHINCH BUG

(*Blissis insularis*)

CALIFORNIA: Infested Bermuda and St. Augustine grasses at Sacramento, Sacramento County, for a new county record.

AUSTRALIAN SOD FLY

(*Altermetoponia rubriceps*)

CALIFORNIA: Larvae heavy in lawns and turf in city parks at South San Francisco, San Mateo County.

TWO-LINED SPITTLEBUG

(*Prosapia bicincta*)

ALABAMA: Adults heavy, 1 per 9 square feet of lawn grass in Opelika and Auburn area of Lee County.

INSECTS OF ORNAMENTALS

A JAPANESE WEEVIL

(*Pseudocneorhinus bifasciatus*)

MARYLAND: On honeysuckle at Sudlersville, Queen Annes County, for a new county record.

TREE INSECTS

BAGWORM

(*Thyridopteryx ephemeraeformis*)

WEST VIRGINIA: Heavy on 3-4 acres of white pine in Wirt County. IOWA: Collected at Primghar, O'Brien County, for a new county record.

SOUTHERN PINE BEETLE

(*Dendroctonus frontalis*)

TEXAS: Activity peaked in June with 540 new multiple tree spots in 6-million acre outbreak area. Activity began decrease in early July, reached low of 88 new spots in August, rose to 119 in September. September increase probably due to extra flights, not population increase. Spot size and activity also decreased. All spots 70-80 percent inactive. Utilization, primary control on federal, company, and small holdings throughout area.

TWO-SPOTTED SPIDER MITE

(*Tetranychus urticae*)

CALIFORNIA: Heavy; damaged poplars at Yuba City, Sutter County.

A NOTODONTID MOTH

(*Symmerista albifrons*)

TEXAS: Heavy on oaks at Bryan and College Station, Brazos County.

FALL WEBWORM

(*Hyphantria cunea*)

NEW MEXICO: Light to very heavy on shade trees in Pecos and Mesilla Valleys.



Another Asplundh first... the applicator pole...speeds the action...increases production

For faster year-round applications use Asplundh's inhibitor fortified tree paint with the new applicator pole. It is now packaged in a proven all-weather aerosol can on an extension pole. This extended spray method will greatly increase production compared to the old fashioned brush-on or hand held aerosol spray can, thus further reducing unit cost. So when you are looking for what's new in reliable, economical tree care . . . ASK ASPLUNDH.

SPECIAL OFFER—FREE APPLICATOR
with every eight cases of tree paint.

ASPLUNDH

ASPLUNDH TREE EXPERT CO.
505 YORK ROAD, JENKINTOWN, PA. 19046



A Baker-York towable lift and disposal cardboard pallets are the cost-cutting keys to a Michigan sod producer's delivery system. The wood pallet is specially designed for use with cardboard.

From Emerald Valley Turf Nurseries:

How to Cut Sod-Delivery Costs in Half

EMERALD VALLEY Turf Nurseries, Inc., Gregory, Mich., is operating a sod-handling system that has cut delivery handling costs in half while boosting sales through labor-cost savings offered to landscapers.

Using a thin, disposable cardboard pallet and a Baker-York towable lift truck as keys to the system, Emerald Valley feels it has stemmed the rising cost of delivering sod.

As have other sod producers, Emerald Valley watched handling costs from its Cleveland distribution point to the customer skyrocket from $\frac{3}{4}$ of a cent a yard to 2.6 cents a yard in just a few years. Last winter, President Bob Daymon directed that an analytical look be taken at the firm's handling system with a view toward increasing speed and decreasing cost.

Procedure at the time involved field loading of trucks and hand unloading at the job site. Semi-trailers were pulled onto the field by a truck tractor with five drive including two steering axles. These were loaded by a roll conveyor. The conveyor moved freely down the tractor bed as the truck inched forward. Two men stacked the rolls of sod.

At the job site, sod was unloaded by hand. Shipments into the Cleveland area alone of from three to five trucks a day required 10 men for unloading.

Field damage caused by the heavy tractor and loaded trailer was extensive. Releveling was necessary.

It had been apparent that the soil conditions would support volunteer growth if field loading damage could be eliminated. With desirable "volunteer growth" as a frame of reference, Emerald Valley began an investigation of handling systems.

Palletization seemed the only conclusion, but there were drawbacks. With pallets, used in conjunction with high-flotation tire-lifting equipment on the farm, they could eliminate field damage and have "volunteer growth." But handling costs would still be a problem and would increase considerably because retrieving pallets would take a return to the job site with a second truck and two men.

Shipping costs would also be higher because only sixteen pallets could be placed on a trailer and, since the standard 4' x 4' pallet holds only 65-75 yards, shipments of less than the legal load limit would have to be made.

To make palletization pay off in lower costs, the company had to find solutions for:

1. increasing the load size per pallet,



A full 100 yards of sod, supported by the wax-impregnated cardboard, is lifted from the truck and moved to the site in a simple one-man operation. The wood pallets stay on the truck.

2. eliminating the return trip to pick up pallets,
3. unloading the sod off the truck without using manual labor.

To get a full load per shipment, Emerald Valley designed a 48" x 58" pallet which allows 12 rolls per tier and three on top, for a full 100 yards. An ingenious stacking arrangement uses sod as its own stabilizing tie. This is accomplished by unrolling two rolls of sod per tier, which will cover the whole pallet.

The pallet itself was created of reverse ribbed, wax coated cardboard and is inexpensive and disposable. A wood pallet with open fork pockets on both ends was designed. This remains on the truck and, should it be needed for ordinary use, it is simply turned over. The cardboard pallets of stacked sod are placed on them rather than the trailer bed and, because of the open fork pockets, are easily removed. This method ended the need for these expensive return-to-the-job-site trips.

To solve the problem of unloading the truck without use of manual labor, Emerald Valley turned to Otis Material Handling, Otis Elevator

Company. The Baker-York division of Otis manufactures an all-terrain, completely towable fork lift truck. Called a UT (Utility Towable), the truck is easily attached by one man to the trailer and may be towed at legal highway speeds to the job site. Articulated axles allow it to operate safely on rough or rolling terrain with full load. Loads can be spotted strategically on the job site.

Emerald Valley investigated using booms but ruled them out for a number of reasons. Booms cost \$6,500 to \$8,500 each. One would be needed on each of six trailers in the

Emerald Valley fleet. Booms would also limit delivery. Shipping space on the trailer would be lost because of the room taken up by the boom.

Four Baker-Yorks could easily service six trailers and three tractors and at a much lower cost to benefit ratio. The plus factor was unloading flexibility.

Before the final decision was made to change to what actually constituted a whole new method of growing, handling, shipping and unloading, Emerald Valley carefully considered every cost factor. When costs were determined, they were compared with anticipated benefits from the proposed new capital commitment, expressed in terms of return investment. For the size of its operation, a figure of \$129,000 would have to be committed. That figure included cost of four Baker-York lift trucks, new field equipment, cost of pallets and the new disposable pallets, and the cost of abandoning equipment that had not been fully depreciated.

Costs were projected against anticipated future business and a feasibility point, expressed in yards sold, established. In this manner, Emerald Valley could account for variables within its 33-week season and still arrive at a cost-benefit ratio that, in the light of its experience, was reliable.

The decision was made to proceed with the new system and preliminary figures indicate handling costs have been cut 50% or 1.3 cents a yard. With favorable weather-market conditions, that cost savings could reach 70%.

Barry Stumm, vice-president and manager of Emerald Valley's Cleveland office, states that, "one man, with the Baker-York, is doing the work of three in one-third the former time. The labor headache is also gone. We used to need 10 men to handle our shipments from the farm and, in order to get 10, you had to call 15 and pray that enough would

AMERICAN SOD PRODUCERS ASSOCIATION

invites your participation

If you are a Sod Grower you should be a member of ASPA.

Keep in touch with progress.

Allied Industries are welcome.

For More Details Circle (101) on Reply Card



With the lift, Emerald Valley Sod is strategically stock-piled on the job site. Installers have learned this service cuts "travel time" by two-thirds on the average front home lawn.

show up so we could operate. Our customers can now expect on-time delivery."

