1978 Managers Guide to Equipment, Chemicals and Supplies

WEEDS TREES & TURF
ONE DOLLAR • SEPTEMBER 1977

EQUIPMENT:
How to maintain it and when to replace it
"After 54 years: We're still the ONE"

- 54 years in the manufacturing of Irrigation Equipment
- Originators of the first Automatic Controller for irrigation systems
- Pioneers in Electric and Hydraulic Brass Valves
- Manufacturers of quality, reliable brass Impact and Spray-head Sprinklers
Equipment: How to Maintain and Replace It 14
Turf managers across the country discuss their equipment and problems.

1978 Guide to Equipment, Chemicals and Supplies 1-56D
Major suppliers of important commodities listed for your convenience.

ASPA Meeting Draws Record Crowd 29
Over 400 sod producers viewed this year's exhibits and demonstrations.

Sex life of Fireant May Be a Key to Control 36
Naturally occurring sterile males may be biological control of Fireants.

ARS Beltsville News 38
Developments in three experiments at the Maryland Ag Research Station.

Rutgers Turf Research Viewed 40
New Jersey research plots were viewed and discussed by scientists.

Nurserymen Meet in Seattle 43
Election of Officers and Awards were an important part of 102nd meeting.

NLA Finds Landscape Guarantees Widespread 48
Survey reveals that a majority of landscape firms offer some guarantees.

Editorial ..................... 6 Meeting Dates ..................... 30
Government News ..................... 8 Products ..................... 50
Industry News ..................... 10 Classifieds ..................... 52
People on the Move ..................... 12 Advertising Index ..................... 54


Member, American Business Press, Business Publications Audit

Single Copy Price: $1.25 for current and all back issues. Foreign $1.50. 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. and Canada are $10.00 per year; other countries, $12.00 per year. Controlled circulation postage paid at Cleveland, Ohio 44101.
Slowly and evenly—month after month—IBDU time capsules and PAR EX fertilizers release just enough nutrients to keep turf green and hardy. Pound for pound your best value in turf nutrition.

IBDU is a water insoluble nitrogen source that is activated very slowly by soil moisture. Not by soil bacteria. IBDU releases at a slow, even rate that can’t be hurried by high temperatures.

And it continues this slow release even when temperatures approach freezing. So turf goes into winter
with a thick, green carpet. Starts out next spring with a fast, early greenup.

PAR EX fertilizer mixes are custom formulated for the correct balance of water soluble nitrogen, water insoluble nitrogen, phosphorus, potassium and trace elements for your specific turfgrass needs.

With IBDU and PAR EX fertilizers, you can provide the most complete, balanced nutrition available for turf and ornamentals in a slow release fertilizer.

Contact your PAR EX distributor or call us. 312/431-2509
TO OUR READERS

This month has been especially demanding. Compiling any lengthy directory would seem to be. We have added a new section, a chemical listing. I know there might be more chemical manufacturers out there than the ones we have listed. So before you sit down to write that irate letter, please realize first that there might not have been a way we could have known . . . excuses, etc.

Please do, however, inform us of the company name, address, chemicals or equipment it manufactures and what each is used for. The only way a directory can be perfect is to include everyone!

If you read thoroughly your last issue of WEEDS TREES & TURF, you will have noticed that this month's issue was to include the winners of the annual WEEDS TREES & TURF awards. This is not the case, however, as a time factor proved otherwise. You will have to remain in suspense another month.

This month the WEEDS TREES & TURF staff traveled to St. Paul and saw first hand some of the equipment and methods that are used to produce fine sod. See page 29 for more details and photos.

WEEDS TREES & TURF was also at the Rutgers field day in New Jersey. Many extensive experiments are underway there that are already benefiting the “Green Industry.” The many experiments will continue to provide results that will benefit us in the future.

The feature story on page 14, you need to read. Mr. LeSieur did extensive research and talked with many turf managers about equipment. Read it and find out how the others do it.

And if you need a ground cover that is highly salt tolerant and requires little moisture, be sure and check out the “Corto” Australian saltbush story on page 46.

Ron Morris
Assistant Editor

This book is the latest on pest control operations

Purdue University and PEST CONTROL Magazine have teamed up to publish the most current and comprehensive guide to industrial pest control available today. An Environmental Protection Agency study found the book to significantly help supervisory personnel and yet said it is written in a manner that is of practical value to any member of a pest control company or department. This third edition is in its second printing within one year. Order your today.

Price of $13.95 (Ohio residents $14.72) includes shipping. Quantity prices available.

NAME ____________________________
ADDRESS __________________________
CITY _____ STATE_________ ZIP ______
Send check or money order to PEST CONTROL Magazine, 9800 Detroit Ave., Cleveland, Ohio 44102

Preserve Your Copies Of WEEDS TREES & TURF in Permanent Binders

Custom-made binder easily holds entire year's copies of WTT magazine. Green binder with gold embossed logo protects your magazines and gives your library a neat appearance. Magazines can be inserted as they are received. Annual index in December issue makes it easy to find information you need quickly . . . and the price is only $4.75!

Send check or money order to:

WEEDS TREES & TURF
9800 Detroit Ave.
Cleveland, Ohio 44102
It runs through the briars, it runs through the brambles and it runs through the timber where a rabbit couldn't go.

If the British had used a Klearway at the battle of New Orleans, they could have beaten a hasty retreat and returned to face "Old Hickory" another day.

For any job, you must have the proper equipment. You certainly wouldn't try to cut through a jungle with a penknife. Although, some companies make a comparable error in their choice of right-of-way clearing equipment.

The Klearway was designed by Kershaw expressly for right-of-way clearance and forestry applications. It's not another machine modified to chop brush and push over saplings. The Klearway is built from the ground up to clean out heavy brush and light timber, leaving a clean swath of mulch on the first pass. Dual head cutting makes it faster than any other machine. The Klearway is dependable, boasting an excellent service record. Speed, efficiency and dependability are its hallmark, meaning profit.

The Klearway requires only one operator. The exclusive protruding dual blades coupled to twin flywheel disks mean unique ground-level cutting. The Klearway will clean up to three acres per hour with no damage to the environment or terrain. When you're working in swamps, Terra Tires, the Klearway's equal weight distribution and 20,000-pound winch won't let you down. Caterpillar® V-8 power and full frame articulation cope easily with high hills and low bogs. For more information, write Kershaw Manufacturing Co., 2205 West Fairview Ave., Montgomery, AL 36108 or call (205) 263-5581.

KLEARWAY
The army of one.
Applicators living in states which have not passed laws requiring a pesticide certification program that complies with EPA standards will have their training and certification programs administered by a regional office of the EPA.

Applicators in this situation will have to keep records of how they dispose of pesticides and take examinations every two years to renew their certifications. Nebraska and Colorado will probably fit into this category, according to Andrew Ceraker, senior regional officer in the EPA's office of pesticide programs.

The chances are over 90 percent that prospective pesticide registration application will be rejected, according to Edwin L. Johnson, Deputy Assistant Administrator for Pesticide Programs of the EPA.

Johnson gave two basic reasons: 1) The applicant "cannot submit or cite data to fulfill the current requirements of the registration (Section 3) regulations; or 2) the data upon which (the applicant) wishes to rely is claimed to be a trade secret by the data developer, who refuses to let the applicant rely on the information."

The conditional registration and the Sections 10 and 3(c)(1)(D) amendments approved by the Senate Agriculture Committee were cited by Johnson as solutions to these problems.

The North Carolina Agriculture Department used a crisis exemption to apply methomyl. It was used in several counties to control outbreaks of the fall armyworm on coastal bermudagrass.

A rebuttable presumption against registration (RPAR) notice against pesticides which contain cadmium is about to be issued by EPA, according to EPA sources. The EPA Carcinogen Assessment Group (CAG) cited studies which show a "statistically significant increase" in the incidence of prostatic cancer deaths among alkaline battery workers who had been exposed to cadmium for at least one year.

In addition, the CAG report said that cadmium salts "increase the frequency of point mutations and somatic chromosome aberrations" and "interact with and break DNA" among other things.

If issued, the cadmium RPAR will be the first RPAR to be issued on a natural substance. The RPAR would involve 30 registrants and 35 products -- all fungicides for turfgrass applications.

The EPA has issued three section 5 experimental use permits to Fisons corporation to allow use of 2,2-dimethyl-1,3 benzodioxil-4-yl methylcarbamate on turf to evaluate control of turf insects in Calif., Ill., Ind., Kansas, Md., Mass., Nebr., N.H., N.J., N.Y., N.C., Ohio, Okla., Penn., and Texas. One permit allows use of 585 pounds of the pesticide on 308 acres, another allows 152 pounds on 76 acres, and the third also allows 152 pounds on 76 acres.
There are 785 different tree species...

And they all thrive on
Ross Super Tree Stakes and
Ross Super Fruit Tree Stakes!

Dependable Ross Super TREE STAKES provide once-a-year feeding of trees, shrubs, and evergreens with a high food value analysis of 16-10-9 PLUS iron and zinc formulation.

New Ross FRUIT TREE STAKES contain 16-5-10 PLUS iron and zinc to provide precise, pre-measured feeding of all fruit trees: apple, pear, apricot, plum, peach, cherry, all citrus, berries and fruit bearing shrubs.

Each commercial case contains approximately 155 stakes... enough to feed more than 35 trees of 3" diameter. There are 20 solid nylon pounding caps to simplify driving into the toughest soil.

For best results, place stakes at drip line of tree, using three stakes for every 2" of trunk diameter. Water does the rest, carrying plant food to the feeder roots.

Two great once-a-year formulas...
- 16-10-9 For Beautiful Trees & Evergreens
- 16-5-10 For bigger, better Fruit

Contact your nearest Ross Daniels distributor for Ross Super Tree Stakes and Ross Super Fruit Tree Stakes. If unavailable in your area, order direct from: ROSS DANIELS, INC., P.O. Box 430, West Des Moines, Iowa 50265. Use this coupon to order.

ROSS Super Tree Stakes
Commercial Pack,
Stock no. 1791
Please ship ___ cases, check enclosed.

ROSS Fruit Tree Stakes
Commercial Pack,
Stock no. 1812
Please ship ___ cases, check enclosed.

Approximately 155 stakes per case, weight 44 lbs.
1-3 cases, $35.00 per case
4-11 cases, $30.00 per case
12 or more cases, $25.00 per case
Each case includes
20 Nylon Pounding Caps

Make check payable to Ross Daniels, Inc.
First EPA restricted pesticides designated

The first draft of the EPA Decision Summary regarding classification of certain pesticide products for "restricted" use has been published. More will be added as EPA reviews more compounds. Nearly all of the products listed are restricted for all uses for all formulations and concentrations. They include Aldicarb, TEPP/Tetraethyl Pyrophosphate, Ethylene Oxide, Paraquat, Picloram, Hydrocyanic Acid, Aluminum phosphide, Acrolein, Allyl Alcohol, Carbon Tetrachloride, Acrylonitrile, Sulfoatepp/Bladafume, Calcium Cyanide, Methomyl/Lannate, Sodium Cyanide, Mevinphos/Phosdrin, Fluoroacetamide/1080, Methyl Bromide, Demeton/Systox, Ethoprop/Mocap, and Phorate/Thimet.

Manhattan ryegrass royalties top $142,000

The Manhattan Ryegrass Growers Association has contributed over $142,000 to further research of grasses at Rutgers University, according to Bill Rose, president of the association.

Manhattan perennial ryegrass was developed by Dr. Reed Funk of Rutgers, and the royalty payments to that university have been a big factor in maintaining the level of research there.

Phosphate producers join Potash group

The Board of Directors of the Potash Institute has approved a new phosphate program that brings major U.S. phosphate producers into the organization and changes the name to Potash/Phosphate Institute.

The first phosphate producers joining the Potash/Phosphate Institute are Agrico Chemical Co.; International Minerals and Chemicals Corp.; Mobil Chemical Co.; Occidental Chemical Co.; Royster Co.; Smith-Douglas, division of Borden Chemical; Borden, Inc.; and Teasgulf Inc.

Basagran gets OK for nutsedge control

Basagran has recently been approved for supplemental labeling of yellow nutsedge (Cyperus esculentus) in commercial turf.

Basagran should be applied postemergence to nutsedge plants when they are actively growing. A second application may be made 10-14 days later if control is not adequate. Thorough leaf coverage is essential for maximum control and mowing should be delayed for 3-5 days after application.

In experiments at Ohio State University, Basagran gave excellent selective control. No phototoxicity occurred on desirable species where recommended rates were used.

NAA has slide/cassette programs available

The National Arborist Association has six cassette programs available. They are: Basic Instruction for a Tree Care Trainee; Climbing Techniques for the Professional Arborist; The Tools and Techniques of Pruning; The Reasons for Pruning; The Technique of Spraying; and Cable Bracing.

The cost of each slide/cassette program is $50 and may be obtained from the National Arborist Association, 3537 Stratford Rd., Wantagh, N.Y. 11793.

Dutch elm disease symposium planned

The National Arborist Association will sponsor a symposium, Nov. 9-10 at the U.S. National Arboretum in Washington, D.C. on the "state of the art" of Dutch Elm disease control. Twelve researchers will share the podium with six representatives from industry. Contact NAA, Inc., 3537 Stratford Rd., Wantagh, NY 11793
New program to focus on people

A new management training program called Professional Effectiveness Program for Garden Center Managers is being jointly sponsored by the American Association of Nurserymen and Garden Centers of America. As in AAN courses of the past, the program will continue to concentrate on things like accounting procedures, cost control, budgeting, advertising, etc., but will now focus on the management of people.

The program will teach an understanding of sound management concepts and the practical application of them to the garden center situation. It is designed for anyone in a garden center who manages people.

Enrollment is limited to 30 participants to permit a more in-depth treatment of the various subjects. More information may be obtained by writing to AAN Professional Effectiveness Program, Suite 230, Southern Building, 15th & H streets, N.W., Washington, D.C. 20005.

Rhodia expands turf care products

Rhodia Inc. Agricultural Division has expanded its Chipco turf care products line. It has received an experimental use permit for Chipco 26019, a new fungicide. The permit allows for the use of Chipco 26019 on dollar spot, brown patch and Helminthosporium.

Rhodia also expects to receive full registration of a preemergent contact herbicide, Ronstar G, by the fall for use on turf and ornamentals. Ronstar G controls crabgrass, annual bluegrass, goosegrass and other weeds in turf applications. In ornamentals, it controls a wide range of broadleaf and grassy weeds.

Asulox herbicide was recently approved by the state of Florida for postemergent control of crabgrass on St. Augustinegrass and Tifway 419 bermudagrass on golf courses and sod farms. Asulox has been used for some time for postemergent control of grassy weeds in Florida sugarcane, roadsides, rights-of-ways and other areas.

Roundup receives EPA registration approval

Roundup herbicide has received Environmental Protection Agency registration approval for turfgrass applications, according to Monsanto Company. Roundup may now be applied, by professional applicators as specified on the label, to actively growing weeds before renovation.

Three new perennial weeds — napiergrass, silverleaf nightshade and wirestem muhly — have also been added to the Roundup label.

Roundup is inactivated once in the soil and has no effect on seed germination. New weeds may also germinate and infest the site. Because of this it is recommended that renovation be done in early fall. This also allows the turf to reach adequate mowing height before snowfall.

It is further recommended that water with soil or iron in it be avoided when using Roundup as either can inactivate the glyphosphate.

GCSAA expands and forms new departments

The Golf Course Superintendents Association of America (GCSAA) has put into operation a new department and expanded an existing department. The new Department of Chapter and Industrial Relations will promote the growth of the GCSAA conference and show. It will also handle chapter relations and recruit new members. James R. Brooks, who has been director of membership services since 1974, is the director of the new department.

The Membership Services Department has been expanded to become the Department of Membership and Administrative Services. Its director is Janie Storm, formerly administrative assistant to the executive director since 1975. Storm’s department will provide essential administrative functions for the headquarters office and perform all service for members, including Employment Referral Service, audio-visual services, membership applications, reclassifications and terminations, data processing, circulation for the association magazine and registration for both the show and all educational sessions.

Ryan production moves to Lincoln

Production of Outboard Marine Corporation's Ryan institutional turf maintenance line is being moved from St. Paul, Minn. to Lincoln, Nebr. The gasoline-powered Ryan line, ranging from sod cutters to lawn aerators, will be manufactured at the corporation's 500,000 sq. ft. Cushman plant.

“The consolidation of our Ryan and Cushman manufacturing operations will enable us to hold the line on production costs, while enabling us to remain price competitive in the turf and industrial marketplaces,” commented Herbert A. Jespersen, division manager and corporate vice president.

Toro sells two distributorships

The Toro Company has sold its branch distribution operations in the Cleveland and Pittsburgh metropolitan areas, according to Toro president David T. McLaughlin.

The name of the Cleveland organization will be changed to Schaefer Turf & Irrigation Co. and will continue to be a full-line distributor, handling all Toro consumer, turf and irrigation products.

The Pittsburgh distributorship will be known as Allegheny Toro Distributing, Inc. For Toro, it will handle only consumer products.

The two sales leaves Toro with three company-owned distribution centers serving Los Angeles, San Francisco and greater New York.
Richard C. Pedersen is vice president, technical affairs for Jacobsen Manufacturing Co. He was formerly director of engineering for Jacobsen’s Turf Products division. Pedersen will be responsible for managing product quality, safety, legal and environmental requirements, as well as engineering policies, procedures and standards. He will also be responsible for product liability, patent activities and new product technology. Pedersen is a Registered Professional Engineer.

Al Palladino has been appointed field sales manager for Melnor Industries. He will be responsible for the sale of Melnor products throughout the U.S. and will direct the activities of Melnor’s regional sales managers and representatives.

Erling D. Schmidt has been named manager of engineering planning and construction with ICI United States central engineering department. Since joining the company in 1975 as senior project manager, Schmidt has been responsible for building and opening the company’s $70 million paraquat herbicide plant at Bayport, Tex., scheduled to open in late 1977.

James Walsh, MacFarland Co., Harrisburg, Pa., has been elected president of the Horticultural Research Institute. New vice president is Robert Siebenthaler, The Siebenthaler Co., Dayton, Ohio. John Flemer, Princeton Nurseries, Princeton, N.J., is the new treasurer, and Robert Voorheis, Blue Ridge Nurseries, Kansas City, Mo. will serve on HRI’s Executive Committee.

Ed Shoemaker has been named director of sales and marketing for the turf division of Rain Bird. He has been with the company for 19 years, joining as an irrigation engineer in 1958. Shoemaker will be responsible for all market planning, product development and sales for the turf irrigation market in the U.S. Shoemaker has served on the Board of Directors of the Irrigation Association and is currently a member of the Industrial Advisory Council of the Golf Course Superintendents Association.

Monsanto Agricultural Products Co. has named Walter P. Hobgood as product manager for Roundup herbicide, non-crop. Hobgood joined Monsanto in 1973, and has most recently held the position of supervisor, market research, in the crop chemicals division.

Jack Welch is product manager of fertilizer and grass seed at Lakeshore Equipment & Supply Co. Welch formerly served as regional manager in the ProTurf division of O.M. Scotts and most recently as manager of the professional turf products department for Northrup, King & Co.