Add to these benefits the economies effected by "volunteer growth" production.

Another benefit to Emerald Valley is the unique selling proposition that all-terrain, lift-truck delivery has provided. Landscapers are realizing a definite labor time savings because pallets can be spotted around the job site. Emerald Valley calculates that, based on an average 400-square yard front lawn, one man carrying 14 yards of sod in a wheelbarrow travels 3,600 feet to complete handling. With strategic spot servicing with the lift truck, a man carry-

ing two rolls at a time travels only 1,200 feet, or two-thirds less time and energy in moving the material. On back lawns, the savings is far greater.

Such easily demonstrable benefits not only have gained many new customers for Emerald Valley, but also have allowed it to maintain a responsible price structure in a market prone to price cutting.

Some landscapers report that their installers insist on Emerald Valley lift truck delivery.

The wax-impregnated cardboard pallets have also found some unique uses. Landscapers offer them to customers as auto drip protectors on garage floors and installers use them

as kneelers and as portable walkways on wet ground. Many installers return them to the Emerald Valley local office. They can be used several times without losing their residual strength.

Emerald Valley is now enjoying the benefit of its creative use of management's winter time. Complete cost control data was the catalyst that started what turned out to be an important breakthrough in cutting sod handling costs. Because the firm broke out costs on each segment of turf operation, it was able to not only pinpoint areas where such costs were getting out of line, but to work toward solutions that would have multiple benefits.



The Baker-York lift is towable at highway speeds.

Meeting Dates

Dates for this column need to reach the editor's desk by the 10th of the month preceding the date of publication.

National Aerial Applicators Association, Third Annual Conference, Roosevelt Hotel, New Orleans, La., Dec. 7-10.

Louisiana Turfgrass Conference at the Ira Nelson Horticulture Center, University of Southwestern Louisiana, Lafayette, Dec. 9-10.

24th Annual North Central Weed Control Conference, Sioux Falls, S.D., Dec. 9-11.

80th Annual Western Association of Nurserymen convention at the Hotel Continental, Kansas City, Mo., Jan. 4-6.

Indiana Arborist Association, Inc., 21st annual mid-winter conference, Stouffer's Indianapolis Inn, Jan. 6-8.

Northeast Weed Control Conference, 24th annual meeting, Hotel Commodore, New York City, Jan. 7-9.

Georgia Golf Course Superintendent's Association annual meeting, Savannah Inn & Country Club, Wilmington Island, Ga., Jan. 11-13.

22nd Annual Helicopter Association of America convention at the Stardust Hotel, Las Vegas, Nev., Jan. 11-14.

North Carolina State University Pesticide-Fertilizer School, Hotel Sir Walter, Raleigh, N.C., Jan. 12-13.

4th Annual Park Symposium, New Jersey Recreation and Park Association, Lewis M. Herrmann Labor Education Center, Rutgers University, New Brunswick, N.J. 10 a.m. Jan. 14.

22nd California Weed Conference at the Grand Hotel, Anaheim, Calif., Jan. 19, 20, 21.

Associated Landscape Contractors of America, Statler-Hilton, Orlando, Fla., Jan. 19-23.

Purdue University landscape maintenance workshop, University campus, West Lafayette, Ind., Jan. 20-21.

Southern Weed Science Society annual meeting, Sheraton-Biltmore Hotel, Atlanta, Ga., Jan. 20-22.

Ohio Chapter, International Shade Tree Conference, annual meeting, Hotel Sheraton-Columbus, Columbus, Jan. 25-26.

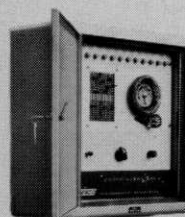
41st Ohio State University short course for arborists, turf management specialists, landscape contractors, garden center operators, and nurserymen, Hotel Sheraton-Columbus, Columbus, Jan. 25-29.

Annual Virginia Turfgrass Conference, Sheraton Motor Inn, Fredericksburg, Va., Jan. 27-28.

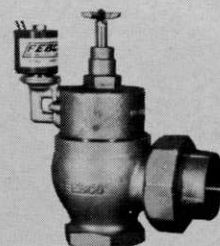
40th Annual Michigan Turfgrass Conference at the Kellogg Center of Michigan State University, East Lansing, Jan. 27-28.



98 Sprinklers
1/2" - 1-1/2"



16 Controllers
1-24 Stations



54 Valves
3/4" - 6"



79
Vacuum
Breakers
1/4" - 8"

UP TIGHT OR WAY OUT

TURN ON WITH FEBCO

For in-close, small areas or large open turf areas — lawns, flowers, shrubs, bulbs — Febco has the right head models.

And to make watering completely painless, install Febco automatic controllers. Commercial or home systems, Febco gives perfect control, automatically.

Febco valves, couplers and vacuum breakers are out of sight, out of mind, yet always on the alert.

Febco, the complete line of quality-constructed irrigation equipment — sprinklers, valves, couplers, controllers and vacuum breakers. When you install Febco.....

all you add is water!

FEBCO Incorporated

P. O. Box 368 - 9121 Glenoaks Blvd. - Sun Valley, CA 91352
Telephone: A/C 213 767-8413

For More Details Circle (117) on Reply Card



What's New With 'The Grass People'

Scotts, "The Grass People," exhibited no small measure of confidence in just scheduling a professional turf seminar at its central Ohio headquarters in the first week of supposedly winterish November.

The first of the two days, Nov. 5 and 6, was chilly and cloudy, but the grass was green.

About 30 turf specialists, mainly sod producers and golf course grounds managers, were on hand to see what's new. They came anywhere from the eastern half of the U.S., from the East Coast to Kansas.

O. M. Scott & Sons, now in its 101st year, conducts several dozen seminars every year for people with various levels of knowledge about grass, from the professionals of this seminar to small gatherings of homeowners in towns and cities where there are Scotts dealers.

Nearly everything appears new at the Scotts layout in and around Marysville. And the company claims that 75% of its volume is in products not in existence 10 years ago.

Biggest and newest is a fertilizer production plant using Scotts patented "Polyform" process that began production this summer. The essential difference of Polyform from its early "Trionized" process is that nutrients are formed into solid particles that "are self-supporting, thus eliminating the need

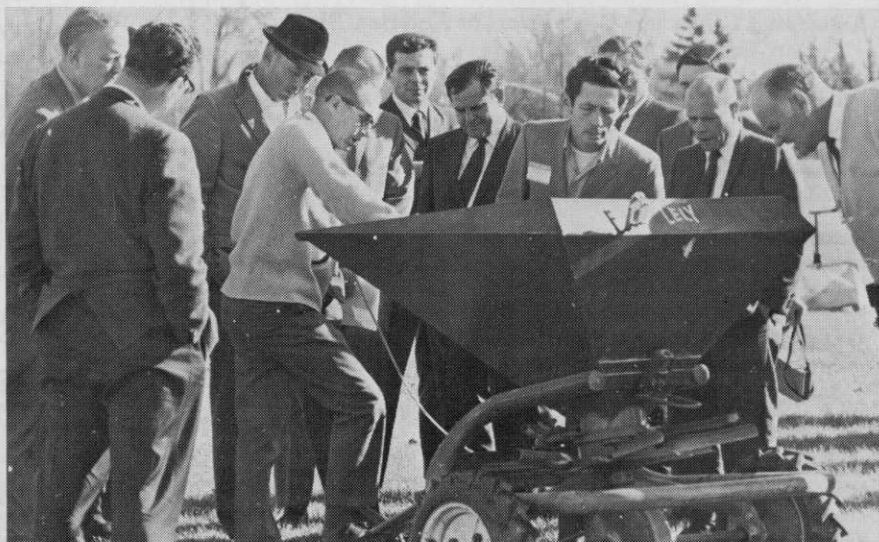
for, and weight of, an inert carrier material."

The Trionized process uses the carrier vermiculite, a micaceous mineral that expands with heat (ore weighs 56 lbs./cu. ft.; the expanded carrier 7 lbs./cu. ft.) Nutrients in liquid form are applied to the accordion-like structure and dried. Upon application, soil moisture again releases the nutrients from the carrier.

Scotts calls on computers to keep track of some 16,000 varieties of

bluegrasses, its resource bank for developing new varieties or improving its patented Windsor. More than 100 acres of demonstration and experimental plots surround facilities at Marysville. Forty are devoted to turf varieties, 70 to herbicide and fertilizer evaluation.

Seminar guests inspected plots showing the improved response that Scotts ProTurf fertilizer formulations in the Polyform process achieved over earlier products. They saw demonstrations of variable



As sod growers and golf turf specialists look over this fertilizer spreader, compare the difference in dress with the picture above. After a cold cloudy start, the seminar ended sun-shiny and warm.

A tour of O. M. Scott & Sons grass research plots was part of the professional turf seminar. Dave Green of the research division explains at left how herbicides are applied to strip plantings of grass varieties to get maximum evaluation data. At right, he talks about a project under way to determine if quail feeding on pesticide-treated grass are affected. A humorous aspect of research problems, Green reported, is the difficulty in growing quack grass and keeping chinch bugs alive — for test purposes, naturally.



rates of herbicide applications combined with various mowing heights on all major turf varieties marketed.

Herbicide and pesticide residues are getting particular attention. A covey of quail is feeding on treated grass. The birds are moved each day for 21 days, conforming with government pesticide evaluation procedure. At the end of the feeding period, egg quantity, hatchability and shell thickness will be evaluated. Chemical residue and run-off are being checked under controlled conditions. Turf is being grown in cement tanks which permit sampling and evaluation of water run-off from artificially induced or natural rainfall.

One greenhouse is devoted to growth regulation research. An outside plot mowed and treated in late summer showed excellent control up to six weeks.

Paul Florence, who heads up Scotts sod-marketing division, discussed patent infringement with sod growers, in view of the difficulty in distinguishing Windsor from similar varieties such as Merion. Florence said closer policing will be pursued in the future. Earlier, the group was briefed on a technique of thin-layer chromatography with which Scotts' researchers can tell the difference between Merion and Windsor. In simplified terms, the process converts the plant material to a color spectrum interpretation which with consistency discloses a four-dot grouping for Windsor while



Merion exhibits two.

Bob Wilhelm, seminar manager, reviewed the major turf insects and diseases and oriented the group on the Scotts products designed to correct the various afflictions. Bill Weagly covered similar ground for weed identification and control.

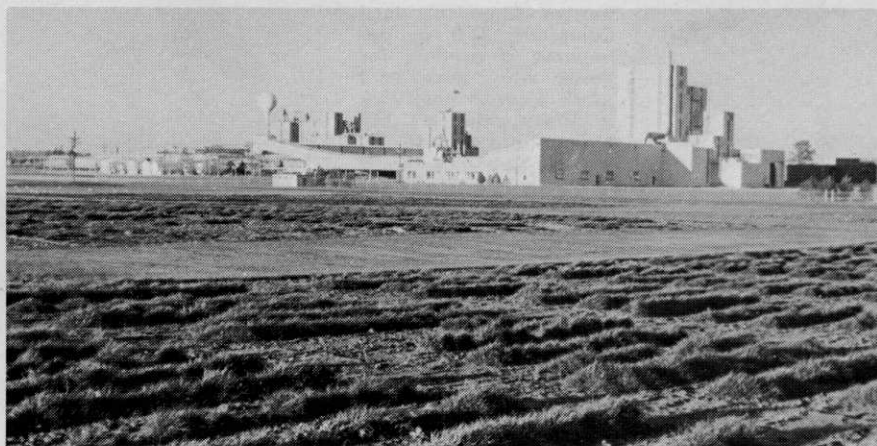
One of the more intriguing phases of the facility tours was the visit to Seed Technology, Inc., where Dale Kern instructed the group on how to interpret seed labels. A comprehensive article by Kern about seed analysis appeared in the January, 1969, issue of WEEDS TREES and TURF.

Kern warned the group that the seed label gives variety percentage by weight.

Though federal seed regulations specify the procedure, this method can grossly mislead the purchaser on the seed blend or weed content of the product he thinks he's getting, Kern said. There is a great difference in the number of seeds per pound for the many varieties of weeds and grasses, he explained.

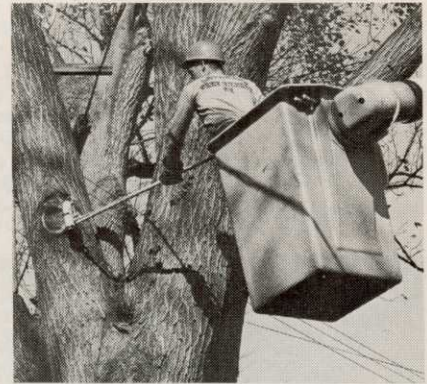
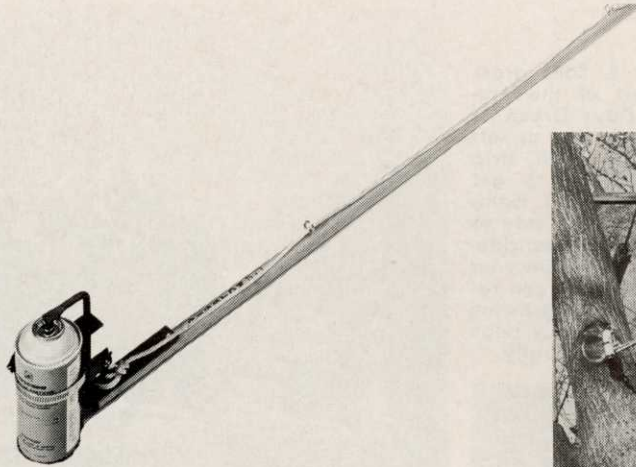
The theoretical blend, for instance, which consists of 20% each by weight of bentgrass, bluegrass, fine fescue, tall fescue and ryegrass when converted to seed numbers, becomes: 75% bentgrass, 18% bluegrass, 4% fine fescue, and 1.5% each of tall fescue and ryegrass.

Seed analysis services and fees are available by writing Kern in Marysville, Ohio 43040.

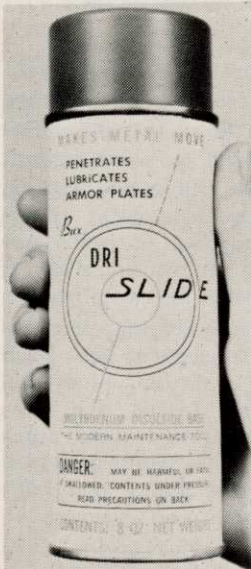


In the background of field plots of grass varieties is the O. M. Scott & Sons complex at Marysville, Ohio. The large building at right is the new Polyform chemical plant that went on stream this summer.

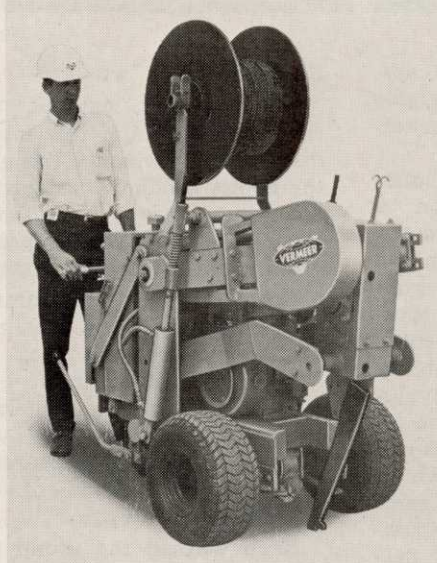
New Products



Asplundh Tree Expert Co., Jenkintown, Pa., announces a combination tree wound dressing and sprout growth inhibitor on an applicator pole for faster unit production. Asplundh Inhibitor-Fortified Tree Paint is a high-quality asphalt-base wound dressing containing 1% of the ethyl ester of naphthaleaneacetic acid. The formula is offered in an aerosol can, which, the company claims, aids production and reduces unit cost compared with brush-on applications. The tree paint is most effective as an inhibitor of new sprout growth; less effective as an elongation inhibitor, says Asplundh. Application may be made any time during the year. For more details, circle (701) on the reply card.