Williams H. Tharrington has been appointed product manager, agricultural engineering, by Stauffer Chemical Co. Tharrington is responsible for basic and applied systems engineering relating to the application of agricultural pesticides. He is also involved in various planning aspects aimed at improving new and existing products and coordinating advertising and sales.

Edward F. Mulcahey has joined Wilkie Turf Equipment Co. as marketing manager, turf and irrigation products. Charles Kemp has been named manager, irrigation department and Kurt Kraly has been promoted to manager, golf course and irrigation contractor sales.

Robert K. Bernard has been appointed as sales representative for agricultural chemicals for Rohm and Haas Company’s central district. He will be responsible for western Minnesota and the Red River Valley of North and South Dakota. Prior to joining Rohm and Haas, Bernard was manager of the soil service center at the Farmers’ Union Central Exchange, St. Paul, Minn.

Robert M. Budecki has been named manager, walk-behind products for the Simplicity Manufacturing Co. He will be responsible for planning and implementing changes to the company’s lines of walk-behind mowers, tillers and snow throwers. Budecki joined the company in 1972 and has most recently served as national accounts manager.

Marvin M. Schreiber, research scientist with the USDA’s Agricultural Research Service at Purdue University, has been named president-elect of the International Weed Science Society (IWSS).
Davey gives you a colorful choice.

ORDER TREES NOW FOR ASSURED DELIVERY

You'll find the specific trees you need for the coming season in the Davey Tree Nursery near Wooster, Ohio. Not only the proved old reliables, but many hard-to-find specimens, too.

Right now, the Davey Tree Nursery has a substantial supply of more than 150 varieties of shade and ornamental trees, many of them patented and registered. We have good-sized blocks of matched shade trees with four- and five-inch trunks and full crowns, and tens of thousands of smaller trees. And we'll transport our trees any distance.

The next time you need trees—to frame a new mall, accent a shopping center, line a boulevard, or for any other spot—think first of Davey. For quality trees in the quantities you need.

You should know more about the Davey Tree Nursery. Why not stop in the next time you're near Wooster, and look around? If you can't make it in person, call 216-264-3533 for up-to-date prices and availabilities. Or send the coupon for our tree catalog.

NAME
COMPANY
ADDRESS
CITY
STATE
ZIP

DAVEY TREE
KENT, OHIO 44240
Coast to Coast and Canada

Circle 116 on free information card
EQUIPMENT: How to maintain it and when to replace it

by Harold LeSieur

Harold LeSieur is the principal of his own management consulting firm in Santa Maria, Calif. He holds an M.S. degree in engineering from the University of Southern California and an M.B.A. degree from Stanford University.

Many turf professionals “depend upon their equipment, but don’t treat it like they depend upon it” is the shrewd observation of an experienced equipment company service manager. Yet, imagine a total mower failure during a major golf tournament, or even a shabby putting green during a heavy weekend of play—all for lack of a mower part. Effective preventive maintenance is the answer, of course, but when this is no longer economically justified, equipment should be replaced without delay. Nice in theory, but this does not happen very often, even for affluent golf clubs or well-budgeted cities.

What is the answer? Without systematic programs of maintenance and replacement, your equipment is “Soon worth only what it weighs”, says Joe C. Judd, Los Angeles City Parks Chief Maintenance Supervisor. But if you “learn the truth” about your equipment, he adds, and install meaningful
Superintendent Don Lokey of Valley Club in Montecito, Calif., illustrates mechanism of Toro sand trap rake, awaiting repair in his shop.

Superintendent Lokey displays spray tanks adapted for use on Cushman scooter and mounted on jacks for easy loading.

replacement and maintenance programs, you may be in for some pleasant surprises!

Preventive maintenance pays off

Imagine a simple adjustment to reel bearings on a Toro Greensmaster III, requiring 5 to 10 minutes per cutter, becoming an $800 plus job because all three cutting units were damaged beyond repair. Between an operator failing to disclose a "floating reel", and a mechanic who did not bother to check, this equipment continued to mow 5 days per week until it self-destructed. And not at some under-budgeted, small course but at a "prominent, exclusive" club in Southern California. On the other hand, consider a California college operating a Toro Superpro which broke down every year for 5 years, then went 2 ½ years without missing a mowing schedule or needing a major repair. The difference? A matter of preventive maintenance in the second case, according to Service Manager John Johnston of Toro Pacific Distributing Co.

Nor is this problem limited to golf courses. Foreman Leo Nichols of Ventura County in California tells of a large Yazoo riding rotary mower brought into his shop for replacement belts. An alert mechanic found also two bad bearings, adjusted the steering mechanism and replaced a defective battery cable and spark plug. This mechanic is instructed to go over such equipment "each time for all possible defects", and so he did. "We don't want any surprises for our operators," says Nichols. "If the equipment in our shop is not ready to use when it leaves, my people will hear about it," he adds.

"A half-day job costing $50 can easily lead to a week's downtime with a $300 pricetag", explains Toro's Johnston, "simply because communications are bad and preventive maintenance is neglected". Operators tend to let equipment get dirty, he continues, "and 18 pounds of grass hung-up may be hiding 18 grease fittings". This is where damage will occur, Johnston adds. In his estimation, a piece of equipment "will operate about as it looks". Thus, 8- or 10-year old equipment which is clean and sharp will probably operate better than 3 year-old machines which have been neglected. With this philosophy in mind, Johnston claims Toro "goes overboard" on its warranty program—even after 2 years on a one-year warranty—providing the customer has taken "exceptional care" of the equipment.

What constitutes exceptional care is probably included in Johnston's recommendation to put away equipment each night in a "semi-storage state". This he defines to include washing, drip-drying, flushing and lubricating bearings, "eye-ball"ing for loose fasteners and repairing as needed. He especially advises operators to listen for bad bearings or other suspicious sounds, and report them to a mechanic. If equipment is stored with moist and contaminated bearings, as during the common 3- or 4-day weekends, corrosion pitting will commence. It

Continued on page 16
Equipment

Continued from page 15

is small wonder, then, that working this equipment a full day without lubrication can lead to early failure.

By comparison, there is little difference between the recommended Toro Pacific preventive maintenance procedure and that of Lakeside Country Club in North Hollywood. Small additions include superintendent Eichner's recommendations to replace expendable parts, (chains, sprockets, belts) before failure; a minor tune-up of engines; plus sharpening and adjusting reels. To this he adds checking mower bearings for end play — an adjustment requiring only a "few seconds" that can easily save early bearing replacement.

There is a right way and a wrong way to change oil, and a better way to insure correct greasing! Oil should be changed only when hot, advises Toro's Johnston, since contaminants picked up by oil will not remain suspended when oil cools. Again, he cautions to wipe off the oil filter before opening or closing, to avoid debris collecting in the oil. Oil changing on air-cooled engines is doubly important, Johnston cautions, since these engines run hotter and are not equipped with oil filters. As for greasing, reverse the usual order of greasing, attending first to those fittings commonly neglected — the hard-to-get-to ones. To accomplish this, use a color coding system, with "code" recorded on underside of engine hood. For example, all fittings due for daily greasing can be designated by a yellow marking; all scheduled for weekly attention by a green coloration.

Some equipment or components can best be described as "self-destructive," so high is their maintenance. Examples are gears and chains exposed to water and dirt, requiring constant replacement. To this list, Larry Bicking of New Castle County, Del., adds hand-operated tools such as chain saws, rotary push-type mowers and the Weed Eater. Eichner of Lakeside Country Club nominates as the highest maintenance item of all, per hour of operation, the aerifier. On this he claims "universal agreement," and describes his own maintenance procedure: Once per year, open cam case and replace followers (if indicated); next year, repair externals, including rod bearings and rod slide bushings. "Our machine destroys itself as it operates," he says, not unlike an automobile engine operated upside down and with no crankcase! However, results are so essential to maintaining healthy turf under traffic, "we put up with it."

People relations key to preventive maintenance

Few would disagree with Bob O'Link Golf Course superintendent Robert W. Williams of Lake Forest, Ill., that preventive maintenance is the "cheapest, best way to go." This requires, he adds, "daily attention to machines used daily." Well and good, but there are really two "answers" to equipment longevity, according to Al Noble of B. Hayman Co. in Los Angeles. "First in importance is a motivated operator, followed by good preventive maintenance." And how to get the "man in the field" to take care of his equipment is often over half the problem.

"If we could consistently get the man in the field to take care of his equipment, this would go a long way," according to maintenance supervisor William McKennick of Los Angeles County. In this state ment, he includes regular lubrication and oil changes, together with attention to "picking up bottles" before they can break blades and ruin mowers. How can this be accomplished?

Inspiring a "That's my machine" pride in each operator by "locking" each employee to a specific piece of equipment is the successful method used by the Valley Club's Don Lokey in exclusive Montecito, Calif. Even more specific is the method used by Ventura County's George Lawhead and Leo Nichols, wherein each employee is assigned to a specific item of equipment, and given two hours each Friday for the "get ready for Monday" ritual. This consists of an oil change, lubrication, filter cleaning and a hunt for loose nuts and bolts, as well as more serious attention (as needed) by a professional mechanic.

On the same theme, with a clever variation, is the scheme used by superintendent Richard Eichner of the Lakeside Country Club. All operators are recalled from the course one hour early, every other week, on — yes, on pay days: And who forgets a pay day? While washing and oil additions are daily responsibilities of operators, this bi-weekly routine insures a regular oil change and systemic check on mechanical problems, advises Eichner.

Getting the most from your men, by establishing good communications and confidence, is the approach favored by Lokey of the Valley Club. "It takes time to build this confidence," says Lokey, "but there are few who will not respond." Working on a daily basis with his foreman on preventive maintenance, Lokey admits that periodic "jogging" of his men is necessary. However, rather than hurt a man's pride, he finds that a compliment to one soon leads others to follow suit.

It helps communications for a worker to know that he is not going to be fired if he damages equipment. As an example, Lokey cites one of his men who "froze" and drove a tractor over a 15-foot embankment from a wet, steep hill. When free from this fear, workers will be more willing to report equipment out of order, rather than just park the faulty machine and "dis appear." As expressed by Toro Pacific's John Johnston, the "I didn't do it" psychology can only be overcome by constant attention to two-way communications between the superintendent, mechanic and operators.

Of course, it's not all that easy when available labor is unfit or unskilled. A shortage of qualified mechanics is one problem. Another is the hiring sometimes, under many civil service systems, of unqualified help. Thus, passing a written test may still not insure mechanical aptitude. "When you get a good man, hang onto him" is the sensible advice of Los Angeles County's Bill McKennick. Again, at Newcastle County, Del., a unionized shop sometimes forces superintendent...
First Class Permit
No. 665
Duluth, Minn.

BUSINESS REPLY MAIL
No Postage Stamp Necessary if Mailed in United States

Postage will be paid by

Weeds Trees & Turf
Box 6049
Duluth, Minnesota 55806
Weeds Trees & Turf FREE INFORMATION

Want free information on products and services advertised and featured in this issue? Use this card. Circle the numbers on which you want information and mail today.

SEPTEMBER 1977 Good until Dec. 1977

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
141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160
161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180
181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200
201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220
221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240
241 242 243 244 245 246 247 248 249 250 700 701 702 703 704 705 706 707 708 709
710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729

NAME
COMPANY
ADDRESS
CITY STATE ZIP

Do you want to receive Weeds Trees & Turf? □ YES □ NO
Are you interested in receiving or continuing to receive WEEDS TREES & TURF? If you are, complete all the information on this card and mail today.

DATE ______________________ SIGNATURE __________________

Please check the one item which best describes your primary type of business:

1. Rights-of-Way Maintenance
   □ a. Highway
   □ b. Utility
   □ c. Railroad
2. Chemical Applications (vegetation and structural)
   □ a. Commercial/Industrial ground applicators
   □ b. Aerial Applicators
3. Extension Services; Forestry; Federal and State Regulatory Agencies
4. Parks and Grounds Maintenance — Federal, State, Municipal (does not include Forestry)
5. Golf Courses
6. Cemeteries
7. Industrial Parks
8. Shopping Centers
9. Hospitals, Nursing Homes, Schools, Colleges and Universities (Grounds maintenance personnel only)
10. Athletic Fields
11. Race Tracks
12. □ Airports
13. □ Military Installations
14. □ Grounds or Landscape personnel in businesses not specified above.
15. □ Mine Field Reclamation
16. □ Chemical lawn care companies
17. □ Landscape contractors
18. □ Landscape architects
19. □ Sod Growers
20. □ Seed Growers
21. □ Tree Service Companies/Arborists
22. □ Wholesale nurseries/Tree Farms
23. □ Irrigation and Water Drilling Contractors/Consultants
24. □ Chemical Dealers/Distributors
25. □ Equipment Dealers/Distributors
26. □ Other (Specify) ____________________________
Larry Bicking to use inexperienced people acquired by promotion or transfer. Thus, a back hoe operator or sewer tile man from Public Works may not be well suited to operating a large mower on Newcastle's stadiums and golf courses. Bicking estimates, for example, that problems with 40 percent of the mowing equipment brought into his shops could have been averted by better equipment knowledge and preventive maintenance.

Another problem is salaries too low to attract competent people. Then, misuse of equipment becomes common, according to superintendent Ed Dembnicki from the Country Club of North Carolina in Vass, N.C. “When salaries are so low, it is hard to find men who take pride in their work and can be motivated.” Dembnicki is at least blessed with a competent mechanic.

One happy answer to some of these problems is the hiring of female operators. Women, it seems, have proven they can drive well and will follow instructions and precautions. As explained by Al Noble of B. Hayman Co. in Los Angeles, females don't have to prove male “macho,” and will take fewer chances while driving and care for their machines as instructed (and not blow seals while lubricating!).

Taking a cue from superintendents who have had success with women in turf work, “Rich” Eichner of Lakeside Country Club plans to add separate women's facilities in his new 50 percent shop expansion.

In the last analysis, “heads up” supervision is still the most important answer to results through people (and excellent equipment maintenance as a result). A shortage of Grade A superintendents is one complaint heard from the ranks of equipment suppliers, but attentiveness to the job is even more important. One example will illustrate the point. At a prominent course in Southern California, five 7-gang mowers were purchased between 1965 and 1975, because reels and side plates were consistently broken. Reason: Operators were fording rock-strewn creek beds (an 18-hole “finger” course) without declutching reels or lifting arms. This example of “flat abuse” was licked by purchase of a hydraulic mower, with easy-to-lift arms and reels. Needless to say, supervision had to be “jacked-up” as well.

At a time when skilled labor costs are escalating more rapidly than equipment prices, a premium is placed on sharp supervision. An amusing story is told of a prominent course in San Luis Obispo, Calif., whose “no nonsense” superintendant demanded that his men take care of their scooters. When overtaken by this alert professional, an operator who was “drag racing” his scooter was summarily sentenced to walking the course for 30 days! And after 13 years, the same transportation equipment is in daily use, “and good operators have resulted.”

By taking “all hands” into your confidence, superior results can be your reward. As explained by golf course supervisor Neil Beeson from the City of Anaheim, Calif. (home of famed Disneyland), “Operators can make or break a piece of equipment.” Before any such equipment is purchased at Anaheim, all concerned must be consulted, and this includes actual operation by the rank-and-file employee. If the operator’s recommendations are not followed, supervision feels obligated to explain exactly why.

Precisely the same procedure is followed at famed Forest Lawn Memorial Parks in Southern California. Manager of grounds maintenance Robert Davidson explains that, before purchase, equipment must be driven by actual operators on the steep slopes of Forest Lawn’s main park. This provides not only better input to the final decision, but

Continued on page 18
Equipment
Continued from page 17

helps to win the cooperation and interest of operators in their equipment. This is valued, considering the hazards and abuse mowers encounter in the unique and difficult environment of steep cemetery hillsides.

"Don't be afraid to ask dumb questions. They're easier to handle than dumb mistakes." This bit of advice hangs as a sign over the shop bench in the County of Ventura's landscape maintenance headquarters. This attitude, spelled out in actions as well as words, should go a long way toward winning worker cooperation in effective equipment maintenance.

"So you think you have problems?"

If you think your turf equipment is subject to abuse, just consider the difficult situation with cemeteries. Especially is this true with Forest Lawn and Mt. Sinai Memorial Parks, lying astride mountainous Griffith Park in North Hollywood, Calif. "Endlessly rattling over bronze or stone grave tablets does our equipment no good," says Grounds Maintenance Manager Robert Davidson of Forest Lawn. Not only this, but machines at both cemeteries must operate continuously on grades of 30 percent or better, often on wet grass, and with constant stop and go operation during visitation hours. To compound the problem, stones from freshly dug graves and loose wire, sticks and glass vases from flower arrangements are often lost until discovered by a mower operator! Or until the teeth of a turf aerator are broken off.

Superintendent Al Dennis of Mt. Sinai estimates such treatment shortens the life of his equipment by at least 20 percent, and causes "nothing but high repair bills."

To remedy this problem, Forest Lawn professionals literally rebuild a standard 76-inch mower, and "give back" some $1,300 worth of gear to the vendor on a $3,000 machine. This includes the sit-down sulkly, since safety requires the mower be remodeled into a stand-up machine with trailer in rear. Then, a customized steering gear is added to suit each operator's height, dual rubber wheels may be added, a hand emergency brake and kill switch installed, and the reels and frame "beefed up."

If Forest Lawn officials could buy this type of equipment, or at least more rugged mowers, they might gladly pay an extra $1,000 for a 5-gang mower costing $4,600. Most of these, observes Davidson, are manufactured for mowing bent and bluegrass on golf courses or median strip grasses to a depth of 2 inches to 6 inches, not Kikuyu grass to ¾ inch on such steep slopes. "And they can't understand why their machines won't work," adds Davidson.

To be sure, memorial parks do not have a corner on difficult equipment problems. Consider operating mowers on a slope of the Rocky Mountains, with a total fall of 350 feet in little more than one mile. "We have tipped a few mowers over," reports Broadmoor Golf Course Director Charles Clark, "and our National mowers take a real beating in only 2 years."

A more usual situation is the maintenance shop located remotely from any golf course. Lack of a blacktop road to such a shop, even if only a quarter mile away, increases wear by an estimated 20 percent. Another common problem for municipalities, reported by Larry Bicking of Newcastle County, Del., is the "pooling" of turf equipment. In this case, where machines are not assigned to individual operators, equipment may be treated with less respect and be much more subject to abuse.

Speaking of unusual examples of heavy wear and maintenance, the cleaning of seaweed from beach sand by the Huron-Clinton Metropolitan Park Authority of Detroit has to be unique. Director David Laidlaw describes a converted potato and bean digging machine which picks up a 6-foot swath of seaweed and sand, conveying the mixture by belt and separating by rough screening. This machine is towed by a tractor and is subject to heavy wear from the sand and high maintenance requirements. The same is true for a separate tractor-towed trash pickup trailer.