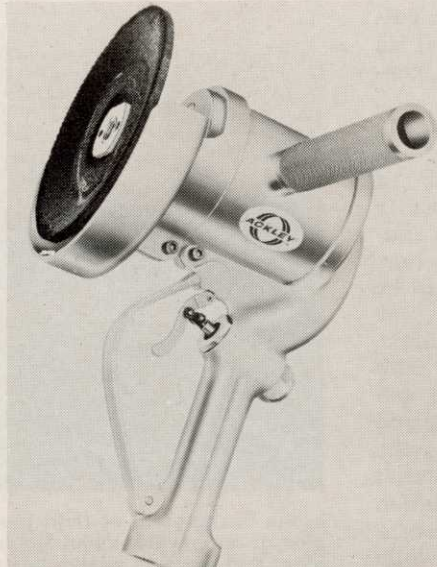
Dri-Slide, Inc., Fremont, Mich., announces that Dri-Slide now comes in an 8 oz. aerosol container. Dri-slide is the penetrating - inhibiting dry-film reaction lubricant that is applied wet, forcing "revitalization" of frozen mechanisms and parts. Operating pressures leave treated surfaces "plated" with a dry slick film impervious to water, steam, chemicals, alkalis and most acid. Boundary film reduces friction coefficient to about .02 with 100,000 PSI film strength. Reaction product imparts monomolecular corrosion inhibiting characteristics. For details, circle (704) on the reply card.



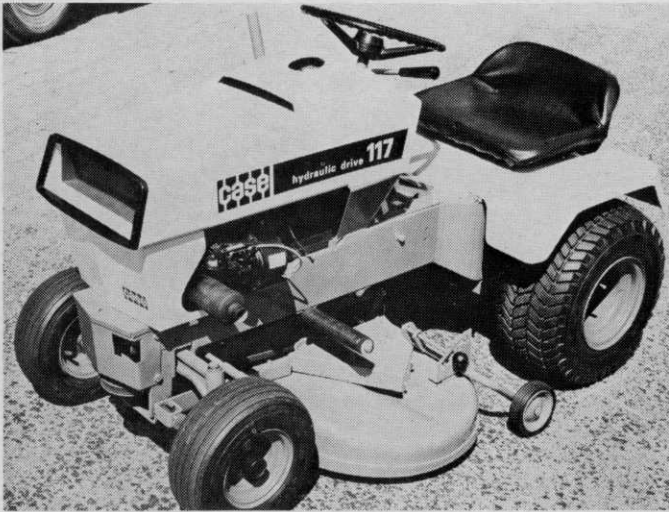
Vermeer Manufacturing Co., Pella, Ia., offers a new portable service line cable layer designed primarily for use on yards and finished areas. The new CL-15, a compact 12 hp machine, will bury cable about 15" deep (standard) and is easily transported to and from job sites by a pickup trailer or van. The unit is specifically designed for plowing in telephone cable, underground wiring for street lights, commercial and residential services—gas lines to yard lights and permanent grills, lawn irrigation piping, etc. No backfilling or re-landscaping is necessary. High flotation tires, individual drive wheel control and variable speed hydraulic power combine to provide simple and efficient operation and handling. For more details, circle (705) on reply card.



Nutro Turf & Garden Products, division of Borden Chemical, Inc., Columbus, Ohio, announces a product for those who wouldn't touch a wasp nest with a 10-ft. pole. It's the new Nutro Hornet & Wasp Bomb that shoots a narrow jet stream of wasp-lethal insecticide up to 12 feet. The aerosol dispenser (15½ oz.) permits on-target aiming. Suggested time of application is early morning or late evening when wasps are hovering at their nests. Wasps suffering direct hit fall in two or three seconds. Bomb sells for \$1.95. For more details, circle (708) on reply card.



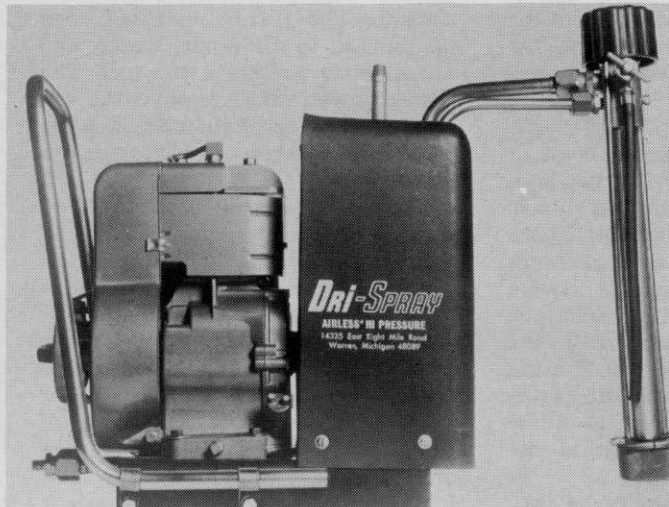
Ackley Manufacturing Co., Clackamas, Ore., has developed a portable, lightweight, hydraulic-powered grinder, capable of operating smoothly at high speeds. Power rating is 4 to 6 hp. It weighs 14 lbs., has standard ¾" shaft that accommodates 7" grinding wheel, wire brush, cut-off wheel and other high-speed attachments. There are two models for above water use, 24H open center and 24H-CC closed center and two for underwater use, 24HS open center and 24HS-CC closed center. For more details, circle (709) on reply card.



J. I. Case Co., Racine, Wis., introduces for 1970 a 7 hp compact tractor that features simplified, quick-change attachments for all-season use. Model 117 utilizes a hydraulic drive system with single lever travel control. Attachments include a 34-inch mower, 32-inch snowcaster, and 38-inch dozer blade. Its "snap-fast" system enables anyone, without use of tools, to install or remove attachments within two minutes. For more details, circle (702) on reply card.



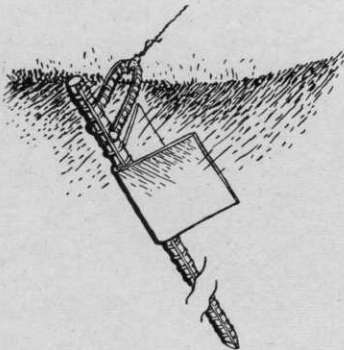
Allis-Chalmers, Milwaukee, Wis., calls "maneuverability" the key word for its Model B-208, eight hp riding tractor. Its two-section frame, joined just forward of the operator seat, allows the forward half of the unit to follow ground contour independent of the rear section, facilitating mowing around uneven terrain and obstacles. Free-floating mower design prevents scalping. Three speeds forward to 5.6 mph; one reverse at 2.9 mph. For more details, circle (703) on reply card.



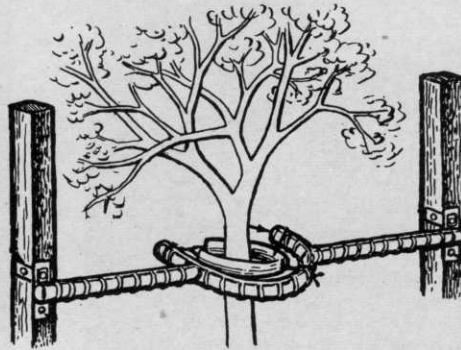
Dri-Spray, a division of Equipment Development, Inc., Warren, Mich., announces the development and marketing of its Model 816-A airless paint sprayer. Features option of converting to either gasoline engine or electric motor as power source at anytime. Choice of spray tips available. Atomizes pressurized paint directly from conventional one- and five-gallon containers, spraying at rates up to 2 gallons per minute. For more details, circle (706) on reply card.



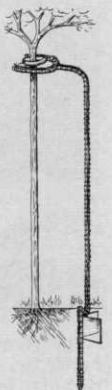
Portable Elevator Manufacturing Co., Bloomington, Ill., has added electric hoists to its Glencoe line for light-medium duty dumping conversions. The electric models permit conversion of any type of body, including standard pick-up boxes, flatbeds and utility bodies, to a dumping body. Recommended for occasional dumping (6 times per hour, or less). Electric unit operates directly from truck's 12-volt battery, eliminating the cost, weight and bulk of PTO operations. For more details, circle (707) on reply card.

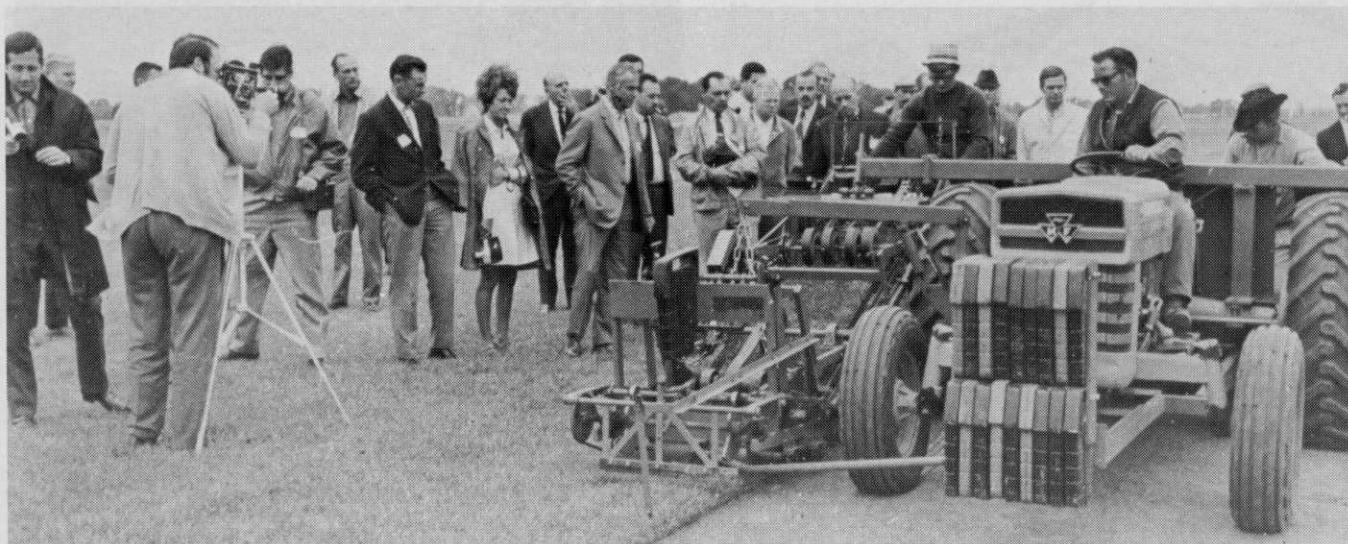


Maxwell Steel Company, Santa Fe Springs, Calif., offers a line of young-tree supports made of solid steel. Design prevents turning after placement. Connections arc-welded. Estimated life 25 years. Guaranteed for 10 years. Made in $\frac{5}{8}$ " and $\frac{3}{4}$ " diameters



ters in heights in increments of 6" from 4'0" to 6'. Special lengths on order. Only tools needed for installation are heavy hammer and pliers. For more details, circle (710) on reply card.





Harvesting sod, which used to require 10- to 12-man crews, now can be done with three or four men and this Ryan harvester, European visitors were told.

Europeans Tour Ryan Facilities

Thirty-five European turfgrass specialists toured the U.S. in September under the auspices of the Ryan Equipment Co., St. Paul, Minn.

Representing 15 European countries, the group consisted of turfgrass equipment distributors and turfgrass experts. The men, with their tour guides and interpreters, attended seminars, lectures and new product demonstrations at the Ryan plant in St. Paul. The distributors

in the group sell and service turf-care equipment for Ryan.

The turfgrass industry is in the midst of a worldwide revolution, believes Russell Rose, Ryan sales representative.

"Years ago, it was a fairly simple matter to care for a home lawn or golf course fairway. Nowadays, along with the sophisticated hybrid grasses developed by agrostologists, chemically produced fertilizers are being strongly promoted to make grass grow faster and thicker," he said. "Man is tampering with the balance of nature by accelerating grass growth and killing off earthworms which aerate soil to allow moisture to seep through to the roots."

Much of Ryan's products, he con-

tinued, are designed primarily to restore this imbalance in nature. Aerating and slicing machines open up the soil to allow air, water, and nutrients to penetrate the turf. The firm's power rakes remove the excessive build-up of thatch which results from the grass growing faster and thicker.

Though improving, the image of the U.S. golf course superintendent, formerly "greenskeeper," has not attained the position enjoyed in European countries, the visitors agreed.

Ernest Duerr, a representative from Orag Inter Ltd., Baden, Switzerland, who speaks five languages fluently, said people in charge of turf in Europe are highly regarded and rewarded, compared with their U.S. counterparts.



A close look at the tractor-drawn Ryan Renovair is taken here by, from left, Francis Craninx, from Usines Ed. St. Hubert, in Tienen, Belgium; Eugene Gateau, from Rochland SA, in Coex, France; and Michael Goetzmann from Ph. Goetzmann SA in Lingelsheim, France.



Ryan President Earl Nystrom describes sod production techniques to representatives from 15 European countries. The St. Paul firm's officials learned that sod farming is big business in Europe, also.

Duerr said a European golf course superintendent is extremely well trained. He must study agronomy, turf-care diagnosis and treatment for three years before he is allowed to serve as an apprentice on a golf club staff. After completing his training, he is greatly sought after and highly paid by competing foreign clubs.

Most of the Europeans agreed that, although golf courses play a big role in their work, they devote much effort in turf care of lawns around schools, hospitals, sports arenas, hotels, spas and sanatoriums.

Michael Van der Lienden, who owns a distribution firm in DeBilt, The Netherlands, said the bulk of his business is done in the school and university markets. His country has 12 golf courses to which he sells equipment and services.

In Spain, the golf course market is growing swiftly, according to Francisco Rein, a representative of Coprima Ltda., Madrid. This is because of tourism, Rein stated, which accounts for 60% of Spain's income. The government, with tourists' dollars in mind, provides low-interest loans to entrepreneurs who develop golf courses in Spain. Today there are lush, green golf courses located in areas where arid sand dunes once stood vulnerable to the hot basque winds. Because of irrigation systems, which keep bermudagrass thriving in Spain, this country now offers tourists a fine selection of superbly kept golf courses.

New Management Announced For Landscape Contractors

Thomas O. Lied, president of the Associated Landscape Contractors of America has announced the selection of Executives Consultant, Inc., Washington, D.C., to manage the 300-member national trade organization.

The newly appointed executive director of ALCA is Walter M. Kiplinger, Jr., an ECI partner and former public information director for the National Recreation and Park Association and editor of *PARKS & RECREATION* magazine.

Executive Consultants, Inc., currently manages six national trade associations, among them the American Society of Landscape Architects.

ALCA will maintain offices in Washington's Southern Building until the first of the year. Headquarters will then move into ECI facilities at 2011 Eye Street, N.W., Washington, D.C.

Scientist Assails DDT Myths

The supposed worldwide distribution of DDT raises some questions of credibility, according to University of Minnesota soil scientist Russell Adams, Jr.

"Pesticides such as DDT are normally used over limited areas," Adams says. "For them to be distributed all over the globe would require some means of transport, either by atmospheric or water routes.

"Most pesticides used eventually reach the soil through direct application or they are washed from plants by rain. Much of the pesticide reaching the soil is then broken down by micro-organisms or it reacts chemically with soil moisture.

"Under the right conditions, DDT may bind itself to soil particles. But because DDT doesn't dissolve easily in water or cling to soil particles too readily, it often escapes into the air as a vapor. Once it reaches the atmosphere, DDT is often destroyed by the sun's ultraviolet rays."

"If DDT is truly present in the Antarctic snowcap, the only way it could have arrived there is through the atmosphere. But neither the mechanisms of atmospheric distribution nor the stability of pesticides in the atmosphere has been studied well enough outside the laboratory to make any firm conclusions," he says.