"East is East, West is West"

Interesting regional differences exist in maintenance practices between courses, based on three months of heavy winter weather in the East and up to 363 days per year of playing time on the West Coast. "Our course is closed only on Yom Kippur each year," explains Superintendent David Mastroleo of the Hillcrest Country Club in Southern California. "We mow our fairways like crazy all spring and summer," he adds. Consequently, equipment on California courses is used continuously and must be repaired "on the run," in his words. Having worked at Arrowhead Country Club and Addison Golf Club, both in Illinois, Mastroleo is qualified to note the differences between eastern and western maintenance practices.

Each winter, an eastern or midwestern golf course will typically go through its equipment thoroughly, repairing and repainting. Engines will be torn down, if needed, gears will be checked, then bearings and bushings replaced. Even Colorado Spring's Broadmoor Golf Course, considered the "Far West" to many Easterners, undertakes its heaviest rebuilding and repainting jobs when the "frost is on the ground." Again, Bermudagrass goes dormant from November to mid-March in California, often accompanied by rain (except under present drought conditions). Consequently, Forest Lawn Memorial Parks uses this period to rebuild its mowers, since Bermuda is its principal turf grass.

Even further west, Lokey of Montecito, California's Valley Club prefers the January-February "frost" period to pull down motors, regind reels and generally to anticipate bearing and other jobs which could "hold up the show" in summer weather.

In one sense, the luxury of warm weather may tempt some to neglect their equipment. Bob O'Link's Robert Williams notes eastern clubs all keep their equipment inside. Not so in the South, especially Florida, and in California. Here he observes open
Chief Maintenance Supervisor Joe C. Judd illustrates operation of sod cutter to Central Storeroom Manager Howard. A backlog of new machines, purchased under engineered equipment replacement program, is kept at this Los Angeles City facility.

Superintendent Richard Eichner inspects greens mowers lined up for repair in machine shop of Lakeside Country Club.

equipment sheds, and equipment sometimes left to rust. Does this practice unduly hasten the need for replacement, he asks?

Replace or repair?—THE BIG QUESTION

To replace or to repair? That is the question. And there is no one answer, even for the same class of equipment, since each user has a different problem.

To illustrate the divergence possible, we need but consider two large governmental units in the same area, namely the City and County of Los Angeles.

Los Angeles City has gained some reputation for its turf maintenance equipment replenishment program. This emphasizes prompt replacement of on-line or high frequency use equipment, according to engineered standards of life expectancy. Under this program, triplex and 30-inch mowing units are removed from front-line service promptly after 4 years, to a standby or low-frequency use. Chain saws and edgers are retired after only 2 years. The results, according to Chief Maintenance Supervisor Joe C. Judd, have been a better job, newer equipment to work with and less cost in the long run. There is now less temptation for supervisors to "squirrel away" extra mowers. Further, careful accounting of equipment has actually permitted Judd to set up a "spare and loan equipment program" with the same equipment inventory. Needless to say, equipment distributors such as Toro Pacific are very fond of the L.A. City program!

At the other extreme is Los Angeles County, which Toro Pacific's Johnston rates as having the "best parts department in the country and a shop second to none." Here the emphasis is on "keeping equipment until it begins to cost money," and probably well beyond.

Nor is Los Angeles County alone in this approach. In the very same area, the City of Los Angeles School District maintains two separate repair shops, to service mowers, tractors, sprayers and other equipment used in its 700 square-mile maintenance territory. "We have to live with our equipment longer than we like," says James H. Lane, gardening technical supervisor. Operating under a predetermined dollar budget, equipment used 10 to 15 years is not at all uncommon. "We may buy a piece of equipment two times over," he explains, "really beyond the point of economic feasibility to repair." A good preventive maintenance program helps to compensate for this policy, and this school district hires four travelling equipment repairmen to make minor repairs. Larger jobs are picked up by truck and transported to one of two central machine shops.

Even prestigious golf courses have had the problem of antiquated equipment to overcome. Both superintendent Terry Bucken of the Riviera Country Club in Pacific Palisades, and Don Lokey with the Valley Club of Montecito, both in California, speak of replacing high maintenance, "museum"-type equipment. In fact, Lokey proudly displays a gear-driven spray rig from the 1920's, no longer in use but recalling memories of a steam cal-

(Continued on page 20)
Equipment

Continued from page 19

There are really only three basic approaches to equipment replacement, according to Robert Davidson, manager of grounds maintenance for the largest of Forest Lawn Memorial Park cemeteries in Southern California. Thus, one can (1) replace equipment after a set number of years (say, 5 years average), or (2) replace when maintenance becomes too high, or (3) "work over old machines to keep them running." This, he admits, is the Forest Lawn approach, partly because of the difficulty in "getting the weak points worked out." With steep hillsides to contend with, plus stop and start mowing over rugged terrain Forest Lawn finds it necessary to rebuild mowers to its own specifications.

Still another municipality which must use equipment "typically to the breakdown point" is the City of Norfolk, Va. Like California, Norfolk has a temperate, long growing season, so that tractors and mowers are in constant use. Responsibility for maintaining 4,000 acres of turf, Parks & Recreation Director James Colley believes down-time would be reduced, and performance increased, if most equipment were replaced at least one year earlier. At Norfolk, Colley explains, the Central City garage must "sign off" on all existing equipment, certifying it as "beyond repair."

Assuming a reasonable equipment replacement program stands a chance at your institution, what kind of service life does experience show to be possible? This one needs to know in setting up a budget and depreciation schedule, a procedure lauded by such oldtimers in the golf superintendent business as Art Twombly of the Bel Air Country Club near Beverly Hills, Calif. and GCSAA past president Bob Williams of the Bob O'Link Golf Club in Lake Forest, Ill. For a walking green mower costing approximately $1,000, Twombly considers 4 to 5 years of life "about it," if the machine is run daily. Other estimates may vary from this. At the City of Anaheim, Calif., golf course supervisor Neil Beeson (who teaches equipment maintenance at a nearby college), rates the practical life of greens mowers at only 3 years, although his city programs a 5 year life. Famous Broadmoor Golf Course in Colorado Springs, places a 3 year schedule on their mowers. "After this," says superintendent Tommy D. Anderson, "we may move this equipment down and use as a tee mower."

Walt Disney World in Florida follows the University of Florida's Extension Service recommendations of 3 years life for riding-type greens mowers and triplexes, and 5 years for fairway and rough mowers. Superintendent Larry L. Kamphaus adds that one-cylinder machinery is replaced in less than 3 years, as vibration and metal fatigue soon wear out such equipment.

Many equipment replacement decisions can be made as a matter of "common sense," without the benefit of formulas. In fact, formulas are seldom used in actual practice, although espoused by some equipment manufacturers. On small equipment, selling new for under $200, such facilities as Mt. Sinai Memorial Park in North Hollywood or Bob O'Link Golf Course in Illinois simply discard such equipment after two years' use. Thus, there is no sense in buying a new $50 or $60 motor for a rotary trim mower costing only $60 to $85 in the first place. On the other hand, a $700 motor replacement in a $3,000 to $3,500 Cushman Truckster is well worth considering, feels Bob O'Links' Bob Williams.

More mundane equipment, such as diesel tractors, may last from 5 to 10 years, and spreaders or renovators even "indefinitely." Twombly of the Bel Air Country Club expects no maintenance at all for the first 10 years from a Massey Ferguson diesel tractor with bucket loader and excavator. For most equipment, however, he complains, "Manufacturers are not building machines like they used to," thinking of his 1947 Buick which lasted 120,000 miles "without the head off."

Forest Lawn's Supervisor of Mechanics, John McKinney, agrees with this observation, adding that today's turf equipment engines have a "built-in" obsolescence. After 400 operating hours, he says, they begin to have problems. McKinney admits, however, that running even an automobile engine 100 percent of the time on a slant would soon wreck it.

Neil Beeson from the City of Anaheim, California is somewhat more generous in his estimate of engine life than the Forest Lawn people, probably based on his experience with less severe environments. Beeson offers a useful formula for operating costs:

Year 1) Low maintenance, excepting for accident or other major problem.

Year 2) 2 times cost of Year 1

Year 3) 3 times cost of Year 1 (or 1½ times Year 2).

After the third year, Beeson explains, engines will probably need all new bearings, bushings and rollers, and total engine life will approximate 1,500 hours, for the environment of Anaheim's golf courses.

Of course, there is always the grey area between complete replacement and simple repair, where one can profitably rebuild equipment. Some professionals prefer this, or are forced into rebuilding by a die-hard greens committee. Superintendent "Rich" Eichner of the Lakeside Country Club considers in-house engine rebuilding a "loser." He has had two tractor engines rebuilt on the outside, and bought fitted blocks for in-house replacement of trap edgers and trimmers. But Eichner is happy for a switch to diesel engines. Now he needs only new injectors and injection pump adjustments, although he acknowledges fuel injectors require outside specialists and he prefers outside help for a major tune-up yearly.

In contrast, David Mastroleo of the Hillcrest Country Club in Southern California prefers rebuilding his engines. For a greens-mower costing over $900, for example, he can short-block his engine and replace reels, and continue to operate after 12 years. As usual, there is more than one way to skin a cat!

Budget and inventory rated "musts"

Not every club, or even munici-
Mechanic answers questions concerning rebuilt 76-inch mower for Forest Lawn Memorial Park's John McKinney, left, and Robert Davidson, center.


pality, can afford the computerized cost accounting system of the Broadmoor Golf Club, retreat of the late President Eisenhower, in Colorado Springs. Here, each piece of equipment is assigned a code number, and monthly printouts keep golf course director Charles Clark fully informed on maintenance costs. Even so, there would hardly be a single club which could not benefit by a systematic equipment inventory and a long range plan, or budget, for equipment replacement. "Remember," says Art Twombley of the Bel Air Country Club, "many of your members are business people, and you must show them how they can spend money to make money." He urges that such a budget be "properly prepared," listing each item to be replaced, with its value at today's prices "through 1995."

Riviera Country Club's Terry Bucken, in Pacific Palisades, Calif. arrived in his new job only to find no equipment inventory available. Not only did he install Hamilton Watch hour meters on major equipment, Bucken also inventoried all equipment by name, model year, serial number, original and current expected life, original cost ("which we can't find in most cases"), and annual depreciation.

A further refinement would be to establish a depreciation reserve, funded in cash for equipment replacement. If your club is strapped, this may be hard to come by. Lakeside Country Club, which boasts such Hollywood notables for dues-paying members as Bob Hope, Bing Crosby, Arnold Palmer, and John Wayne, has a "substantial" depreciation or replacement reserve, which Superintendent Eichner nevertheless labels as "prudent and reasonable." Laguna Hills Golf Course is another Southern California club with affluent members, including several top leaders of business and industry. Golf superintendent John Polder, Jr. reports they enjoy a depreciation reserve to back up a practice of 5-years for depreciation and replacement of equipment.

Many municipalities are not this fortunate. Cleveland's Maintenance Superintendent Edward Lubie, reputed to have "one of the best" equipment maintenance programs in government, has faced a "little dollars" budget for the past 5 years. Then he brightens and reports, "This year we received almost $225,000 for new tractors, jeeps and turf equipment." In addition, Lubie enjoys an $80,000 yearly budget for equipment maintenance. Much of this he uses during September and October, by calling in equipment from each of 12 parks and completely overhauling as needed, including transmissions, engines and all working parts.

If Cleveland seems reasonably affluent, consider Newcastle County, Del. whose superintendent Larry Bicking says, "We are at the mercy of the budget people, still operating equipment with 5 years life expectancy after 10 or 15 years." Sound familiar? Bicking says a complete inventory list is submitted each year, but Parks and Recreation typically gets about 30 percent funded in practice. "We are always behind," he adds.

More fortunate is the Huron-Clinton Metropolitan Park Authority in Detroit, whose director David Laidlaw presides over maintenance of 16,000 acres of parkland, including beaches and golf courses. With a 1977 equipment budget totaling $342,000 (not all for grounds maintenance, however), Laidlaw is able to affirm, "We definitely believe in an early replacement program, retiring equipment at the end of its useful life, and not getting into excessive maintenance." Lucky suppliers!

Each year, in the Fall, Huron-Clinton Park people meet to review the "condition of and when to replace" each piece of equipment. This is the first step toward a capital (Continued on Page 22)
Continued from page 21

equipment budget for the next year, and priorities are agreed upon by individual Park Superintendents and mechanics, the Chief Mechanic, and the Equipment Purchasing Manager. Of course, a new stump chipper may have to wait until next year, if a brush grinder is older and a chipper may have to wait until next year, if a brush grinder is older and more in need of replacement. But, at least, this park authority is not hurting as a result of its budget process.

Can a formula be used successfully, to predict equipment life, or (better still) to win club support on replacements? Almost universally, Superintendents use judgment rather than mathematical formulas to prove their case. Most that is, but not all. Broadmoor's Chuck Clark frankly admits to using a formula "only if it helps our case." Oakland Hills Country Club's Ted Woehrle acknowledges that both Toro and Jacobsen have formulas to enhance sales of equipment, but adds smilingly, "They're different than ours." As a rule, Woehrle shoots for equipment replacement when maintenance costs reach the 25 percent level, as compared to original cost of a given machine.

Mt. Sinai Memorial Park's Al Dennis admits he guesses at life spans for equipment. "We would all be out of the woods if we had a good rule," he says, "but there's no formula around worth a damn."

Admittedly, there is a good bit of psychology to winning approval from a golf club Board of Directors for an equipment budget. "You had better be right," admonishes Don Lokey of Valley Club. He favors pitching improved maintenance and greater safety, rather than emphasizing labor savings and opening the door for cutting a man off the payroll. By setting up an amortization schedule, he is able to say, "I am instructed to replace this equipment" rather than simply asking for money.

Hydraulic revolution

"I had to take a course in hydraulics, but we needed this kind of equipment desperately," says Don Lokey of Valley Club. This just about summarizes the situation for hydraulic equipment. Talked about for years, the hydraulically-driven, 9-gang mower was introduced from England by the Ransomes Company in the early 1960's. During the same period, Toro and Jacobsen both were developing hydraulic mowers, but only during the last two years has such equipment made serious inroads into American golf courses, parks and cemeteries. Now, few superintendents fail to recognize the tremendous advantages in getting away from gears, sprockets and chains — even at a higher first cost.

Early resistance to hydraulic equipment slowed its introduction. "I don't know anything about it, and don't want to fool around with hydraulic equipment. I'm afraid I might mess it up." These were the early laments heard from some turf mechanics. Then, too, some superintendents objected to possible hose breakage and oil spillage on golf greens — a valid protest. But all that is changed now. Hydraulic mowing equipment has come of age, and superintendents widely acknowledge this as the most significant machinery development in many generations. They recognize the advantages of less maintenance, less down time, no clutch slippage, greater safety on hillsides and more work output. These all help to justify a higher price tag.

Hydraulic equipment, despite its glamour, is not without problems. A Ransomes fairway mower operating at Walt Disney World in Florida is reported to do a "real good job" on thatch and fairways, yet a problem is experienced in keeping reels level. Also, oil spillage "does happen," according to Disney's golf superintendent.

One weakness in this new breed of fairway equipment inherent with hydraulics: power goes to the point of least resistance. One basic improvement has been to develop separate hydraulic drives for cutting reels, rather than "rob" drive wheels of power. As a result Don Lokey of the Valley Club has found his hydraulic equipment safer on dangerous hillsides, claiming more traction and weight at the wheels than conventional units. Also, hydraulics eliminate manual lifting of reels, and possible back trouble with operators. Not to mention the temptation to leave reels engaged and arms lowered when fording rock-strewn creek beds. Or when transporting equipment on the road.

Do municipalities also believe in hydraulic equipment? Yes, if the five years experience of Newcastle County, Del. may be taken as a good example. Superintendent Larry Bicking speaks of his "bat wing" mowers with hydraulic arms, as being "substantially more reliable" than mechanical types. He says their productivity is higher, maintenance lower, and they are more rapidly transported between parks.

"It is common for hand mowers to be out of commission, but rare for hydraulic equipment," is the comment of Don Lokey. He concludes that minor maintenance (chiefly checking pressure hoses) is adequate, "two or three times per year."

Your mechanic: A key person

"Our equipment salesman told us if we didn't get rid of our mechanic, he never could sell us a new piece of equipment!" Not every golf course is blessed with two excellent mechanics as is exclusive Pine Valley Golf club and veteran superintendent Eberhard Steinger of Clementon, N.J. On the importance of a good mechanic to a golf club, some will go even further. According to Richard Eichner of the Lakeside Country Club, if the mechanic should leave, many clubs would "come to a halt in one week" (after, he continues, the "bailing wire" falls off the machinery). Richner appreciates what he calls "incredibly reliable" preventive maintenance. Toro Pacific's John Johnston states he believes that a club can "get along" without a manager or pro, before it can sacrifice a good mechanic (and superintendent, he adds).

Why do some courses or municipalities have trouble in hanging onto first-rate mechanics? Principally because they try to find an $8 to $10 per hour class of man for only $2 or $3, says Johnston of Toro Pacific. Such mechanics can do bet-
Best design for better penetration.

We make two heavy-duty aerators. The Ryan Renovaire has 12 tine wheels that operate in pairs. Unlike other models, they swing a full 18 inches to follow the contours of your land and ride over rocks instead of being damaged by them. Weight can be added to each pair for deeper penetration.

The Ryan Tracaire is an economical, rigid axle aerator. It’s available with 9 or 12 tine wheels and has a 3-point hitch to force the tines into the turf.

Both models are fast and easy to use. Each can be used with interchangeable open spoon, closed coring, and slicing tines. And you can order a 12' by 10' dragmat as optional equipment.

The large area aerators from Ryan. We’ve designed them simply to work well. And built them to stay that way. For more information see your Ryan distributor or write: OMC-Lincoln, a Division of Outboard Marine Corporation, 5530 Cushman Drive, Lincoln, Nebraska 68501.

The large area aerators.
Equipment
Continued from page 22

ter at their local Chevrolet or Ford agency, although "this is starting to reverse," he notes. Al Noble of B. Hayman Co. in Los Angeles agrees with this observation, concluding that skipping on mechanics is very "short sighted."

Not everybody pays low wages, however; the City of Los Angeles Recreation and Parks offers an entrance-level mechanic $1,200 per month plus 30 percent fringe benefits. Or Lakeside Country Club, which considers itself "extremely competitive" in paying $6.00 per hour plus 29 percent fringe benefits for its Shop Foreman-Mechanic or $4.50 per hour for a non-supervisory mechanic. Los Angeles City's Joe C. Judd agrees that it is not only hard to get good mechanics (even at his high wage offering), but that attraction through advancement under civil service works an additional hardship.

It is not hard to understand why Southern California's Forest Lawn Memorial Park has 21-year and 15-year veteran mechanics in its non-union shop. Based on area surveys, Forest Lawn's Bob Davidson states that his organization pays higher wages than any other local cemetery, and is "way ahead of golf courses." He adds, "We are competitive with anybody hiring mower mechanics, and offer fantastic fringe benefits." Turnover, as a result, is so low as to be "almost unhealthy," Davidson comments.