Adams feels that most of the current confusion over pesticide residues may be directly connected with the development of sophisticated sensing devices. Instruments such as the gas chromatograph can easily detect the presence of DDT in a substance, even though the amount may be as small as one part per trillion.

"This is like sorting through 1,280,000 bushels of wheat for one kernel of smutty grain," he says.

"Even scientists who are familiar with methods used to measure pesticides find it difficult to interpret how important these small amounts are. Also, there are many naturally occurring compounds, and some synthetic

organic compounds being added to our environment that look like pesticides when they pass through the gas chromatograph.

"Carrots, for example, may contain natural compounds, which mimic aldrin and dieldrin, two chemical relatives of DDT. Gas chromatographs are sometimes unable to single out and measure natural compounds when the man-made chemicals are also present. This fact has been known for years. Yet some pesticide analysts still appear to be unaware of it.

"A number of other compounds that are easily confused with DDT have been detected in birds and fish. These compounds are commonly used in petroleum products, rubber, coolants, and several other materials. They are reported to be toxic to wildlife and they affect the calcium metabolism of birds. Yet DDT continues to receive all the blame.

"Since these compounds resist chemical breakdown and are used extensively, some early findings that pointed to widespread DDT contamination are open to question."



The Heavy Duty Line.
One year warranty on complete unit because it is built for heavy duty commercial use.



BUNTON LAWN LARK
Power turning, trim with either side, six forward speeds, mows without scalping, mows grades up to 45°, rider attachment optional. 24" to 52" cuts. Ask about new 21", 4 H.P. self-propelled.



BUNTON TRIMMERS
Trim and edge with either side, 8", 10", 12" cuts.



BUNTON "C-TWENTY ONE"
Heavy, reinforced frame and adjustable handles, extra-life engine, up to 5 H.P., machined-steel blade driver and ball bearing steel wheels.



For additional information, write Dept. WT

BUNTON CO.

4303 Poplar Level Road
Louisville, Kentucky 40213
Area Code 502 - 459-3810

January
Is the
Turf Issue

Central Plains Turfgrass Report

Zoysia Fine On Kansas Golf Course

An experiment of using zoysia for tees and fairways at the Alvamar public golf course in Lawrence, Kan., is proving popular with golfers, course maintenance personnel and club managers. The superintendent and part-owner of the course reported this experience at the 20th Central Plains Turfgrass Conference at Kansas State University, Manhattan.

Mel Anderson, reporting on his club's use of zoysia, said golfers particularly like the way the upright zoysia fairways "tee up" the ball better than other grasses. The zoysia on the Lawrence course also has demonstrated winter hardiness and excellent resistance to disease.

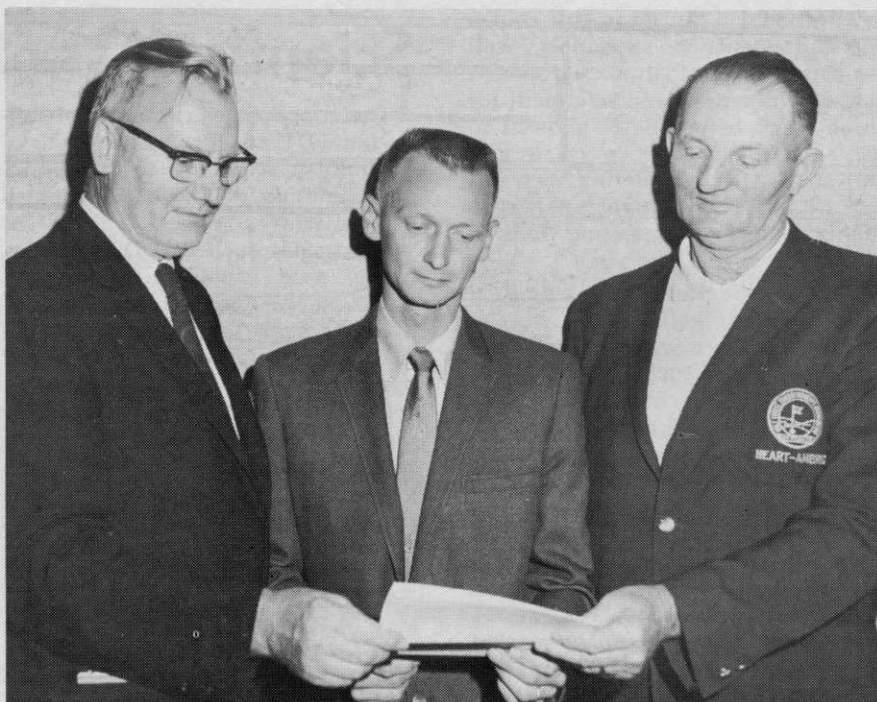
The Lawrence Alvamar course is the only complete zoysia golf course in this area and possibly in the country, Anderson said.

Anderson and his partners planted 62 acres of the zoysia tees and fairways in 1967. The course has been open for play since May 15, 1968, providing two full seasons of activity on the new grass. "So far we are very pleased with the results," Anderson said.

Other subjects discussed during the golf course session included automatic irrigation and the activities and duties of professional superintendents.

In another session of the turfgrass professionals, a panel of three university professors discussed a variety of topics. Dr. William Lobenstein, University of Missouri, spoke on dew, guttation and inoculation of turfgrasses; Dr. David Whitney, Kansas State University, spoke of nitrogen in the soil; and Dr. A. E. Dudeck, University of Nebraska, discussed roadside and highway turf.

One hundred and thirty-five persons registered for the conference.



Cedric Johnson, center, superintendent of the park and recreation maintenance for the Wichita Board of Park Commissioners, is the newly elected president of the Central Plains Turfgrass Foundation. D. W. Adams, right, superintendent of the Topeka Country Club, is vice-president, and Ray Keen, Kansas State University horticulturist, is the re-elected secretary. The men were selected at the organization's recent conference on the KSU campus.

Atlas Computes Free Data For Pesticide Formulators

Pesticide formulators now can have their data calculated rapidly, accurately, and free of charge, thanks to Atlas Chemical Industries, Inc.

Through a cooperative agreement between Atlas technical service experts and a shared-time computer firm, a customer can have his formulations done by filling out a formula sheet provided by Atlas. After listing the ingredients he plans to use, such as toxicants and solvents,

the customer telephones this data to the Atlas product development laboratories, where it is checked before being teletyped to the computer center. Inside of two minutes, the complete formulation is being printed out in usable form on the Atlas teletype machine.

New Fact Sheets Available From Diamond Shamrock

A completely new set of quick-reference fact sheets on its line of agricultural proprietary chemical products has been issued by the Diamond Shamrock Chemical Company, Cleveland, Ohio.

Each of the new fact sheets includes a complete specimen label for the chemical.

Included on each new fact sheet are illustrations of uses and effects of the chemical, a listing of its advantages, and a full specimen label which gives mixing and application procedures, crop clearances and weeds or organisms controlled by the material.

The new fact sheets, printed in color, are available singly or in sets by writing to the Biochemicals Division, Diamond Shamrock Chemical Company, 300 Union Commerce Building, Cleveland, Ohio 44115.



"If I don't sell a job soon, I'm fired."

Plantings Can Reduce Some Traffic Noises 50%, Missouri Study Shows

Landscape plantings can have a significant although limited effect on reduction of outdoor noise, believes Dr. F. O. Lanphear, research associate at Washington University and Missouri Botanical Garden, St. Louis.

"Proper selection and spacing of plants along with proper land grading could contribute significantly to the alleviation of noise along highways and other problem areas," he said.

Some plantings 25 to 50 feet wide reduce noise at the higher frequencies of 10 to 20 decibels more than half. Lower frequencies are less effectively reduced, he said.

Large pine and spruce plantings, 50 to 100 feet wide, are also capable of reducing some of the lower frequency noise, characteristic of traffic, as much as half.

Lowest frequencies, which are the most difficult to eliminate but fortunately the least annoying, are not affected by the plantings.