At a time when additional and more complicated equipment has come on the scene, requiring extra mechanics, there is in many areas an apparent shortage of qualified people. What is needed, says superintendent Al Dennis of Mt. Sinai Memorial Park is the "jack-of-all-trades," who knows "diesel to cycle engines," and can engineer and design small jobs as well as be a practical welder. Dennis finds men with a farm background best for this purpose. Similarly, Lee Nowacki, Golf Manager for Twin Lakes Golf Club in El Monte, California complains of mechanics being "too specialized," able to do brakes or ignitions (for example) but not broad enough to handle such variations as mower repairs.

Broadmoor Golf Club's Charles A. Clark prefers to train younger men, which he considers less "set in their ways" than older men. Even so, Clark relies on his 30-year veteran mechanic to "keep an eye" on progress by his mechanics-in-training.

Some golf courses get double-duty from their mechanics, using them also for course maintenance. For example, Golf Course Superintendents Association of America's President Ted W. Woehrle feels his mechanics can mow part of the day and still take care of mower adjustments. "They appreciate the equipment more," he explains. Even so, he considers his mechanic at the Oakland Hills Country Club the "most important man on the course" (next to the right waterman).

Probably no one in the business has such a unique arrangement for maintenance as Eberhard Steinger, C.G.C.S. from Pine Valley Golf Club in Clementon, New Jersey. Nestled between Atlantic City and Philadelphia is this smallest town in New Jersey, with golf course, waterworks and police force all under Steinger's control. Not unlikely then, is to see a "cop" cutting roughs, or caring for the private putting greens of wealthy residents in this 1000 acre idyllic retreat. Even more unusual is the arrangement for maintenance, where each man has his own machinery and completely cares for three tees, greens and holes from his private tool shed hidden in the woods! And it's worked now for 40 years, says Steinger. A brilliant example of motivation through pride of ownership.

Common pitfall: Inadequate spares

Many golf courses get into a bind because they lack an inventory of spare parts and have not allowed for this in their equipment budgets. This is a "common trap," according to Service Manager John John-}

The rest of the text is not fully visible in the image.
A comparison of cord trimmers
...or why The Green Machine® is the country's best-seller.

Theirs.
Other cord trimmers:
1. Trim grass and weeds only.

Ours.
The Green Machine®:
1. Trims grass and weeds. (It's the country's best-selling gas-powered cord trimmer).
2. With quick-change accessories, cuts heavy brush, overgrowth.
3. Works overhead to prune trees with branches up to 3" thick.
4. Has attachments available for hedge trimming, augering—even drilling of wood, metal, concrete.

Versatility makes it number one.

The Green Machine®

HMC, 22133 S. Vermont, Torrance, CA 90502.

*Based on 1976 Retail Sales

Circle 110 on free information card

SEPTEMBER 1977/WEEDS TREES & TURF 25
priority stocking of high-failure items, such as drive belts, bed knives, mower clutches and spare rollers.

Heavy expense, of course, is reason enough for at least some limitation in spare parts. Eichner lessens this problem by buying from industrial supply houses, rather than from original equipment manufacturers. As an example, he cites a drive belt for a Rogers cart costing $14.65 plus tax and shipping from an equipment supplier, versus only $4.26 from a bearing supply house, "with one hour delivery service." Eichner has also found a switch to Aeroquip fittings involves a high first cost, but "you gain back one-half of this on your first order for hose replacements."

How much spare inventory do major golf courses carry? Lakeside Country Club stocks about $6,000 in spares, to care for a total equipment selection valued at $175,000 to $190,000. Broadmoor Golf Club, servicing three golf courses, stocks this same amount of spares just for its Jacobsen Greens King mowers and at least $15,000 or more total spares. These spares stand behind an equipment inventory costing $385,000, but which would require over $500,000 to replace today, according to Broadmoor's Chuck Clark.

Training school available

"Universally," states Parks Director James Colley from the City of Norfolk, Va., "municipal administrators have a weakness in understanding and knowing maintenance equipment." Colley's remedy is more training programs, from universities and equipment manufacturers, which provide a broader base of product knowledge than any single manufacturer. One such course is taught by Golf Course Supervisor Neil Beeson from the City of Anaheim, Calif., at nearby Fullerton College. But, admittedly, such offerings are scarce.

A more common approach, and one which increasing numbers of supervisors and mechanics are taking advantage of, is the "service college" put on by such equipment manufacturers as Toro, Jacobsen and Kohler. Toro accepts a 30 student limit on courses booked up to a year in advance, discussing lawn mowers, sharpening, engines, hydraulics and the like. Jacobsen holds schools for mechanics every two years, with additional sessions for their distributors and an advanced golf and park school. B. Hayman Co., Inc. in Los Angeles services usually 600 people in 3 sessions, holding additional schools in San Diego and Las Vegas.

Agreeing that there is a shortage of good mechanics, Toro Pacific's Johnston advises that every course needs a first-line mechanic as an instructor and an adequate budget. Los Angeles Trade Tech trains such specialist mechanics, "but can't supply enough graduates," concludes Johnston.
HOW TO
TOP DRESS 18 GREENS FAST.

It's simple to do. Just place the top dresser attachment on the back of your 18 hp Turf Truckster chassis with the optional PTO, insert two pins, connect the sprocket drive chain to the PTO, and you're ready to work.

You save money as well as time. The Cushman top dresser eliminates the need for expensive, slow-moving, self-powered units. You use an existing power source to economically and quickly spread a variety of materials.

Your operator moves rapidly from green to green, with no time-consuming walking or laborious loading and unloading of extra equipment. He merely sets the metering gate and the engine/ground speed governor for an exact spread thickness. The moving belt and brush dispense materials uniformly in a smooth 3½-inch swath.

USE YOUR CUSHMAN.

And now we've added improvements that make the top dresser even better.

The unit mounts directly on the chassis, without an extra frame. And the new system uses a rubber fabric conveyor belt to carry material to the gate. It's quieter, with reduced maintenance and longer life than the previous design. Plus, it enables you to spread materials from rock salt for icy sidewalks to fine, powderized soil on greens or tees.

Like all Cushman equipment, the top dresser and Turf-Truckster are built to last. So you get an efficient system that will handle just about any spreading job for years to come. With other accessories, your Cushman can spray, spike, aerate, and dump. Use it. It's more than basic transportation. It's a total turf-care system. Write for your Cushman Turf catalog today.

CUSHMAN TURF-CARE EQUIPMENT

OMC-Lincoln
a Division of Outboard Marine Corporation
2229 Cushman Drive, P.O. Box 82409
Lincoln, NB 68501
We're making less size (and money) do a lot more work.

Many diesel tractors have capacity they never use. And a size that can get in its own way.
Not Yanmar, though.
Each compact Yanmar diesel tractor has enough flat-torque power for all groundkeeping activities, but never more than you can use. Because more than enough is more than you can afford.
Yanmar gives you standard 2-speed PTO, 3-point rear hitch and the ability to precisely accommodate over 100 optional tools and implements. Four-wheel drive is available. You can even transport one in a light truck.
Our diesel engines are specially designed for tractor use. To run with absolute dependability year after year.
With minimum maintenance care. And much less overall expense.
Big performance in a small, highly mobile package.
From the people who pioneered the world's first compact diesel.

YANMAR DIESEL TRACTOR

YM240 24HP

Circle 130 on free information card
1978
Managers Guide to Equipment, Chemicals and Supplies
What's the most important feature of the new 2200?

Ditch Witch's new 18-HP class trencher—the 2200—offers a lot of impressive design features:

- 10-inch backfill blade ground clearance
- Automotive knuckle wheel mounting
- Power steering
- Control arrangement for easy operation
- Solid 2-inch square steel digging boom stub
- 2 1/2-inch square tubular steel digging boom
- 20,000-pound-test digging chain
- Split headshaft sprocket
- Easy access to maintenance points
- Latching hood and seat deck when raised
- Simple chain and clutch adjustment

Options: Hydraulic manifold, roll over protective structure, flotation tires, 43,000-pound-test digging chain, selection of digging booms, outer auger bearing support.

So, what's the most important feature? That depends on who you are. An operator will like the control convenience; the owner will like the 2200's basic quality, production capability and re-sale value; a mechanic will like how easy it is to work on. All the features add up to a top-quality trencher. Why not let your Ditch Witch dealer give you a free demonstration? For his name, Call Toll Free (800) 654-6481. Charles Machine Works, Inc., P.O. Box 66, Perry, Oklahoma 73077. TWX 910-830-6580.
Making the right decision when it's time to purchase equipment, chemicals and supplies is one of your most important responsibilities as a manager in the Green Industry.

Wise initial selection, correct accounting procedures for depreciation, effective preventive maintenance and proper major maintenance when needed can save you countless dollars.

To help you with your selection, WEEDS TREES & TURF presents this Green Industry Managers Guide to Equipment, Chemicals and Supplies.

The Guide has four sections. Manufacturers of equipment and supplies are listed in alphabetical order along with their equipment and supplies in the first section with advertisers in bold type. In the second section, products are grouped alphabetically with the manufacturers listed below. The third section lists the manufacturers of chemicals in alphabetical order, and the fourth section chemicals are grouped alphabetically with the manufacturers listed below.

Because manufacturers add and delete product lines, change names and are generally never static, omissions of certain manufacturers and/or product lines are unavoidable. Your comments and suggestions are welcomed to help us continue to produce and improve this important service.

<table>
<thead>
<tr>
<th>Equipment and Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
</tr>
<tr>
<td>Ace Pump Corp., 1650 Channel Ave., Memphis, Tenn. 38113</td>
</tr>
<tr>
<td>Pumps</td>
</tr>
<tr>
<td>Advanced Drainage Systems, 3300 Riverside Dr., Columbus, Ohio 43221</td>
</tr>
<tr>
<td>Corrugated plastic drainage tubing</td>
</tr>
<tr>
<td>Adventure Line Mfg. Co., 3333 Main St., Parsons, Kansas 67357</td>
</tr>
<tr>
<td>Astro hook, crane/ladder, truck mtd., hydraulic Highworker, platform lift, truck mtd., hydraulic tailgate, 1,000 lb. cap. pickup mtd. tailgate</td>
</tr>
<tr>
<td>Aeroquip Corporation, 300 S. East Ave., Jackson, Michigan 49203</td>
</tr>
<tr>
<td>Hose and fittings, hydraulic, fuel, air, oil, water; pressure from low to super high</td>
</tr>
<tr>
<td>Agro Care, 7855-D Gross Point Rd., Shobie, Illinois 60076</td>
</tr>
<tr>
<td>Chemical Applicators (granular and liquid); Erosion control materials; Insect killer; Irrigation, Injection equipment; Soil testers; Spray booms; Spray guns; Spray nozzles; Sprayers (cart or wheelbarrow type, complete power unit); Tanks (spray); Tractor (8-12 hp); Trailers; Tree Injectors; Truck (light hauling, utility turf vehicles.)</td>
</tr>
<tr>
<td>Agtronics Mfg. Co., 1560 State St., Barstow, Calif. 92311</td>
</tr>
<tr>
<td>Soil moisture meter</td>
</tr>
<tr>
<td>Aquatic weed harvester</td>
</tr>
</tbody>
</table>

| **Air Rake Mfg. Corp.**, 5 Springfield St., Chicopee, Massachusetts 01013 |
| Leaf blowers |
| **Alcoa Aluminum Co. of America**, Alcoa Building, Pittsburgh, Pa. 15219 |
| Irrigation pipe |
| **Allen-Clark Equipment Co.**, 121 Bester St., Hagerstown, MD 21740 |
| Dumpet (for pickups) |
| **Allis-Chalmers Corp.**, Box 512, Milwaukee, Wisconsin 53201 |
| Backhoes |
| Discs (Cultivating) |
| Engines (Diesel) |
| Fork Lifts |
| Harrow (Spike and spring-toothed) |
| Loaders (Tractor) |
| Mowers (Rotary) |
| Saws, Chain, Gasoline |
| Tractor (from 8-151 and up hp) |
| **Amchem Products, Inc.** Brookside Avenue, Ambler, Pennsylvania 19002 |
| Meter Miser, liquid spreader gives precision application of Weedone liquid herbicide products without the need for calibration |
| Directa-Spra, sprayer end unit |
| **American Arborist Supplies**, Concord Industrial Park, Concordville, Pa. 19331 |
| Arborist supplies |
| Chippers |
| Hose |
| Hose (Spray, Irrigation) |
| Pruners |
| Pumps |
| Reels (Hose) |
| Respirators |
| Safety Belts and Saddles, Tree Climbers |
| Safety Equipment |
| Saws, Chain, Gasoline |
| Sharpener (Chain Saw) |
| Spray Guns |
| Sprayers (Complete Power Unit) |
| Tree Injectors |
| Tree Wrappings |
| **American Excelsior Corp.**, 850 Ave. H, East Arlington, Tex. 76010 |
| Erosion control products |
| Soil retention products |
| **American Hose & Reel Co.**, P.O. Box 639, Marland, Okla. 74644 |
| Thermoplastic spray hose with working pressure of 250, 400 and 800 PSI; ½, ¾, 1, 1½, 2-inch sizes |
| Fertilizer applicator tubing; ½, ¾, 1, 1½, 2-inch sizes |
| Hose reels; small, 300 ft., ½-inch hose, 1000 P.W.P.; large, 300 ft., ¾-inch; adjustable drag |
| **American Lincoln Corp.**, 518 S. St. Clair, Toledo, Ohio |
| Welders |
| **American Optical Corp.**, 14 Mechanic St., Southbridge, Mass. |
| Respirators, protects against harmful, highly toxic sprays, dusts and vapors in insecticides, fertilizers, etc. |
| Eye protection goggles, protects against impact or dust & chemicals resulting from spraying, dusting, cutting, etc. |
| Available with clear or sunglass lenses, plain or coated for anti-fogging. |
| Hard caps and hats, head protection against falling limbs or branches — Meets Amer. Nat'l Std. Z89.1-1970 |
| Hearing protectors, protects hearing from damaging or irritating noises of tractors, sprayers, power saws, etc. |
Ametek, Inc., 502 Indiana Ave., Sheboygan, Wisc. 53801
Miscellaneous irrigation
Underground enclosures

A.M.F. Lawn and Garden, 3811 McDonald Ave., Des Moines, Iowa 50302
Edgers
Leaf blowers
Mowers (reel, rotary, replacement parts)
Mulch blowers
Snow thrower
Sweepers (lawn)
Tillers
Tractors (8-10 hp)
Lawn vacuums

Amoco Chemicals Corp., Industrial Products Div., 1530 Commerce Dr., Stow, Ohio 44224
Polyethylene pipe and fittings for irrigation
PVC pipe and fittings for irrigation
Corrugated plastic drainage tubing

Anchor Post Products, Inc., 6500 Eastern Ave., Baltimore, Maryland 21224.
Fences and gates

Andrasko Engineering Co., P.O. Box 4633, Santa Barbara, Calif. 93103
The Meter Matic, fertilizer injector for irrigation systems

A.O.A. Research & Development, Inc., P.O. Box 60816, Orlando, Fla. 32803
Underwater weed cutter (manually operated)

Aqua-Dial, P.O. Box 1325 Newport Beach, Calif. 92624
Turf irrigation equipment
Automatic valves, hydraulic and electric, remote control
Automatic controllers
Sprinklers, gear driven, pop up, vandal resistant, lawn and garden

Aquamarine Corp., 225 N. Grand Avenue, Waukesha, Wisc. 53186
Aquatic Weed Harvester
Barrier (Aquatic Weeds)

Aqua-Mech Co., 2609 Cedar Springs Rd., Dallas, Tex. 75201
Aqua Mech, conversion kit from manual valve and key to automatic timed heads

Aquanautics, Inc., 1246 Birchwood Dr., Sunnyvale, Calif. 94086
Weedraze, underwater air boat

Aquatic Controls Corp., 1203 E. Main, Waukesha, Wisc. 53186
Weedraze, underwater

Aquatriols Corp., of America, 1400 Suckle Hwy., Pennsauken, N.J. 08110
Chemicals for turf management

Arctic Mizer Mfrs., Inc., 2116 E. Norse Ave., Cudahy, Wis. 53110
Arctic Mizer, spreader, self-powered; vacuum-thatcher, self-powered

Ariens Company, 655 West Ryon Street, Brillion, Wis. 54110
Blades (Dozer-Scraper)
Rotary Mowers
Snow Thrower
Tillers
Tractor (8-20 HP)

Armor Metal Products, P.O. Box 4609, Helena, Montana 59601
Landscaping Rakes
Rock Pickers

Arps Division of Chromalloy Farm & Industrial Equipment Co., 1711 Wisconsin Ave., New Holstein, Wis. 53061
Earth Augers
Backhoes
Blades (Dozer-Scraper)
Loaders (Tractor)
Post Hole Digger
Landscaping Rakes
Rakes (All Purpose)

Asplundh Manufacturing Division, Hamilton Street, Chalfont, Pa. 18904
Aerial Bucket Lifts
Chippers

Atlas Tool Mfg. Co., 5151 Natural Bridge Ave., St. Louis, Mo. 63115
Mowers (rotary)
Shredders
Snow thrower
Tillers

Atwater Strong Div., Gougler Indus. Inc., P.O. Box 68, Atwater, Ohio 44201
Blowers
Sweepers
Air brooms

Aurora Pump Div., NY Air Brake, 800 Airport Rd., Aurora, Ill. 60542
Aurora pumps, irrigation pumps, centrifugal and turbine pumps

Austin Products, Inc., P.O. Box 1590, Dallas, Texas 75221
Augers (earth)
Blades (dozer-scraper)
Brush cutters
Cranes
Discs (cultivating)
Earth augers
Harrow (spring-toothed)
Hoists
Mowers (rotary and replacement parts)
Post hole digger
Rakes (landscaping)
Scrapers
Shredders

Auto Hoe, Inc., Lost Dauphin Dr., Box W121, De Pere, Wis. 54115
Tillers

Avco Ezee Flow, First & Sycamore Streets, Coldwater, Ohio 45828
Chemical Applicators (Granular)
Pruners
Seeders (Hopper-Type)
Spreaders (Hopper-Type)
Tractor Mounted Air Compressor

Avco New Idea, 420 South First St., Coldwater, Ohio 45828
Chemical Applicators (Granular)
Loaders (Tractor-Mounted)
Flail Mowers
Pruners
Seeders (Hopper-Type)
Snow Thrower

Bachtold Bros. Inc., 619 N. Center Street, Forrest, Ill. 61741
Brush Cutters
Log Splitters
Rotary Mowers
Saws, Circular, Gasoline
Trailers
B.A.G. Corporation, 9443 Sherwood Glen, P.O. Box 28403, Dallas, Texas 75228
Taicon Container, plastic, collapsible, reusable shipping container for handling bulk shipments
Super sack container, one-ton disposable container

Baker Equipment Mfg. Co., 1710 High Point Ave., Richmond, Va. 23230
Aerial towers, mobile equipment
Derricks, mobile equipment

Saws, tree, combination pruner and saw
Saw, pruning, hand
Saw sheaths
Tree bracing materials

Bar-Way Mfg. Co., 476 Canal Street, P.O. Box 640, Stamford, Conn., 06904
Spray guns
Invigorator Gun (Liquid Ground Feeding)
Swivels for Coupled Hose
Lam-in-Sole (Foot Sole Protection)