Effective evergreens for year around noise reduction are arborvitae, douglas fir, spruce and pine, all of which have foliage to the ground. Other evergreens, such as hemlock, holly, and juniper, are not as effective. Some good deciduous plants are thickets of sassafras and pawpaw, as well as mixed species. Size and density of the plantings is critical in noise control, with hedges and other narrow plantings relatively ineffective.

Tree Expert Cites Assets Of Liquid Plant Foods

"Easy shipping, easy application and rapid results are some of the reasons why liquid plant foods have progressed so far since the days of hydroponics in the hot house."

That's the opinion of Gordon H. Knowles, who heads Knowles Tree Service of San Leandro, Calif.

"Foliar feeding is so simple—and mist blower leaf feeding so fast—that arborists, amateur and professional alike, are turning to liquid plant food to solve tree-feeding problems.

Knowles cites one liquid plant food product, Heller-gro, as having the asset of being compatible with all common insect control sprays. "You simply apply both preparations

at the same time," he says.

Because it is compatible, Heller-gro may be safely used with arborist-aids Wilt-Pruf and Transplant-one.

Trees with a restricted root area can be fed with the liquid, using a hydrospear and supplementing this by foliar feeding.

Newly propagated trees get vital stimulation and secondary root development is encouraged by the makers of Heller-gro, claims Knowles.

Weak trees also respond to nourishing, easily absorbing a balance of active nutrients and supplemental elements. Transplanting is helped by injection into the rootball and through foliar application before removal from the original site, Knowles says.

(A free booklet about the uses of Heller-gro is available. Circle (711) on reply card.)

Kearney-National Buys West Point Products Corp.

West Point Products Corp., recently acquired by Kearney-National, Inc., New York, has moved its operations to Evansville, Ind.

All of West Point's operations will be integrated into the large 17-acre facilities of the Hahn-Eclipse Co., 1625 North Garvin St. Hahn-Eclipse Co. also is a division of Kearney National, Inc.

Tom Mascaro, president and founder of West Point, has been named vice-president of product and market research and development for the newly formed turfgrass group. His address will be at corporate headquarters, 250 Park Ave., New York.

West Point Staff members will be located at the Hahn plant. Walter P. Dickinson has been named director of sales, commercial products; Ted Williams, sales service manager; Ron Wilson, production, special products.

Marvin Heseman, long-time sales manager for Hahn-Eclipse, has been appointed vice-president of marketing for all products. Lloyd Hahn, former owner of Hahn-Eclipse, will remain president for the Evansville operation. Roger L. Keech, vice-president of Kearney-National, will head turfgrass group.

Products presently manufactured include aerifiers, verti-cuts, and specialized professional equipment, home lawn mowers, garden tractors, and specialized agricultural equipment.

a touch of
Swedish beauty



**0217® BRAND
FYLKING KENTUCKY
BLUEGRASS***

Jewel among lawngrasses, originating in Svalof, Sweden, Fylking has an entire complement of desirable features. Unusual density due to an abundance of sideshoots creates a weed-free lawn. It colors early to deep green emerald. Blades stay unblemished, brilliant through fall, because it's more disease resistant. Winter hardy and drought resistant, Fylking grows thicker in summer. Doesn't produce ugly seedheads, mixes well with other varieties, gradually dominating. Fine, thick texture can be cut low as 1/2 inch. Proven in 12 years of international testing by noted authorities. Ask for 0217® Fylking Kentucky bluegrass (U. S. Plant Patent 2887) at your seed distributor. Write Jacklin Seed Co., Dishman, Wa. 99213, for information.

For More Details Circle (116) on Reply Card

Florida Nurserymen Hear Qualities of a Manager

"It is not necessary to be academically prepared to become a good manager in a given field," Dr. H. B. Clark, University of Florida agricultural economist, told Florida nurserymen recently. He spoke at the annual Florida Nurserymen and Growers Association's annual trade show and the University's short course in early October.

Some 807 persons registered. An estimated \$119,301 sales were reported from 115 booths. Both figures broke 17-year records.

Managers "are made, not born," Dr. Clark stated. "Managerial principles pertinent to the learning process can be derived from statistical theory, logic and the application of the economizing techniques to the learning process.

"Experience is the stepping stone to progress; be daring but sensible, and beware! A good manager is never surprised and bends with

eventualities. But in aspiring to become a manager, one must ask himself: (1) Is this what I want? (2) Can I stand physical and mental pressure? (3) Can I make decisions; create and weigh alternatives? (4) Can I assume responsibility?"

Dr. Clark warned against a manager becoming involved with small problems: He must instead devote his energies to planning and to contemplate the "fitness" of his business in a rapidly changing world.

He emphasized three skills of management: Technical, human relations, and conceptual. Originally, technical skills attracted man's attention because technical progress was slow, business was simple, capital requirements were low, and number of people involved small.

Human relations skills need to be upgraded. A successful manager must have "unity and diversity" with continuous chain of command, he said.

Only recently have conceptual skills been recognized for their importance, suggested Dr. Clark. Management must know where it is going, how to get there, and how to fit into the competitive world. This, he said, takes maximum thought and knowledge seeking.

AAN Membership Spurts Ahead of Last Year's Gain

Nursery firms are joining the American Association of Nurserymen at an unprecedented rate, reports AAN President William Flemer III.

Flemer, of Princeton Nurseries, Princeton, N. J., reported that since the beginning of AAN's fiscal year, July 1, and through Aug. 30, the national association received 77 new member applications, compared with 15 during the same period a year ago.

Retail nurserymen account for the largest portion of the increase, Flemer noted. He attributed this to retail-oriented publications and advertising programs, "specifically tailored to their problems." In addition, a special summary is to be published, dealing with problems of nursery advertising and practical solutions, he announced.

Other growth factors include expanded services for the wholesale nurseryman and the AAN's new marketing arm, The Landscape Council. Nearly one-fifth of those joining the Council are becoming AAN members for the first time, Flemer observed.

Trimming

MOON DUST has a high titanium content, is low in potassium and sodium, and appears to lack organic matter. Plants could not grow in moon dust alone, but the dust could serve as a good medium if nutrients were added. Some seedlings of plants, such as tomato, bean, wheat and pine, showed a growth advantage when challenged with lunar material. The most noticeable growth was shown by liverworts, a lower form of plant life. Fern and lettuce grew best on lunar material; however, growth of algae was inhibited initially.

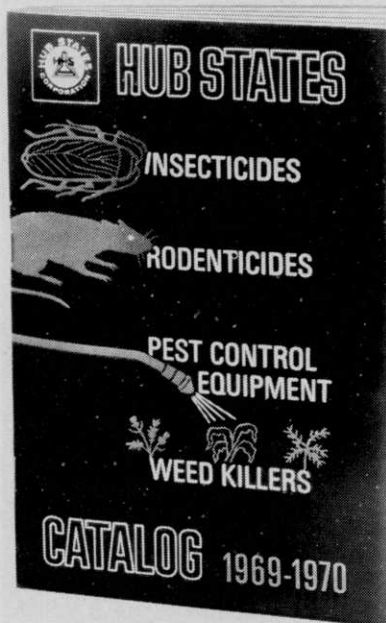
These findings have been reported by Dr. Charles H. Walkinshaw, leader of a team of NASA botanical scientists conducting tests with lunar material brought back by the Apollo 11 mission. The team is evaluating the effects of lunar material on more than 30 species of plants.

A plus benefit of the project has been the development of plant quarantine facilities to permit the production of truly germ-free plants. "This opens significant new frontiers in plant disease investigations and basic research into the functioning of all plants," Dr. Walkinshaw said.

ANY EVALUATION of moon dust capabilities, to be of significance, of course, requires comparisons with Texas soil. In substantiating the claim that Texas "has some of the best soils in the world," Texas A&M landscape architect Robert H. Rucker said recently that "on some Texas soil all you do is add water to get concrete!"

PLANNED OBSOLESCENCE just isn't in the picture for the chemical industry as it is with other industry products, notably the automobile. Chemical research is painstakingly slow and gains, though significant, usually come in small portions. In fact, observed Robert Capps of Dow Chemical Company, "genuine newness sometimes comes as a great surprise — especially if the competition has it!"