Sprayers, hydraulic, all-purpose, pull-type, stainless steel tanks
Mistblowers, truck mounted, nozzle parts
Flamethrowers, (sprayers)

Beard-Poulan Division, Emerson Electric Co., 5020 Flournoy-Lucas Rd., Shreveport, Louisiana 71107
Generators
Pumps (centrifugal)
Saws (chains, electric and gasoline, chain parts)

Beatty Trailers, Box 1027, Burlington, N.C., 27215
Beatty trailers, self-contained, hydraulic dump; capacities 2, 3, 5, 9, 13-yard
Transport trailers, 6 to 30,000 lb. capacity; tag-a-long and goose neck

Beck Manufacturing Company, P.O. Box 2014, Auburn, Alabama 36830
Sod Cutters
Sod Harvesters
Greenhouses
Turf Grass Planters

Beeco Products Co., Industrial Park, Fort Washington, Pa. 19034
Spray Nozzles, Complete
Rotary Spray Head for Greenhouse Humidification

Bell Helicopter Co., P.O. Box 482, Fort Worth, Texas
Helicopters

Bemis Company, Inc., 800 Northstar Center, Box 215, Minneapolis, Minn. 55402
Bags and liners, plastic
Bags, tree balling, litter, grass catcher
Twine, tying

Beesmann Co., 11335 M-15, Reese, Mich. 48757
Service, stone picking, seeding, land preparation

Berkeley Pump Co., 829 Bancroft Way, Berkeley, Calif. 94710
Pumps (centrifugal)

Bermuda King, Inc., Rte. 1, Okarche, Okla. 73762
Sprig harvesters, 20", 28", 42", 30 to 60 hp, 500 to 1,000 watt an hour rating
Sprig planters, 1, 2, 3 and 4-row, large capacity
Fairway spriggers, 2 to 10' width, large capacity

Beto-Fog Nozzle, Inc., P.O. Box 311, 305 Wells Street, Greenfield, Mass. 01301
Spray Nozzles (Complete)

Big Brute Turf Cutter, 18035 Georgia Ave., Olney, Md. 20832
Sod cutter

Big "J" Products, Route 1, Hanna, Ind. 46340
Sod harvester, dual palleted

Big John Tree Transplanter Mfg. Co., P.O. Box 608, Heber Springs, Ark. 72543
The world's largest patented tree spade

Billy Goat Industries, Inc., P.O. Box 308, Lee's Summit, Mo. 64063
Leaf Blowers
Lawn Sweepers
Vacuums

Black & Decker Mfg. Co., 701 E. Joppa Road, Towson, Md. 21204
Battery chargers
Edgers (electric)
Mowers (electric and cordless) & replacement parts
Cordless grass shears
Electric tillers
Trimmers (electric and cordless; hedge and grass; parts)

John Blue Co., P.O. Box 1607, Huntsville, Ala. 35807
Chemical applicators (granular and liquid)
Dusters (power)
Irrigation (injection equipment)
Pumps (centrifugal and complete power unit)
Spray booms
Sprayers (complete power unit)
Sprayers (cart or wheelbarrow type)
Spreaders (hopper-type)
Tanks (spray)
Tractor (13-20 hp)

Bluebird International, Inc., 2778 South Tejon, Englewood, Colo. 80110
Cranes
Hoists
Hydraulic Lifts
Vertical Mowers
Thatchers

BMB Company, Inc., North Vermont at 9th, Holton, Kansas 66436
Brush Cutters
Flail Mowers
Rotary Mower
Shredders
Rear Tractor Blades
Chisel Plows
Rear Mounted (Tractor) Lawn Mowers

Bock Industries Inc., 57540 State Rd. No. 195, Elkhart, Ind. 46514
Trailer for utility vehicles and golf cart

Bogue Club Car, 100 Pennsylvania Ave., Paterson, N.J. 07059
Golf Cars

Bolens FMC Corp., OPE Division, 215 South Park St., Port Washington, Wis. 53074
Earth augers
Backhoes
Blades (dozer-scraper)
Tractor loaders
Rotary mowers and replacement parts
Post hole digger
Snow thrower
Tillers
Tractors (8-20 hp)

Bombardier Limited, Valcourt, Quebec, Canada
Brush cutters
Low PSI tracked vehicles

Boss Irrigation Div., Consolidated Pipe Mfg., P.O. Box 5695, Lubbock, Texas 79417
Irrigation sprinkler

Bowie Industries Inc., P.O. Box 931, Bowie, Texas 76230
Erosion Control Materials
Hydraulic Seeding & Mulch Machines
Log Splitters
Pumps
Seeders (Hydraulic)
Sprayers, Complete Power Unit
Bridgeport Implement Works, Inc., 60 Rachel Drive, Stratford, Conn. 06497
Pixtone, trailer-type—self-powered, picks stone ¾ to 9-inch diameter

Briggs & Stratton Corp., P.O. Box 702, Milwaukee, Wis. 53201
Gasoline, Engines

Brighton By-Products Co., Inc., P.O. Box 23, New Brighton, Pa. 15066
Aerators
Chemical Applicators (Liquid)
Erosion Control Materials
Log Splitters
Dust Masks
Gas Masks
Backpack Mistblowers
Moisture Meters
Pruners
Hose Reels
Respirators
Spray Guns
Spray Nozzles, Complete
Sprayers (Cart or Wheelbarrow Type)
Sprayers (Complete Power Unit)

Brillion Iron Works, 200 Park Ave., Brillion, Wis. 54110
Swing-cut, rotary mower (60" and 72")
Turf-Maker, seeder for sod-growers (8' and 10')
Terra-Scraper, landscape rakes
Sure-Stand, landscape and agricultural seeders (5', 8', 10', 12')

Brinly Hardy Co., Inc., P.O. Box 1116, Louisville, Ky. 40201
Aerators
Blades (dozer-scraper)
Cultivating discs
Fork lift (attachment)
Harrow (spike-toothed and spring-toothed)
Turf rollers
Lawn sweepers

Brouwer Turf Equipment Limited, R.R. No. 1, Keswick, Ontario, Canada L4P 3C8
Reel mowers
Sod harvesters
Seeder Rakes
Steel Wheels

The Broyhill Company, No. Mkt. Sq., Dakota City, Nebr. 68731
Chemical applicators (liquid)
Hose (spray and irrigation)
Pumps (centrifugal)
Hose reels
Spray booms
Spray guns
Spray nozzles (complete)
Sprayers (cart or wheelbarrow type)
Sprayers (complete power unit)
Spray tanks
Power washers

Buffalo Turbine Agri. Equipment Co., Inc., Industrial Place, Gowanda, N.Y. 14070
Chemical Applicators (Granular and Liquid)
Power Dusters
Foggers
Insect Killer
Mistblowers, Backpack
Mistblowers, Truck-Mounted
Mistblowers, Nozzle Parts
Spray Nozzles, Complete
Sprayers, Complete Power Unit
Spreaders, Hopper-Type

Bunton Co., 4304 Poplar Level Rd., Louisville, Ky. 40232
Mowers, Rotary

Bush-Hog Implements, P.O. Box 1039, Selma, Ala.
Mowers, Rotary

C
E. L. Caldwell & Sons, Inc., 3204 Agnes St., P.O. Box 9316, Corpus Christi, Tex. 78408
Brush Cutters
Graders
Flail Mowers
Rotary Mowers
Replacement Parts Mowers
Post Hole Digger
Shredders
Sub-soilers
Hydraulic Cranes
Chisel Plows

California Brass Manufacturing, 2251 East 7th Street, Los Angeles, Calif. 90023
Foggers
Hose (Spray, Irrigation)
Irrigation Controller/Programmers
Irrigation, Components
Irrigation Sprinklers (Above Ground)
Irrigation Sprinklers (Impact)
Irrigation Sprinklers (Impulse, Pop-up, Heads)
Irrigation Sprinklers (Shrub and Bubbler)
Irrigation Sprinklers (Stationary)
Irrigation Miscellaneous Accessories
Irrigation Valves, Automatic
Irrigation (Quick Coupling Valves)
Irrigation Valves (Solenoid)

Cal-Turf, Inc., 5417 Santa Clara Ave., Camarillo, Calif. 93010
Sod
Stolons
Vexar® sod netting layer

Campbell-Hausfeld Co., Lombard Chain Saws, Sales Ave., Harrison, Ohio 45030
Gasoline chain saws and parts
Spray guns
Spray nozzles (complete)
Sprayers (cart or wheelbarrow type and complete power unit)

Capital Equipment Company, P.O. Box O, Alexander, Ark. 72002
Aerators
Blowers
Chippers
Edgers
Gasoline and Diesel Engines
Generators
Harrow (spike-toothed and spring-toothed)
Hose (spray, irrigation)
Irrigation (injection equipment)
Irrigation (components, pipe, risers)
Irrigation sprinklers (above ground)
Impulse, pop-up, heads
Spray, pop-up, heads
Rotary, pop-up, heads
Stationary
Valve in head (complete)
Leaf blowers
Tractor loaders (mounted)
Mowers (flail, greens, reel, rotary, sickle bar, vertical)
Park equipment
Post hole diggers
Pruners
Seeders (disc-type, hopper-type, hydraulic)
Shredders
Sod cutters
Soil testers
Sprayers (cart or wheelbarrow type)
Complete power unit sprayers
Lawn sweepers
Spray tanks
Thatchers
Tillers
Tractor (at 8-60 hp)
Hedge and grass parts trimmers
Turf vehicles
Vacuums

Caretree Systems, 7030 Huntley Rd., P.O. Box 347, Worthington, Ohio 43085
Fork Lift (Attachment)
Hydraulic Lifts
Tree Spade
Tree Mowers

J I Case, Outdoor Power Equipment Division, 119 South First Street, Winneconne, Wisconsin 54986
Backhoes
Blades (dozer-scaper)
Fork lift attachments
Tractor loaders (mounted)
Rotary mowers
Lawn sweepers
Tillers
Tractor (8-20 HP)
Complete line of lawn and garden tractor attachments including snow-blowers, rotary mowers, tillers, compact loaders and compact loader, backhoes
Dump Carts

Cast iron pipe for irrigation

Causco Inc., 106 W. 31 St., Independence, Mo. 64055
Portable hydraulic power packs
Hydraulic tools for pruning
Chain saws
Pavement breakers
Clay spades
Also sell and rent aerial bucket lifts, 24-150 feet.

Centol-Division Burgess Vibrocrafters Inc., Route 45 and Peterson Rd., P.O. Box 177, Libertyville, Ill. 60048.
Chemical applicators (liquid)
Foggers
Insect killers
Mistblowers (nozzle parts)

Century Engineering Corporation, 221 4th Ave. S. E., Cedar Rapids, Iowa 52401
Sprayers, trailer, tractor, jet or mechanical agitation
Washers, high pressure
Heaters, portable oil and gas

Certain-Teed/Daymond Co., 230 Collingwood, Suite 150, Ann Arbor, Mich. 48103
Certa-Flex, corrugated plastic tubings of various diameters for land drainage and trickle irrigation

Certain-Teeed Corporation, P.O. Box 860, Valley Forge, Pa. 19482
Irrigation Pipe (Risers)

Champion Brass Mfg., Co., 1460 N. Naud St., Los Angeles, Calif. 90012
Irrigation Controller/Programmers
Irrigation, Components
Irrigation Sprinklers (Above Ground, Impact, Impulse, Pop-up, Heads, Stationary)

Irrigation Miscellaneous Accessories
Irrigation Valves (Automatic and Flow Control)
The Champion Company, 400 Harrison St., Springfield, Ohio 45501
Trailer

Champion Heater Company, 221 4th Ave. SE, Cedar Rapids, Iowa 52401
Heaters (portable oil fired and portable gas fired)
Washers (portable high pressure)

R. E. Chapin Mfg. Works, Inc., 29 Liberty St., Batavia, New York 14020
Sprayers (Cart or Wheelbarrow Type)
Sprayers (Complete Power Unit)

Chemagro Agricultural Division of Mobay Chemical Corp., Box 4913, Kansas City, Mo.
Fungicides
Insecticides
Molluscicides

Clarke Div., Clarke-Gravelly Corp., 2800 Estes Street, Dept. 17 WT&T, Muskegon, Michigan 49441
Lawn sweepers
Vacuums
Automatic scrubber/vacuums for artificial turf maintenance
Wet/dry vacuum cleaners
Parking lot sweepers

Clark Equipment Company, 112 North University, Fargo N.D. 58102
Skid steer loader

Clark Equipment Trailer Division, P.O. Box 410, Michigan City, Indiana 46360
Clark equipment mini trailers; 22 and 30 ft. flatbed trailers designed for use with 5th wheel connecting pick-up trucks.

Clinton Engines Corporation, Clark & Maple Streets, Maquoketa, Iowa 52060
Edgers
Gasoline Engines
Rotary Mowers
Replacement Parts Mowers
Centrifugal Pumps
Saws, Chain, Gasoline
Sprayers, Complete Power Unit

Club Car, Inc., P.O. Box 897, Augusta, Georgia 30903
Caroche, four-wheel electric golf car (2 passengers)
Caroche utility truck, four-wheel electric utility truck (2 passenger and 500 lb. load)
Caroche Personnel Carrier, four-wheel electric (4 passengers)
Caroche Islander, combination commuter and golf car

Conaway, Inc., P.O. Box 303, Mayview Road, Lawrence, Pa. 15055
Blowers
Edgers
Generators
Leaf Blowers
Log Splitters
Rotary Mowers
Saws, Chain, Gasoline
Tillers
Tractor (8-20 HP)
Contree Sales, P.O. Box 129, Columbus, Wis. 53925
Chemical Applicators (Granular and Liquid)
Hose
Pumps
Centrifugal Pumps
Spray Booms
Spray Guns
Spray Nozzles, Complete
Sprayers (Complete Power Unit)
Spray Tanks

Conwed Corporation, 2200 Highcrest Rd., St. Paul, Minn. 55113
Conwed Hydro Mulch, a wood fiber mulch used in hydro seeding
Conwed Economy Erosion Control Netting, tough plastic net used over loose mulches in high erosion areas

Cooper Mfg. Co., 422 S. First Ave., Marshalltown, Iowa 50158
Edgers, gasoline powered
Mowers, reel, walking
Champion 21, greensmower

Corona Clipper Co., 14200 E. 6th, Corona, Calif. 91720
Pruners
Manual saws
Shears
Trimmers (hedge and grass parts)

Correct Mfg., London Road Extension, Delaware, Ohio 43015
Aerial Bucket Lifts
Earth Augers

Courtsigns, Inc., 6500 N. Clark St., Chicago, Ill. 60626
Stakes, signs rope/plastic stakes and signs to direct golfers and golf carts, and to rope off repair areas of golf courses
Sand trap rakes, specially designed for golf course use

Howard S. Crane, Inc., P.O. Box 88, Oneida, New York 13421
Moisture tester

Creative Sales, Inc., 222 Park Avenue, Fremont, Nebraska 68025
Tree Injectors

Cresline Plastic Pipe Co., Inc., 955 Diamond Ave., Evansville, Ind. 47717
Cresline, PVC pipe and fittings

Crown Chemicals, 4235 Duncan Ave., St. Louis, Mo. 63110
Arborist supplies
Chemical applicators (liquid)
Insect killer
Dust masks
Gas masks
Mistblowers (truck-mounted and nozzle parts)
Pumps
Reels (hose)
Respirators
Spray guns
Spray nozzles (complete)
Sprayers (cart or wheelbarrow type, also complete power unit)
Spray tanks
Tree injectors

Crysteel Mfg. Inc., Highway 60 East, Lake Crystal, Minn. 56055
“Lo-Boy” truck hoist, 8 models available to fit any size truck
Trailer hitches
Grain bodies

Curtis Dyna Products Corporation, P.O. Box 297, Westfield, Indiana 46074
Chemical Applicators, Liquid
Foggers

Cushman-Ryan OMC-Lincoln, Box 82409, Lincoln, Nebraska 68501
Golf cars

Cyclone Seeder Co., Inc., Box 68, Urbana, Ind. 46990
Seeders (hopper-type)
Spreaders (hopper-type)
All products are of the broadcast type

Dadco, P.O. Box 2086, Fresno, Calif. 93719
Dadco, Battery Clamps

Ross Daniels, Inc., P.O. Box 430, West Des Moines, Iowa 50265
Root-Feeding Rods
Commercial Tree Stakes

Davey Tree Expert Co., Kent, Ohio 44240
Tree nursery, 150 varieties of shade and ornamentals
Tree service, nationwide and Canadian representation

Davis Mfg., P.O. Box 9228, Wichita, Kansas 67277
Backhoes
Blades (Dozer-Scraper)
Boring Units
Compactors
Fork Lifts
Fork Lift (Attachment)
Boom Loaders
Tractor Loaders
Vibratory Plows
Turf Rollers
Snow Thrower
Trencher

Dedoes Industries Inc., 1060 W. Maple Rd., Walled Lake, Mich. 48088
Aerator

Deere & Company, John Deere Rd., Moline, Ill. 61265
Backhoes
Compactors
Engines, Diesel
Fork Lifts
Graders
Skid Steer Loader
Tractor Loaders
Flail Mowers
Scrapers
Tractor, Crawlers
Motor Graders
Excavators
4 Wheel-drive Loaders
Skidders
Log and Lumber Loaders
Feller-Bunchers
Tree Harvester

Delavan Mfg. Co., 811 Fourth St., West Des Moines, Iowa 50265
Nozzles, all conceivable types, sizes and spray angles
Accessories, boom control valves, pressure relief valves, pumps, roller, turbine, piston

Derby Tiller Co., P.O. Box 21, Rumson, N.J. 07760
Log Splitters
Tillers

DESA Industries, Inc., 25000 S. Western Ave., Park Forest, Ill. 60466
Saws, Chain, Electric, Gasoline
Saws, Chain, Parts
Dico Co., Inc., P.O. Box 1344, Des Moines, Iowa 50305
Dico Knuckle Boom for log loaders
Trolley boom hoists

Didier Mfg. Co., 1652 Phillips Ave., Racine, Wis. 53403
"Hydra Splitter" log splitter
"Hydra Sickle" sickle bar attachment

Digz-All Trencher Co., Div. Wing King Co., Merrill, Iowa 51038
Digz-All, Trenchers

J. J. Dill Co., P.O. Box 788, 1407 Ravine Rd., Kalamazoo, Mich. 49005
Blowers
Chemical applicators (granular and liquid)
Power dusters
Foggers
Hose (spray, irrigation)
Insect killer
Leaf blowers
Dust and gas masks
Mistblowers (backpack and truck-mounted)
Pumps
Centrifugal pumps
Hose reels
Respirators
Safety equipment
Spray booms
Spray guns
Spray nozzles (complete power unit)
Spreaders (hopper-type)
Spray tanks

Ditch Witch, P.O. Box 66, Perry, Ohio 73077
Backhoes
Boring Units
Skid Steer Loader
Vibratory Plows
Trencher

Ditch Witch Division, The Charles Machine Works, Inc., P.O. Box 66, Perry, Okla. 73077
Underground construction equipment — trenchers, vibratory plows, utility backhoes, horizontal boring units and related equipment including trailers. Range of line — 7 hp to 195 hp.

Ditch Witch Equipment Co., P.O. Box 15881, 11662 S. Choctaw Dr., Baton Rouge, La. 70815
Backhoes
Boring units
Hydraulic and air powered T
Vibratory plows
Trailers
Trenchers

Ditch Witch of Columbus Inc., P.O. Box 420, Worthington, Ohio 43085
Distributor of trenchers

Ditch Witch of San Diego, 4661 Ruffner St., San Diego, Calif. 92111
Augers
Earth augers
Backhoes
Boring units
Drainage tubing
Trailers
Trencher

Dobbins, Inc., 9371 Chapman Ave., Garden Grove, Calif. 92641
Turf dresser
Precision multi-purpose mulcher-spreader

The Dow Chemical Co., 14955 Sprague Rd., Strongsville, Ohio 44136
Insect killer
Weed killers
Grass killers
Insecticides
Miticides
Nematocides
In general — turf chemicals

Dri-All, Inc., P.O. Box 309, Attica, Ind. 47918
Air curtain destructor, pit incinerator for disposal of trees and wood products — air pollution approved
Scarifier leveler, leveling device with scarifying teeth for landscapers, sod growers
Yard leveler, leveling or grading drag

Dunlop Tire & Rubber Corp., Box 1109, Buffalo, N.Y. 14240
Dunlop tires, for cars and trucks, tractors and implements

Eagle Mfg. Co., 24th & Charles St., Wellsburg, W. Va. 26070
Eagle Cans, gasoline cans manufactured to meet OSHA regulations

Earth Packing Industries, 3340 Peachtree Rd., Atlanta, Ga. 30326
Earth compactor, mounts on a backhoe boom

Echo Chain Saw Div., Kioritz Corp. of America, 350 Wainwright Ave., Northbrook, Ill 60062
Blowers
Brush cutters
Foggers
Mistblowers (backpack)
Gasoline chain saws and parts
Gasoline engines
Flamethrowers (sprayers)
Power duster

Edwards Manufacturing Company, Route No. Box 1275, Ponca City, Oklahoma 74601
Edwards sprayers, power sprayers, 50, 100, 200, 300, 400, 500, 1,000 gallons; 3 to 50 hp engines

Energy Mfg. Co., Inc., 100 North Main Street, Monticello, Iowa 52310
Hoists
Hydraulic Cylinders
Hydraulic Pumps
Hydraulic Motors
Hydraulic Valves
Truck Hoist

Engineering Products Co., 1505-HF, Anoka Street, Waukesha, Wis. 53186
Tractor Loaders
Rotary Mowers
Sickle Bar Mowers
Snow Thrower
Tractor (8-20 HP)

Erickson Corp., 211 St. Anthony Blvd., N.E., Minneapolis, Minn. 55418
Backhoes
Skid Steer Loaders
Handling Materials
Post Hole Digger
"Eldorado" slipform concrete paver
Material Handling Trucks

ESB Brands, Inc., P.O. Box 6949, Cleveland, Ohio 44101
Storage Batteries
Battery Chargers
Eversman Mfg. Co., Curtis at Fifth St., Denver, Colo. 80204  
Eversman Land Leveler

Excel Industries, Inc., Box 727, Hesston, Kansas 67062  
Blades (Dozer-Scraper)  
Brooms  
Edgers  
Rotary Mowers  
Shredders  
Snow Thrower  
Tractor (13-60 HP)  
Trailers  
ROPs cabs for lawn tractor  
Grass/leaf catcher/compactor attachment  
Cultivator attachment  
Grass/leaf mulcher attachment

E-Z Go Car, Textron, Inc., P.O. Box 388, Augusta, Ga. 30903  
Light-Hauling Utility Truck  
Turf Vehicles  
Electric and Gasoline Golf Cars

E-Z Rake, Inc., 1001 S. Ransdell Road, Lebanon, Indiana 46052  
Lawn Sweepers  
Thatchers  
Vacuums

F

Fairmont Hydraulics, 332 S. Michigan, Chicago, Ill. 60604  
Earth Auguers  
Brush Cutters  
Hoists  
Hose  
Hydraulic & Air Powered Tools  
Post Hole Digger  
Pruners  
Saws, Chain Hydraulic, Circular  
Tools, Hand, Hydraulic  
Winch

The Fanno Saw Works, P.O. Box 628, Chico, Calif. 95927  
Arborist Supplies  
Hydraulic & Air Power Tools  
Manual Saws  
Saws, Chain, Hydraulic  
Pruners  
Tools, Hydraulic, Hand, Pneumatic

Fayette Division, Dayton-Walther Corporation, P.O. Box 339, Fayette, Ohio 43521  
Trailers

Ferrari International Inc., 6104 Avenida Encinas, Carlsbad, Ca. 92008  
Sickle Bar Mowers  
Snow Thrower  
Sprayers (Complete Power Unit)  
Tillers  
Tractors (21-60 hp)

Ferti-Feeder, 3973 Eastlay, Des Moines, Iowa 50306  
Ferti-Feeder, tree deep root fertilizer injector

Fibre Glass Products, Box 147, Swannanoa, N. C. 28778  
Tool boxes—pickup truck, fiberglass construction, paddle locks, built to accommodate B & G sprayer, fits all size trucks

Fimco, Inc., 1st & Court Streets, Sioux City, Iowa 51101  
Big Butch, pressure washer, electric, portable  
Dobbins, sprayer, lawn and garden, gas, mechanical agitation; sprayer, orchard and golf course, gas, mechanical agitation

Finn Equipment Company, 2525 Duck Creek Rd., Cincinnati, Ohio 45208  
Hydraulic seeding and mulch machines  
Mulch blowers  
Hydraulic seeders  
Burner (air curtain)

The Flintkote Co., Pipe Products Div., Box 151, Ravenna, Ohio 44266  
PVC pipe

Flo-Control Inc., 3212 Winona Ave., Burbank, Calif. 91510  
Irrigation valves (flow)  
P.V.C. compression fittings  
Couplings  
Adapters  
Tees  
Check valves

FMC Corp., Agricultural Machinery Div., 5601 E. Highland, Jonesboro Ar. 72401  
Blowers  
Brush cutters  
Chemical applicators (liquid)  
Foggers  
Hose (spray, irrigation)  
Leaf blowers  
Mistblowers (truck-mounted and nozzle parts)  
Flail mowers  
Pumps  
Centrifugal pumps  
Hose reels  
Spray booms  
Spray guns  
Spray nozzles (complete)  
Spray boom  
Sprayers (cart or wheelbarrow type, also complete power unit)  
Spray tanks

FMC Corporation, Outdoor Power Equipment Div., 215 South Park Street, Port Washington, Wis. 53074  
Rotary Mowers  
Replacement Parts Mowers  
Snow Thrower  
Tillers  
Tractor (8-20 HP)

FMC Corporation, Side-Winder, P.O. Box 818, Minden, Louisiana 71055  
Blades (Dozer-Scraper)  
Brush Cutters  
Flail Mowers  
Rotary Mowers  
Power Incorporators  
Power Cultivators  
Power Bed Forming Tools

FMC Corporation, Sweeper Division, 1201 E. Lexington St., Pomona, Calif. 91766  
Chippers  
Municipal and Industrial Sweepers  
Power Scrubbers

Flymo, P.O. Box 939, Elkhart, Ind. 46514  
Flymo air-cushion rotary mower

Foamspray Chemicals, Inc., P.O. Box 20183, 2623 Perch St., Dallas, Texas 75220  
Spray Nozzles, Complete  
Soil Conditioners (Liquid)  
Growth Aids (Liquid)  
Surfactants and Wetting Agents
There are things, like fine wines, which improve with age. Regrettably, industrial lawn-turf equipment doesn't. It takes quality replacement parts and periodic maintenance to keep it performing at its best.

Because so much of your business depends on your grounds-keeping equipment, you want replacement parts that are rugged, reliable and available when you need them. Down-time is an expensive and bothersome problem which effects the beauty and popularity of your course.

At LMP we understand your equipment problems. For more than 20 years, we have specialized in manufacturing and stocking the finest bed knives, gears, bearings, gaskets, seals, shafts and other replacements. And, every LMP part is original equipment quality or better, to keep your gang in top condition.

LMP has replacements that put "bite" back into your equipment and keep it rolling for years to come. Parts for Toro, Jacobsen, Worthington, Locke Devere, Roseman and others. Also reel and rotary-type mower and edger parts, all ready for immediate shipment.

The next time you and the gang get together, make sure you mean business. Replace those worn-out parts with quality LMP parts. You'll save time and money.

There's an LMP distributor near you...nationwide.
Foley Mfg. Co., 3300 Fifth St. N.E., Minneapolis, Minn. 55418
Chain saw sharpeners
Mowers and cutters sharpeners

Ford Motor Co., Tractor Operations, 2500 E. Maple, Troy, Mich. 48084
Backhoes
Blades (Dozer-Scraper)
Skid Steer Loader
Tractor Loaders
Flail Mowers
Rotary Mowers
Sickle Bar Mowers
Post Hole Digger
Landscaping Rakes
Snow Thrower
Tillers
Tractor (8-151 and up HP)

Fore-Par, Inc., 7150 Fenwick Lane, Suite 106, Westminster, Calif. 92683
Fore-Par, tee markers, practice green markers, direction and rules signs, flags, personalized flags, tee monuments

Fox Valley Marking Systems, P.O. Box H, Cary, Ill. 60013.
Park Equipment
Safety Equipment
Landscaping Marker
Parking Lot Striping Equipment

Friend Mfg. Corp., 4441 Prospect St., Gasport, N.Y. 14067
Arborist supplies
Brush cutters
Brush hooks
Chemical applicators (liquid)
Generators
Hose
Hose (spray, irrigation)
Dust mask
Mistblowers (truck-mounted and nozzle parts)
Pruners
Pumps
Hose reels
Respirators
Manual saws
Hydraulic chain saws
Electric circular saws
Shears
Spray booms
Spray guns
Spray nozzles (complete)
Spray boom
Sprayers (complete power unit)
Spray tanks
Canvas fruit picking buckets

Fruend Can Co., 143 W. 84th St., Chicago, Ill.
Gasoline cans to meet OSHA specifications

Fuerst Brothers, Inc., P.O. Box 271, Rhinebeck, New York 12572
Aerators
Harrow (Spike-Toothed)
Landscaping Rakes
Fuerst F-l-e-x-i-b-le Tine Harrows

Game Time, Inc., 900 Anderson Rd., Litchfield, Michigan 49252
Park Equipment
Metal and Wood Park and Playground Equipment
Above Ground Pools
Circle Eight Panelized Buildings
Park Shelters

Gandy Company, 528 Gandrud Road, Owatonna, Minnesota 55060
Gandy turf tender, for fertilizer, seed or granular chemical; 42-inch width
Gandy spreader 600 series, for fertilizer, seed or granular chemical; 3, 4, or 5-foot width
Gandy Spreader 10A series, for fertilizer, seed or granular chemical, 6, 8, 10 or 11-foot width, pull-type and tractor mounted
Gandy Spreader 1020A, for fertilizer, seed or granular chemical; 20 foot; folding
Gandy disk mount, granular applicator; 3 to 20 foot, hydraulic or mechanical drive
Gandy Ro-Hi, high clearance granular applicator; 5 to 28-inch band
Gandy line tender, granular applicator; 1 to 21-inch band, handle control
Gandy super/junior, granular applicator; 1 to 21-inch band, implement-mounted
Gandy measuring wheel, one-man land measuring in feet or meters

Garber Seeders, Inc., St. Paris, Ohio 43072
Seeders, hopper-type

General Control, Inc., 3334 E. Pennsylvania St., Tucson, Ariz. 85714
Irrigation Valves
Flow Control

General Electric Co., Outdoor Power Equipment Operation, Corporations Park, Bldg. 702, Schenectady, N.Y. 12345
Tractors, electric/battery-powered, full line of attachments

Dust Masks
Gas Masks
Pumps
Respirators
Safety Belts and Saddles, Tree Climbers
Trash Compactors
First Aid Supplies, Kits, Cabinets

Giant-Vac Mfg., Inc., Machine Shop Road, South Windham, Conn. 06266
Leaf blowers
Chippers
Log splitters
Handling materials
Tillers
Lawn sweepers
Thatchers
Vacuums

Gielow Co., Inc., 3311 Sharpview Dr., Dallas, Texas 75228
“Trim-it” a weed cutting-grass trimming machine which cuts with a flexible filament of nylon

Gilson Bros. Co., Box 152, Plymouth, Wisc. 53073
Mowers
Shredders
Tractors
<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Products and Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ginther Equipment Corp.</td>
<td>1830 Gird Rd., Fallbrook, Ca. 92028</td>
<td>Park equipment, Pruners, Hand and hydraulic and pneumatic tools, Trailers, Light-hauling utility trucks, Turf vehicles, Control stakes and guide rope, Clipping spreaders, Du-Wipers, Turf drags, Hydraulic dump trucks and trailers, Driving range markers and bag supports, signs and out of bounds markers</td>
</tr>
<tr>
<td>Glendale Optical Co., Inc.</td>
<td>130 Crossways Park Dr., Woodbury, L. I., N.Y. 11797</td>
<td>Hard hats, head protection gear</td>
</tr>
<tr>
<td>Goodall Div.</td>
<td>1405 Bunton Rd., Louisville, Ky. 40213</td>
<td>Goodall, mower, rotary</td>
</tr>
<tr>
<td>The Gorman-Rupp Company, Inc.</td>
<td>305 Bowman Street, P.O. Box 1217, Mansfield, Ohio 44901</td>
<td>Pumps</td>
</tr>
<tr>
<td>Gould Inc.</td>
<td>P.O. Box 3140, St. Paul, Minn. 55165</td>
<td>Storage batteries</td>
</tr>
<tr>
<td>Granberg Industries, Inc.</td>
<td>200 So. Garrard, Richmond, California 94084</td>
<td>Chain saw sharpener</td>
</tr>
<tr>
<td>Grass Growers, Inc.</td>
<td>P.O. Box 584, Plainfield, New Jersey 07601</td>
<td>Terra Tack, for erosion control, straw/hay tack and mulch binder</td>
</tr>
<tr>
<td>Gravely, Division Clarke-Gravely Corp.</td>
<td>One Gravely Lane, Clemmons, N.C. 27012</td>
<td>816 4-wheel tractor, 8-spd. trans., 16 hp, Onan 2-cylinder engine (rear mounted)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>812 4-wheel tractor, 8-spd. trans., 12 hp Kohler single cylinder engine (rear mounted)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>810 4-wheel tractor, 8-spd. trans., 10 hp Kohler single cylinder engine (rear mounted)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>408 lawn tractor, 34-inch rotary mower, 8 hp Kohler engine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.6 hp custom 2-wheel tractor, 30” rotary mower, 40” rotary mower, 50” rotary mower</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.6 hp 2-wheel tractor, rotary tiller, rotary plow, rotary cultivator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C-10 hp commercial 2-wheel tractor, 44”, 38”, 36” snow-blowers, front mount 48” scraper</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C-12 hp commercial 2-wheel tractor, blade, center-mount scraper blade, riding sulky for 2-wheel tractors</td>
</tr>
<tr>
<td>W-W Grinder Corp.</td>
<td>2957 N. Market, Wichita, Kansas 67219</td>
<td>Augers, Chippers, Shredders, Soil Elevator, Magnetic attachment for Fork lift</td>
</tr>
<tr>
<td>Griswold Controls</td>
<td>124 E. Dyer Road, Santa Ana, Calif. 92707</td>
<td>Irrigation controller/programmers, Irrigation valves (automatic), Irrigation valves (flow control, pressure activated, and solenoid)</td>
</tr>
<tr>
<td>Ground Hog, Inc.</td>
<td>P.O. Box 290, San Bernardino, Calif. 92402</td>
<td>Augers, Earth Augers, Drills (Field), Post Hole Digger</td>
</tr>
<tr>
<td>Grumman Aircraft Corp.</td>
<td>S. Oyster Bay Rd., Bethpage, L.I., N.Y. 11797</td>
<td>Aircraft, fixed wing, Sprayer, pneumatic-hydraulic, self-contained</td>
</tr>
<tr>
<td>Gulf States Paper Corp.</td>
<td>P.O. Box 3199, Tuscaloosa, Ala. 35401</td>
<td>Erosion control material</td>
</tr>
<tr>
<td>Hadfield Sod Roller Co.</td>
<td>6443 Sherwood, Oxford, Mich. 48051</td>
<td>Sod roller</td>
</tr>
<tr>
<td>Hahn, Inc., Turf-Ag Division</td>
<td>1625 N. Garvin St., Evansville, Indiana 47717</td>
<td>Aerators, Blowers, Chemical Applicators, Liquid, Leaf Blowers, Greens Mowers, Reel Mowers, Rotary Mowers, Vertical Mowers, Pumps, Snow Thrower, Spikers, Spray Booms, Spreaders Hopper-Type, Spray Tanks, Thatchers, Tillers</td>
</tr>
<tr>
<td>Hancor, Inc.</td>
<td>P.O. Box 1047, Finlay, Ohio 45840</td>
<td>Drainage tubing</td>
</tr>
<tr>
<td>Haynes Mfg. Co., Inc.</td>
<td>P.O. Box 191, Livingston, Texas 77351</td>
<td>Tree girdler, mechanical earth drill, wood and stump drill, brush and pruning tools, power soil sampling tools, brush saws, shredder-mowers, saw grinders, brush rakes</td>
</tr>
<tr>
<td>Hays Fluid Controls Division</td>
<td>Zurn Industries, 801 West 12th Street, Erie, Pa. 16512</td>
<td>Irrigation Valves, Solenoid</td>
</tr>
</tbody>
</table>
Hays Spray Gun Co., 98 N. San Gabriel Blvd., Pasadena, Calif.
Sprayers, hose end

Hefty Tractor, Cross & Industrial Sts., Juneau, Wisc. 53039
Tractors

Hemco Corporation, 111 N. Powell/P.O. Box 210, Independence, Missouri 64051
Spray tanks
Tool box—Fiberglass for Pick-up Trucks

Herd Seeder Company, Inc., P.O. Box 448, 3600 E. on U.S. 35 SE, Logansport, Indiana 46947
Chemical applicators (granular)
Hopper-type seeders
Hopper-type spreaders

Hesston Corp., Lawn Equipment Division, The Toro Company, P.O. Box 39040, Indianapolis, Ind. 46239
Hesston Front-Runner—grounds maintenance tractors, model 200, 19.8 hp—model 180, 18 hp—Model 160, 16 hp; 48"”, 60"” mowers and 80"” batwing mower head, self-contained vacuum pick-up (fits 48"” & 60” mower heads only). Other attachments: rotary broom, dozer, snow thrower and tillage equipment; features hydrostatic drive, articulated steering, "up-front", roomy operator cockpit
Hesston stump cutter, 8 hp Briggs & Stratton engine, portable, replaceable
Hesston tractor, 16 hp, 18 hp, 20 hp; mower—rotary 48"”, 60"”, 80"”; vacuum collector, snow-plow dozer blades, rotary broom, cultivators, 42"” wide—disc harrow—29"”, 39"” cutting width, aerator, 36"” wide, stump cutter, stump removal to 8"” below ground level