NORTHRUP-KING has announced that an improved variety of dandelion seed is available. The seed is intended mainly for overseas markets where the plant is used as food-stuff. But we suppose the next rafter-rattling the chemical industry can expect is the charge that NK is conniving (by secretly spreading dandelion seeds on turf areas) with weed-killer manufacturers to keep each other in business.



A new "how-to" catalog of insecticides, rodenticides, weed killers, and pest control equipment is available from Hub States Chemical and Equipment Corporation, 2000 North Illinois St., Indianapolis, Ind. In addition to listing a variety of products, the catalog contains useful information on how to use the various products to best advantage. Among items listed are flying and crawling insect sprays and fogging formulations, bird repellents, both selective and total weed killers; hand-operated, electric motor and gasoline engine-operated sprayers; electric and jet foggers; mist blowers and dusters; respirators; goggles; and others.

TELL ME MORE

This page is provided for your convenience. To obtain additional information on new products, trade literature and advertised products in this issue, simply circle the corresponding number on the perforated card below, fill in your name, business address and mail the card. No postage is required.

FOR MORE INFORMATION FILL OUT AND MAIL TODAY!

ADVERTISED PRODUCTS

101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118
119	120	121	122	123	124	125	126	127
128	129	130	131	132	133	134	135	136
137	138	139	140	141	142	143	144	145

NEW PRODUCTS

700	701	702	703	704	705	706	707	708
709	710	711	712	713	714	715	716	717
718	719	720	721	722	723	724	725	726
727	728	729	730	731	732	733	734	735

Please send more information on items circled

(Please type or print)

12/69

Name

Position

Company

Street

City

State Zip Code

Please describe your type of business

Note: Inquiries serviced until Feb. 20, 1970 A

Use this convenient card if
you wish to receive further
information on products and
services advertised or de-
scribed in this issue.



BUSINESS REPLY MAIL

NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

postage will be paid by

WEEDS TREES AND TURF

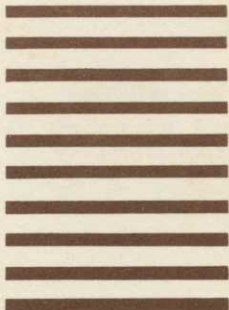
BOX 1100

DULUTH, MINNESOTA 55802

FIRST CLASS

Permit No. 665

DULUTH MINNESOTA





"I still say we aren't doing a good enough job."

Willard Hayes Purchases Automatic Rain Company

Willard L. (Bill) Hayes, a West Coast engineering executive, has purchased Automatic Rain Company of Menlo Park and a controlling interest in Automatic Rain of Marin County.

Hayes will serve in the dual capacity of president and general manager. He formerly was director of engineering with Purity Stores, Inc.

Automatic Rain specializes in designing and supplying lawn and landscape sprinkler systems and is a large distributor for Rain-Bird turf and sprinkler equipment.

The company distributes and sells products used in residential, agricultural and turf sprinkling. Automatic Rain operates in 16 Northern California counties from Salinas and Monterey to as far North as the Oregon border.

New Brochures Available On Baker Rental and Leasing

New brochures are available on the equipment rental and leasing program of the Baker Equipment Engineering Co., Richmond, Va.

Baker offers derricks, cranes, aerial towers, trailers, cable reel, pole and material trailers, and a variety of other equipment on a short-term rental or long-term leasing basis.

Baker rents or leases the equipment of other leading manufacturers as well as its own products.

For the new literature, write Baker Equipment Leasing Corporation, P.O. Box 1391, Richmond, Va. 23211.

Classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: "Position Wanted" 10¢ per word, minimum \$3.00. All other classifications 20¢ per word, minimum \$4.00. 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. Bold-face rule box: \$25.00 per column inch.

USED EQUIPMENT

SURPLUS Equipment—2—50 gpm Hardies, 1 with air-cooled VE-4 and 1 with Waukeschau 40 horsepower liquid cooled. Both entirely reconditioned and overhauled in our shop. Pictures available. Subject to prior sale. Cash only. A. E. Hembree Nursery, E. 7809 Indiana, Spokane, Wash. 99206.

FOR SALE—Worthington 7 gang 3 blade blitzer mower, 30" blade capacity, 3:50 x 18" tires, excellent condition. \$950.00. West Salem Machinery Company, 7th & Murlark St., Salem, Oregon 97304.

SPRAYERS, chippers, log splitters and other equipment at large savings. Let us know your needs. Equipment Sales Company, 4744 Sunrise Highway, Massapequa Park, N. Y. 11762.

LANDSCAPE superintendent — Excellent opening at the University of Virginia in the beautiful Blue Ridge Mountains. Wide variety of unusual plant material with definite challenge involved. Liberal fringe benefit program. Position requires degree in agriculture or related field and one year experience in grounds planting and maintenance at supervisory level. For prompt reply, please send resume in confidence to: William D. Vining, Assistant Director of Personnel, 1416 West Main St., Charlottesville, Virginia 22903. An equal opportunity employer.

GROUNDSMAN wanted with two year horticultural or allied degree or equivalent experience for newly organized park commission. Opportunity for growth and development. Annual salary range between \$6,000-\$7,000 based on experience. Send resume to: Richard Bartlem, Director, Parks and Recreation, 559 South Main Street, Cheshire, Connecticut 06410.

FOR SALE

FOR SALE: Well established California pest control business, fully licensed all branches, catering to the elite. After 40 years, present owner wants to take it easy. Will help buyer get established in this good paying business. A knowledge of trees, plants, soils, and pesticides would help. Box 45, Weed, Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Advertisers

INDEX TO ADVERTISERS

American Sod Producers Assn.	51
Asplundh Chipper Company	25
Asplundh Tree Expert Company	49
Bunton Company, Inc.	59
Elanco Products Company	32
Febco, Inc.	53
Hercules, Inc.	9
Highland Bentgrass	25
Hypro, Inc.	39
Jacklin Seed Company, Inc.	61
Lindig Manufacturing Company	11
Mitts & Merrill, Inc.	5
The F. E. Myers & Bro. Company	19
John Nunes Mechanical Harvesting Company	4
Nursery Specialty Products, Inc.	2nd Cover
Stanford Seed Company	44
Stihl American, Inc.	4th Cover
Weatherguard Chest	44

WANTED TO BUY

JOHN BEAN hydraulic sprayer 35 to 70 gallon per minute pump. 400 to 600 gallon tank, late model, excellent shape. Write or call W. J. Smith, 2191 Pine River Rd., Midland, Michigan 48640. Phone: Midland, Michigan 631-0817.

HELP WANTED

SUPERVISOR OF GROUNDS

Large Midwestern University seeks a person with educational background in one of the plant sciences, to assist in supervising the operation of the grounds and trucking departments.

**GOOD STARTING SALARY
AND FRINGE BENEFITS**

WRITE BOX 46

**WEEDS
TREES
and TURF®**

9800 Detroit Avenue
Cleveland, Ohio 44102

AN EQUAL OPPORTUNITY EMPLOYER

STIHL American, Inc.

194 Greenwood Ave.,
Midland Park, N.J. 07432,
Code 201-445-0890

7364 Lee Industrial Boulevard,
Mableton (Atlanta) Georgia 30059,
Code 404-941-1730

23962 Clawiter Road,
Hayward California 94541,
Code 415-785-9100



We've added Solid State Ignition to the World's most advanced chain saw!

Our engineers and designers are a very dedicated and conscientious group and not at all inclined to rest on past laurels.

Consequently, although the new Stihl 041AV was recognized all over the World, as being far ahead of its field in design, engineering and performance . . . our people still were not satisfied. How could we improve upon the World's first and only chain saw with built-in

shock absorbers to eliminate vibration?

We added Solid State Ignition!

Now, you have such Stihl "firsts" as automatic chain oiling and an anti-vibration system for smoother cutting with less fatigue . . . plus the addition of a molded solid state ignition system. Now our technical people are happy with the STIHL 041AV Electronic.

We think you will be too!



For More Details Circle (109) on Reply Card