Highway Equipment Company, 616 D Ave. N.W., Cedar Rapids, Iowa 52405
Hi-Way model P, utility, hopper-type spreader body that is simply set into a truck body to convert pickup, flatbed or dump body into spreader unit; spreads sand salt or cinders up to 40 ft; used, to spread fertilizer and lime in landscape work

Aircraft, helicopter

Hills-Liqui System, P.O. Box 1043, Victoria, Texas 74901
Horticultural service machine, a specialized tool for feeding, spraying, and treating plants, trees and lawn sprayers

HMC, The Green Machine, 22131 S. Vermont, Torrance, Calif. 90502
Earth Augers
Blowers
Boring Units
Brush Cutters
Flamethrowers (Sprayers)
Leaf blowers
Backpack Mistblowers
Post Hole Digger
Pruners
Pumps
Pumps, Centrifugal
Trimmers, Hedge and Grass

Hoffco, Inc., 25 Washington Ave., Richmond, Ind. 47374
Hoffco, P8—power scythe, MP—brush cutter, 973—one-man post hole drill, 1000—2-man (2 cycle) post hole drill, Comet Jac-Lift, 2000 lb. winch hoist, 1100—2-man (4 cycle) post hole drill
W. J. Holland Supply, 191 W. 32nd St., Holland, Mich.
Trailers

Holsclaw Bros., Inc., 1325 E. Virginia St., Evansville, Indiana 47711
Trailers

Homelite, A Division of Textron, P.O. Box 7047, Charlotte, N.C. 28217
Generators
Pumps
Centrifugal pumps
Gasoline chain saws and parts

Hortiscape, Inc., 7866 Second St., Dexter, Michigan
Hortiscape landscape border edging
Hortiscape tree guying units

Howard Rotavator Co., Inc., 343 South Division, P.O. Box 100, Harvard, Ill. 60033
Aerators
Backhoes
Tillers

Hub States Chemical, 2000 North Illinois Street, Indianapolis, Ind. 46202
Power dusters
Flamethrowers (sprayers)
Foggers
Hose
Insect killer
Dust and gas masks
Mistblowers (backpack, self-propelled, truck-mounted, nozzle parts)
Pumps
Hose reels
Respirators
Spray booms
Spray guns
Spray nozzles (complete)
Spray boom
Sprayers (cart or wheelbarrow type, and complete power unit)
Spreaders (hopper-type)
Spray tanks

H. D. Hudson Manufacturing Company, 1500 N. Michigan Ave., Chicago, Illinois 60611
Chemical applicator (granular and liquid)
Flamethrowers (sprayers)
Pumps
Root-feeding rods
Spray booms
Spray guns
Spray nozzles (complete)
Spray boom
Sprayers (cart or wheelbarrow type, complete power unit)
Cordless electric sprayers
Compression sprayers

Hunt Malyce Inc., 723 E. Haley Street, Santa Barbara, Calif. 93103
Irrigation, Injection Equipment
Auto Pilot Liquid Fertilizer Injector
Electrolab—Automatic laboratory for auto pilot injector and manual testing

Husqvarna, Inc., 151 New World Way, South Plainfield, New Jersey 07080
Reel mowers
Rotary mowers
Gasoline chain saws
Gasoline circular saws
Chain saws parts

Huss Sales and Service, 1929 Starr Ave., Toledo, Ohio 43605
Stump cutter

Hydraulic Products Co., Inc., 501 East 42nd, Lubbock, Texas 79404
HPC submersible and vertical turbine pumps for deep wells and pressure booster applications for irrigation applications
Hydra Terra Corp., 1524 Alameda, Pomona, Calif. 91768
Hose, Spray/Irrigation

Hydro-Turf, P.O. Box 3, Elk Grove, Ill. 60007
Hydro Turf spraying equipment, sprinkler systems —
above ground, seeders, portable pumps, portable
generators, flexible hose and pipe. Hydro seeders and
mulchers

Hypro Division, Lear Siegler, Inc., 375 Fifth Ave. N.W., New
Brighton, Minn. 55112
Pumps
Centrifugal Pumps
Spraying and liquid transfer accessories: strainers, relief
valves, unloader valves, ball valves, flow control and
diverting etc.

Ideal Crane Div., Bert Parkhurst & Co., 15051 E. Admiral Pl.,
Tulsa, Okla. 74116
Ideal Crane, hydraulic truck crane (can be operated both
electrically and by hand); 3000 lb. capacity electrically-
operated crane is $799.00; 2500 lb. capacity hand-
operated crane is $349.45; barrel chain and nursery and
appliance strap available

Imperial Underground Sprinkler, 705 E. 31st St., Kansas City,
Mo. 64109
Irrigation, spray heads and controllers

Inject-O-Meter Mfg. Co., Inc., 820 Thornton, Clovis, New
Mexico 88101
Chemical Applicators, Liquid
Irrigation, Injection Equipment

Instant Shade Tree Inc., P.O. Box 45437, Houston, Texas
77045
Hydraulic tree spade for transplanting trees

International Harvester Co., 401 N. Michigan Ave., Chicago,
Ill. 60611
Rotary Mowers
Shredders
Snow Thrower
Tillers
Tractor (8-60 HP)

International Spike, Inc., 462 East High St., Lexington, Ky.
40508
No. 2000 tree and shrub food spikes
No. 2001 evergreen food spikes
No. 2001 fruit tree food spikes

Irri-Trol Mfg. Inc., 13745 Saticot St., Van Nuys, Calif. 91402
Irrigation Valves
Control Programs

Irrometer Company, Inc., P.O. Box 2424, Riverside, Calif.
92506
Irrigation (miscellaneous accessories)
Moisture meters
Soil moisture sensors
Hermetically sealed gauge (pressure and vacuum)

ITT Marlow, P.O. Box 200, Midland Park, N.J. 07432
Pumps, irrigation, portable, submersible

Jacobsen Manufacturing Co., 1721 Packard Ave., Racine,
Wisconsin 53403
Aerators
Blowers
Brooms
Leaf Blowers
Greens Mowers

Reel Mowers
Rotary Mowers
Vertical Mowers
Replacement Parts Mowers
Park Equipment
Seeders, Disc-Type
Snow Throwers
Sod Cutters
Spikers
Sweepers, Lawn
Thatchers
Top Dressers
Tractor (61-151 HP)
Trailers
Turf Vehicles

Jacobsen Manufacturing Co., Sod-Master Div., 3456 N.
Washington Ave., Minneapolis, Minn. 55412
Pipe Piper, 10, 14, 18 hp irrigation pipe pullers; bury the
pipe without removing the earth—no trenching

Jameson Corporation, 610 Scholtz Rd., Charlotte, N.C. 28210
Arborist Supplies
Pruner Poles—Fiberglass

Jari Division, Year A Round Cab Co. Inc., Hwy. 167 North,
Mankato, Minn. 56001
Sickle bar mowers

Jeep Corporation, 14250 Plymouth Road, Detroit, Michigan
48232
Jeep 4-wheel drive vehicles, Jeep CJ-5/CJ-6 and Jeep
Cherokee 4-wheel drive sport/utility vehicles, Jeep
Wagoneer 4-wheel drive station wagons and Jeep 4-wheel
drive pick-up trucks (light/medium duty)

JLM Products & Design, 6805 Boysenberry Way, Colorado
Springs, Colo. 80907
Soil moisture meter, tested to 12-inch depth, deeper depth
units available

Jobu Chain Saws, P.O. Box 6023, Texarkana, Texas 75501
Chain saws

Johns Manville, Ag. Turf Division (irrigation), P.O. Box 232,
Fresno, Calif. 93702
Automatic controllers; Binar® Buckner-central field and
residential controllers. Pipe-P.V.C., Transite® Valves:
Buckner-electric Piston, electric diaphragm, manual,
Stop-Flo-Matic, quick couples, one and two piece.
Sprinklers: Buckner-electric and hydraulic valve-in-head,
valve-in-head, sprays, edger sprays, bubbler heads, drain
valves.
Hose swivels, hose bibs, adjustable risers. Febco® back
flow devices-reduce pressure; double check valve assem-
blies, pressure vacuum breakers, atmospheric vacuum
breakers.

Jobus Industrial Supply Co., 1941 Karlin Dr., St. Louis,
Mo. 63131
Earth augers
Soil Testers
K

K-D Manufacturing Company, P.O. Box 4547, Waco, Texas 76705
Edgers
Fork lifts
Fork Lift (Attachment)

Kees Mfg. Co., Inc., P.O. Box 2195, 3107 18th Street East, Brandenton, Florida 33508
Rotary Mower
“The Mule”—Lawn & Garden Carts
KEE Underwater Weed Cutter

F. D. Kees Mfg. Company, 700 Park Avenue, Beatrice, Nebraska 68310
Aerators
Blowers
Chemical Applicators, Granular
Turf Combs
Irrigation Sprinklers, Above Ground
Leaf Blowers
Rotary Mowers
Vertical Mowers
Seeders, Hopper-Type
Shredders
Spreaders, Hopper-type
Thatchers

Kemp Shredder Co., 1027 E. 26th St., Erie, Pa. 16505
Shredders

Kershaw Manufacturing Co., Inc., 2205 West Fairview Ave., P.O. Drawer 9328, Montgomery, Ala. 36108
Klearway, a land clearing machine for brush control

Kinco Mfg., 170 North Pascal, St. Paul, Minnesota 55104
Aerators
Brush cutters
Turf combs
Sickle bar and vertical mowers
Thatchers

King Bros. Industries, 251 Powell Rd., Fillmore, Calif. 93015
Flex-Riser®, flexible riser for sprinkler systems
Sta-Stake®, sprinkler riser support

Kioritz Corporation of America, 350 Wainwright Avenue, Northbrook, Ill. 60041
Blowers
Brush Cutters
Chemical Applicators, Granular
Chemical Applicators, Liquid
Power Dusters
Edgers
Flamethrowers (Sprayers)
Leaf Blowers
Backpack Mistblowers
Saws, Chain, Gasoline
Trimmers, Hedge and Grass

Kirchdorfer Irrigation, 924 Baxter Ave., Louisville, Ky. 40201
Preassembled pumping stations for irrigation systems

Knaack Manufacturing Co., 420 East Terra Cotta Ave., Crystal Lake, Ill. 60014
Tool chests
Shelving and ladder racks all for pickup trucks vans and stake body trucks

Kohler Co., Kohler, Wis. 53044
Gasoline engines
Generators

KPS Manufacturing, Inc., P.O. Box 671, Bay City, Mich. 48706
Chippers; in addition to standard, trailer-mounted, engine driven, tree service and line clearing chippers, also make P.T.O. driven, tractor mounted chippers with capacity up to 4” diameter

Kubota, 300 West Carob St., Compton, Calif. 90220
Backhoes
Blades (dozer-scaper)
Tractor loaders
Rotary mowers
Post hole digger
Tillers
Tractor (8-30 hp)

Karl Kuerometerling, Inc., 4536 Lincoln Way, E., Massillon, Ohio 44646
Arborist Supplies
Earth Augers
Street Brooms
Brush Cutters
Brush Hooks
Chemical Applicators, Granular and Liquid
Chippers
Log Splitters
Backpack Mistblowers
Self-propelled Mistblowers
Moisture Meters

Pruners
Landscaping Rakes
Root-Feeding Rods
Safety Belts and Saddles, Tree Climbers
Safety Equipment
Manual Saws
Chain Saw Sharpener
Shears, Grass and Hedge
Tree Spade
Stump Cutter/Remover
Spray Tanks
Tree wrappings
Trimmers, Hedge and Grass
Winch
Summer and winter clothing for Tree Trimmers: T-Shirts, jackets, sweatshirts, Carhartts, etc.

L

Lakeshore Equipment & Supply Co., 300 S. Abbe Rd., Elyria, Ohio 44035
Replacement parts, mowers
Golf accessories, flags, cups, etc.

Lakeside Mfg. Company, Inc., 39 E. Main St., Honeoye, N.Y. 14471
Trailers, industrial, 6 to 15-ton rated capacity

Lakes Supply Co., Inc., P.O. Box 101, Dundee, Ill. 60118
Aerators
Augers
Earth Augers
Chemical Applicators, Liquid (Drip Roller)
Edgers
Leaf Blowers
Log Splitters
Rotary Mowers
Saws, Chain, Gasoline
Seeders, Hopper-Type
Snow Thrower
Sweepers, Lawn

Tillers
Tractor (8-20 HP)

Saws, chain, five models, 8½-15 lbs. weight, 12-24-inch bar lengths, manual and dual system chain oiler
Lansdowne Equipment Co. Inc., 11402 N. Broadway, Wichita, Kansas 67147
Earth augers
Backhoes
Storage batteries
Boring units
Brooms
Gasoline and diesel engines
Fork lifts and attachments
Skid steer loaders
Tractor loaders
Post hole digger
Trailers
Trencher

L. L. Larson Machine, Inc., P.O. Box 308, Princeville, Illinois 61559
Chemical applicator (granular and liquid)
Park equipment
Pumps
Seeders (hopper-type)
Spray booms
Spray guns
Spray nozzles (complete)
Spray boom
Sprayers (cart or wheelbarrow type and complete power unit)
Spreaders (hopper-type)
Spray tanks

Lau Power Products, Engine Div., Tecumseh Prod. Co.,
900 North St., Grafton, Wisc. 53024
Engines, 2 to 16 hp, vertical and horizontal shaft, transaxles, transmissions, differentials, hydrostatic units

Laval Separator Corp., 1911 N. Helm, Fresno, Calif. 93727
Irrigation, Sand Separator

Lawn-Boy, OMC-Lincoln, P.O. Box 82409, Lincoln, Nebraska 68501
Lawn-Boy, solid state ignition rotary mowers, deluxe model rotary mowers

Lawn Medic, Inc., 1024 Sibley Tower, Rochester New York 14604
Aerators
Chemical Applicators, Granular and Liquid
Seeders, Hopper-Type
Spray Boom
Sprayers, Complete Power Unit
Spreaders, Hopper-Type
Spray Tanks
Turf Vehicles

Bed knives, gears, gaskets, rollers, mower blades

Lehara Equipment Co., Inc., 60 East 42nd St., New York, N.Y. 10017
Lehara Hy-Dro Flail, hydraulic extension mower—for mowing behind guard rails, up and down banks

Lehde Equipment Co., Inc., Edgeboro Rd., Box 309, East Brunswick, N.J. 08816
Mowers (flail, boom, extension)

Levey, Box 1060, Wilson, N.C. 27893
Brush Cutters
Chemical Applicator, Granular and Liquid
Levelers
Landscaping Rakes
Seeders, Hopper-Type
Spray Booms
Spray Nozzles, Complete
Spray Tanks
Tillers

Levco Manufacturers, Inc., P.O. Box 72, Wynne, Arkansas 72396
Model HD50 stump grinder, a one-man stump removal system; operates behind a standard pickup truck (1/2-ton) or small tractor; features include industrial, water-cooled power unit and self-contained hydraulic system

Fred A. Lewis Company, 40 Belknap Rd., Medford, Oregon 97501
Augers
Earth augers
Post hole digger
Electric chain saw
Winch
Chain saw attachments: winch, fair lead, snatch block, post hole digger, auger
Electric winch with chain saw attachment

Lewis Systems Inc., 424 Montgomery St., Watertown, Wisc. 53094
Golf course equipment

Lifetime Career Schools, 2251 Barry Ave., Los Angeles, Calif. 90064
Home study training in landscaping

Lift-Quik Mfg. Co., South Min St., Evans Mills, N.Y. 13637
Lift-Quik, garden, golf cart, lift

Lindell Industries, Div., of Lindell Pattern Works, 2689 S. 10th St., Fresno, Calif. 93725
Sweepers, vacuum yard
Blower, leaf blower (windrow)
Edger/trimmer, lawn

Lindig Manufacturing Corporation, 1875 West County Road C, St. Paul, Minnesota 55113
Brush Cutters
Chippers
Log Splitters
Shredders
Sprayers, Cart or Wheelbarrow Type
Sprayers, Complete Power Unit
Stump Cutter/Remover

Locke Mfg. Div., Stellar Lawn Care, 1085 Connecticut Ave., Bridgeport, Conn. 06607
Mowers, reel, self-propelled and riding, 30 inches to 87 inches; rotary

Lockwood Corporation, Box 160, Gering, Nebr. 69341
Pumps
Centrifugal pumps
Rock pickers
Spray booms
Spray guns
Sprayers (complete power unit)
Center pivot irrigation
Potato equipment
Sugar beet equipment
Dry edible bean equipment
Pecan equipment
Orchard sprayer

Loft-Kellogg Seed, Inc., 322 E. Florida St., P.O. Box 684, Milwaukee, Wisc. 53201
Chemical applicator (granular and liquid)
Hose
Insect killer
Irrigation sprinklers (above ground)
Landscaping rakes
All purpose rakes
Disc-type seeders
Hopper-type seeders
Soil testers
Hopper-type spreaders
All Grass seed varieties and grass seed mixture
Fertilizer, chemicals and mulch products
Loft Pedigreed Seed, Inc., Chimney Rock Rd., P.O. Box 146, Bound Brook, N.J. 08805
  Proprietary and common turf seed varieties for golf courses, parks, municipalities, etc.
  Turf herbicides
  Turf fungicides
  Turf fertilizers

Lombard Power Equipment, Sales Ave., Harrison, Ohio 45030
  1500 electric, saw, chain, 12-inch bar; 12 amps
  Pony, saw, chain, gasoline, 12-inch bar, 6 1/2 lbs.
  Comango, saw, chain, gasoline, 16-inch bar
  Super Comango, saw, chain, gasoline, 1/2 “anti-vibe,” automatic oiler

London Fog Company, 505 Brimhall Lane, Long Lake, Minn. 55356
  Foggers
  Sprayers, Complete Power Unit
  ULV Sprayers for Mosquito Control

Lumenite Electronic Co., 2331 N. 17th Ave., Franklin Park, Ill. 60131
  Irrigation Controller/Programmers
  Irrigation, Components
  Irrigation, Switches
  Moisture Meters
  Automatic Timers
  24 hour/7 day Time Switch: Operates during a power failure

Lundin-Milner, Inc., Los Altos, Calif.
  Chippers, will handle up to 3-inch diameter material, pull-type, stationary, mounted, electric, gas, PTO powered

Lupton Tree Service, 32 Martha St., Tiffin, Ohio 44883
  Log Splitter

M
  Hoist
  Winch

Magline, Inc., 500 Mercer St., Pinconning, Mich. 48706
  Handling materials
  Trailers
  Hand trucks
  Platform trucks
  Dockboards
  Hydraulic elevating trailers
  Hydraulic lift gates
  Utility trailers

Mars Industries, Inc., 5209 West Broadway, Minneapolis, Minn. 55429
  Mars Chem-Spray, turf sprayer, 5 gal. capacity
  Suburban angle broom, tractor attachable rotary sweepers
  Suburban pick-up sweepers, tow-type turf pick-up sweepers

Martindale Electric Co., 1375 Hird Ave., Cleveland, Ohio 44107
  Martindale protective mask, respiratory protection against non-toxic dusts
  Martindale protective eyeshield, one-piece eyeshield

Massey-Ferguson, Inc., 1901 Bell Ave., Des Moines, Iowa 50315
  Backhoes
  Fork lifts
  Skid steer loaders

Master Mfg. Co., 119 Main St., P.O. Box 694, Sioux City, Iowa 51102
  Pumps
  Centrifugal pumps
  Spray booms
  Sprayers (cart or wheelbarrow type)
  Sprayers (complete power unit)

Mathews Company, 500 Industrial Ave., Crystal Lake, Ill. 60014
  Flail Mowers
  Shredders
  Lawn Sweepers
  Thatchers

Maxey Manufacturing Co., P.O. Box 2001, Ft. Collins, Colo. 80521
  Trailers

M-B Company Inc., of Wisconsin, 1615 Wisconsin Ave., New Holstein, Wis. 53061
  Chippers
  Rotary Sweepers for attachment to tractor/loaders
  Small Job Line Striper for parking lots, aisles and athletic fields

McCabe-Powers Body Co., 8900 Frost, St. Louis, Mo. 63134
  Aerial buckets, lifts
  Aerial platforms
  Augers
  Earth augers
  Cranes
  Hydraulic lifts
  Post hole diggers
  Forestry trucks
  Light-hauling utility trucks
  Winch

McCulloch Corp., P.O. Box 92180, Los Angeles, Calif. 90009
  Generators
  Saws, Chain, Gasoline
  Saws, Chain, Parts

McDonough Power Equipment, Inc., McDonough, Georgia 30253
  Mower, rotary, push-type and riding; reel, self-propelled

Ben Meadows Co., 3589 Broad St., Atlanta, Ga. 30366
  Arborist supplies
  Augers
  Earth augers
  Brush cutters
  Brush hooks
  Log splitters
  Dust masks
  Backpack mistblowers
  Self-Propelled mistblowers
  Moisture meter
  Pruners
Respirators
Safety belts and saddles for tree climbers
Safety equipment
Shears
Soil testers
Tree injectors

Medalist Universal Motors, P.O. Box 2708, Oshkosh, Wisconsin 54901
Battery Chargers
Generators
Hose
Hose, Spray, Irrigation
Pumps, Centrifugal

Melnor Industries, One Carol Place, Moonachie, New Jersey 07074
Irrigation Sprinklers, Above Ground
Moisture Meters
Hose Reels
Spray Nozzles, Complete
Spray Tanks

Melroe Division, Gwinner, North Dakota 58040
Melroe Bobcat, skid turn front end loader

Melroe Division, Clark Equipment Co., 112 N. University Dr., Fargo, N.D. 58102
Earth augers
Backhoes
Compactors
Fork lift attachments
Skid steer loaders
Handling materials
Post hole digger
Tree movers

Merritt Equipment Service, Inc., D/B/A Ditch Witch of Georgia, 4891 Clark Howell Hwy., College Park, Ga. 30349
Aerial Bucket Lifts
Augers
Earth augers
Backhoes
Blades (dozer-scaper)
Blowers
Boring Unit
Brooms
Brush cutters
Compactors
Diesel and gasoline engines
Generators
Hose
Centrifugal pumps
Gasoline and hydraulic chain saws and parts
Trailers
Trencher

Metro-chiper, Vestor Div., Morbark Ind., Winn, Mich. 48996
Chippers, for large tree chipping

Mid-State Metal Casting and Mfg. Co., 2689 S. 10 St., Fresno, Calif. 93725
Blowers
Leaf Blowers
Park Equipment
Lawn sweepers
Vacuums
Lindall Litter Gitter Powered Vacuum

Miller Tilt Top Trailer, Inc., 450 S. & 2 St., Milwaukee, Wis. 53214
Tilt Top®, machinery hauling trailer, changes quickly from between the wheel to over the wheel trailer
Ramp Champ®, over-the-wheel platform trailer; both trailers available with new gooseneck hitches

NEW! KEES HEAVY-DUTY 36”
POWERMOW
For large residential and commercial grounds use.

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

For more information, write P.O. Box 888 or phone (402) 223-2391.

F. D. KEES MFG. CO. Beatrice, Nebr. 68310
Circle 137 on free information card

NEW! RAIN JET®
2½” HI-POP SPRINKLERS
IDEAL SPRINKLERS FOR TALL, THICK GRASS.
New RAIN JET HI-POP Sprinklers pop up 2½” above the turf line. Their patented “Rotary Pendulum” and “Pulsa Jet®” actions distribute rain-like water droplets evenly over the entire lawn area.
15 Models: Squares to 30’ x 30’; Circles to 48’; Strips; Half and Quarter Circles. All save you precious water. Send for Free Catalog & Prices.

RAIN JET CORPORATION
301 S. Flower St., Burbank, Calif. 91503 • Dept. WTT
Circle 139 on free information card
Minnesota Wanner Co., 5145 Eden Ave. South, Minneapolis, Minn. 55436
Chemical applicators (liquid)
Hose
Pumps
Root-feeding rods
Spray guns
Spray nozzles, complete
Sprayers (complete power Unit)
Spray tanks
60” Shielded boom spray cart
Hi-pressure cleaning units
Mechanical invert sprayers
Aquatic invert sprayers

Mitts & Merrill, Inc., 109 McCoskry St., Saginaw, Michigan 48601
Chipper, brush, staggered knife pattern, swing away folding feed chute, positive safety lock pin

Mobile Aerial Towers, Inc., 2314 Bowser Avenue, Fort Wayne, Indiana 46803
Aerial Bucket Lifts
Aerial Platforms

Moody Sprinkler Co., Inc., 3020 Pullman St., Costa Mesa, Calif. 92626
Rainmaster, automatic valves, electric and hydraulic
Automatic controllers electric and hydraulic
Sprinklers—pop-up and stationary heads

Morbark Industries, Inc., Box 1000, Winn, Mich. 48896
Chippers
Erosion Control Materials
Boom Loaders
Log Splitters
Mulch Blowers

Moridge Mfg. Co., Moundridge, Kansas 67107
The Grasshopper-riding mower; cutting width 44”, 12 hp.
Kohler engine, cutting height ½-5”

Mott Corp., 500 Shawmut Ave., LaGrange, Ill. 60525
Flail mowers
MTD Products, Inc., 5389 W. 130 St., Cleveland, Ohio 44111
Blowers
Chippers
Edgers
Leaf Blowers
Log Splitters
Reel Mowers
Rotary Mowers
Seeders, Hopper-Type
Shredders
Snow Thrower
Spreaders, Hopper-Type
Sweepers, Lawn
Tillers
Tractor (8-20 HP)
Trailers
Vacuums
Wheelbarrows

Mud Cat, Div. of National Car Rental, 5501 Green Valley Dr., Minneapolis, Minn. 55431
Weed harvester, aquatic

The F.E. Myers Co., 400 Orange St., Ashland, Ohio 44805
Mistblowers, Truck-Mounted
Mistblowers, Nozzle Parts
Pumps
Centrifugal Pumps
Spray Booms
Spray Guns
Spray Nozzles, Complete

Sprayers, Cart or Wheelbarrow Type
Sprayers, Complete Power Unit

National Chemsearch, 2727 Chemsearch Blvd., Irving, Texas 75062
Roll-A-Boom sprayer

National Foam System, Inc., Parco Div., 150 Gordon Drive, Lionville, Pa. 19353
· Dragon model 180, back pack 5-gallon sprayer

National Hydro-Ax, Inc., P.O. Box 568, Owatonna, Minn. 55060
Brush Cutter
Rotary Mowers
Tractors (61-150 HP)
Hydrostatic propelled prime movers 91-175 HP w/front hydraulic P.T.O. (60-120 HP)

National Irrigation Co., 4605 SW 44th Ave., Ft. Lauderdale, Fl. 33314
Hose (spray, irrigation)
Centrifugal pumps
Irrigation controller/programmers
Irrigation components
Irrigation pipe, risers
Irrigation pumping stations, complete
Irrigation sprinklers (above ground, impact, impulse pop-up heads; shrub and bubbler; spray pop-up heads; rotary pop-up heads; stationary valve in head)
Irrigation systems, complete
Irrigation switches
Irrigation, sand separators
Irrigation, miscellaneous accessories
Irrigation valves (automatic, flow control, pressure activated, quick coupling and solenoid)

National Mower Co., 700 Raymond, St. Paul, Minn. 55116
Reel mowers

Nelco, Inc., 2712 S.W. Freeway, Suite 118, Houston, Texas 77006
Pipe, irrigation through microporous openings

L. R. Nelson Corp., 7719 N. Pioneer Lane, Peoria, Ill. 61614
Irrigation controller/programmers
Irrigation components
Irrigation sprinkler (impact; impulse, pop-up, heads; above ground; shrub and bubbler; spray pop-up, heads; rotary, pop-up, heads; stationary)
Irrigation, miscellaneous accessories
Irrigation valves (automatic, flow control, pressure activated, quick coupling, and solenoid)
Irrigation traveling sprinklers

New Draulics, Inc., 2252 South 3600 West, Salt Lake City, Utah 84119
Brush cutters
Hydraulic and air powered tools
Hydraulic chain saws, circular, hydraulic

Northrup King and Co., 1500 Jackson St. NE, Minneapolis, Minn. 55413
Grass seed and grass seed mixtures

Nunes Manufacturing, 2006 Loquot Ave., Patterson, Calif. 95363
Nunes Sod Harvester, complete mechanical sod harvester; mounted on Ford Model 4110 tractor; front cut-off and cutter assembly; will eliminate sod cutter labor; available in styles to: fold, slab, roll, sod
Nunes Vacuum Sweeper, turf sweeper designed for sod growers; available with PTO drive or motor driven
Oberdorfer Foundries, Inc., Agri, Pump Div., Thompson Rd., Syracuse, N.Y. 13201
Pumps, bronze and aluminum, rotary gear, rubber impeller, rubber coltar, centrifugal, helical rotor

Occupational Safety Marketing Division of ESB, Inc., P.O. Box 622 Reading, Pa. 19603
Dust Masks
Gas Masks
Materials, Handling
Respirators
Safety Belts and Saddles, Tree Climbers
Safety Equipment

Olathe Mfg. Inc., 100 Industrial Parkway, Industrial Airport, Kansas 66031
Chippers
Log Splitters
Stump Cutter/Remover

Omark Industries, Inc., Oregon Saw Chain Div., 9701 S.E. McLoughlin Blvd., Portland, Ore. 97222
Oregon saw chain, saw chain and accessory items
Oregon power mate and super-tronie saw bars
Oregon power mate, rim and drum sprockets

Onan Division, Onan Corp., 1400 73rd Ave. NE, Minneapolis, Minn 55432
Battery chargers
Diesel and gasoline engines
Generators

Otis Elevator Co., Special Vehicle Div., P.O. Box 8600, Stockton, Calif. 95208
Otis Golf Car, electric, 4-wheel, 36 volts
Otis Turf-Awl, gasoline, 3 and 4-wheel, 18 hp

Otis Materials Handling, 8000 Baker, Cleveland, Ohio Forklifts

Pac Craft Products, Inc., 515 Schoenhaar Dr., West Bend, Wisc. 53095
"Heff-T-Herman"-vertical platform lift
"Pac-A-Boom"-aerial bucket lift
"Sert-A-Dump"-hydraulic dump bed

Papec Machine Co., Shortsville, N.Y. 14548 Leaf blower

Par Aide Products Co., 296 No. Pascal St., St. Paul, Minn. 55104
Complete line of greens and tee accessories equipment including: golf ballwashers, flag poles and flags, tee towels, detergent for golf ballwashers, aluminum and plastic putting cups, hole cutters, cup setter, cup puller, rule signs, custom tee plaques, furniture for locker room and tee benches, spike rushes, sand trap rakes, etc.

Pargo, Inc., 4300 Raleigh St., Charlotte, N.C. 28205 Vehicles; like electric golf carts
Electric personnel carriers
Electric burden carriers

Parker Sweeper Company, Box 720, Springfield, Ohio 45501
Estate Master, 3-gang sweeper for turf or large area cleanup
Hurricane blowers, for windrowing leaves etc. for easy collection
Trail Thatch, a large three-gang Thatch-O-Matic for dethatching large areas

Partner Industries of America, Inc., 2733 W. Fulton, Chicago, III. 60612
Saws, chain, six models, 10 ½-17 lbs. weight, automatic chain oiler

Payline Division, International Harvester, 600 Woodfield, Schaumburg, Ill. 60096
Backhoes
Blades (dozer-scraper)
Diesel and gasoline engines
Fork lifts
Skid steer loaders
Tractor loaders
Scrapers
Tractors (21-151 and up hp)
Tractor crawlers

Perma-Rain Irrigation, Inc., P.O. Box 880, Lindsay, Calif. 93247
Filter, sand, silt, algae, etc. (irrigation)
Emitter, "E1" for irrigation—trees/shrubs; "Perma-Flo E1"
Fogger, Perma-Rain, for tree and shrub irrigation and plant cooling

Pioneer, OMC-Lincoln, P.O. Box 82409, Lincoln, Nebraska 68501
Pioneer P 40, 4.0 cu. inch engine chain saw for professional use
Pioneer P 20, 3.1 cu. inch displacement chain saw for casual use
Pioneer P25, 3.1 cu. inch displacement chain saw for casual use
Pioneer 1200 A, 3,546 cu. inch displacement chain saw for professional use
P 50, 5.0 cu. inch engine chain saw for professional use
Pioneer 1074, 3.1 cu. inch displacement chain saw for casual use

Piper Aircraft, Bald Eagle Street, Lock Haven, Pa. 17745
Aircraft, fixed wing

Piqua Engineering, Inc., Box 605, Piqua, Ohio 45356
Chippers
Log splitters
Shredders

Pitman Manufacturing Co., Div. A. B. Chance Co., P.O. Box 120, Grandview, Mo. 64030
Mobilift, aerial bucket

Plasti Chain Corporation, P.O. Box 267, Hebron, Illinois 60034
Plasti-Chain and accessories

Plastiline, Inc., 1251 N.E. 45 St., Pompano Beach, Fla. 33061
Polyethylene (plastic) fittings

Plastic Techniques, Inc., P.O. Box 197, New Boston, N.H. 03070
Aerial Bucket Lifts
Liners for Aerial Bucket Lifts
Replacement FRP Buckets
Tool Trays for Aerial Lift Buckets

H. K. Porter, Inc., 74 Foley St., Somerville, Mass. 02143
Cutters, bolt, rod, cable, chain, etc.
Shears, lopping
Trimmers, tree
Shears, pruning
Cutters, brush and root

Power Spike Mfg. Co., P.O. Box 67, Walters, Okla. 73572
Aerators
Spikers

Precision Chipper Corporation, Box 360, Leeds, Ala. 35094
Chipper, heavy-duty, industrial, feed-through rate of about 125 feet per minute

Prestolite Battery Division of Eltra Corp., P.O. Box 931, Toledo, Ohio 43694
Storage Batteries
Princeton Manufacturing Co., 955 West Walnut Street, Winchester, Ohio 43110
Sod Harvester
Tree Transplanter

Product Development International, Box 1776, Liberty, S.C. 29657
Tree injectors, complete systemic tree injection kit
Systemic injection consultation
Custom ordered systemic injection devices made to customer specs.

Promark Corp., P.O. Box 708, Nowalk, Ohio
Utility turf vehicles

ProTurf Division, O.M. Scott and Sons, Marysville, Ohio 43040
Aerators
Chemical applicators (granular)
Spreaders (hopper-type)

Proven Pumps Corp., 1440 N. Spring St., Los Angeles, Calif. 90012
Instant self-priming pumps, AC or DC-move to 300 gph

Rain Bird Sprinkler Mfg. Corp., 7045 N. Grand Avenue, Glendora, Calif. 91740
Hose
Hose, Spray, Irrigation
Irrigation Controllers/Programmers
Irrigation Sprinklers (above ground; impact, impulse, pop-up, heads; shrub and bubbler; spray, pop-up, heads; rotary, pop-up, heads; stationary; valve in head)
Irrigation Systems, Complete
Irrigation, Sand Separators
Irrigation (Miscellaneous Accessories)
Irrigation Valves (automatic; flow control; pressure activated; quick coupling; solenoid, pressure regulating, pressure relief)
Irrigation, Backflow Prevention
Irrigation, Trickle emitters and accessories

Rain Jet Corporation, 301 S. Flower St., Burbank, Calif. 91503
Irrigation Pipe, Risers
Irrigation sprinklers (spray, pop-up, heads; stationary)
Irrigation Sand Separators
Decorative Fountains

Rain-O-Mat Sprinklers, Inc., P.O. Box 151, Whittier, Calif. 90608
Rotary pop-up sprinklers
Impact sprinklers
Pop-up sprays, shrub sprays
Electric valves, valve adaptors, hydraulic valves
Automatic controllers
Valve markers
Quick coupling valves and couplers
Mini nozzle emitters

Reach-All Manufacturing and Engineering Co., 436 Calvary Road, Duluth, Minnesota 55803
Aerial Bucket Lifts
Earth augers
Cranes
Hydraulic Lifts
Digger-Derricks

Red Ewald Inc., P.O. Box 519, Karnes City, Texas 78118
Chemical Applicators, Liquid
Mistblowers, Truck-Mounted
Spray Booms
Spray Guns
Spray Nozzles, Complete
Sprayers, Cart or Wheelbarrow Type
Sprayers, Complete Power Unit
Spray Tanks
Fiberglass Storage Tanks

Reinco/Grass Growers, Inc., P.O. Box 584, 520 North Avenue, Plainfield, New Jersey 07061
Blowers
Erosion Control Materials
Hydraulic Seeding and Mulching Machines
Mulch blowers
Park Equipment
Centrifugal Pumps
Hose Reels
Hydraulic Seeders
Spray Booms
Spray Nozzles, Complete

Rental Equipment Mfg. Co., 2778 S. Tejon, Englewood, Colo. 80110
Bluebird, lawn combers® A/K/A thatchers, dethatchers, lawn rakes, renovators and vertical mowers, 4hp, 5hp, 7hp.
Bluebird “1500”, engine hoists, knockdown types
Bluebird “3000”, engine hoists, towable type
Bluebird “Yardbird”, utility crane
Bluebird, engine stands
Bluebird “F20B”, lawn comb, compact type, 5 hp

Richdel Inc., 1235 W. Glenoaks Blvd., Glendale, Calif. 91201
Irrigation Controller

Ridge Plastics Co., Highway 18 East, P.O. Box 2205, Jonesboro, Arkansas 72401
Biaxially oriented HD plastic pipe, sub-irrigation

Rivlex Ind., 301 E. Stevens Ave., Santa Ana, Calif. 92707
Golf Cars

Robco, Inc., Div. of Farmtec, Inc., 1812 E. 12th St., Oakland, Calif. 94606
Blowers
Hose
Hose, Spray, Irrigation
Leaf Blowers
Mistblowers, Backpack
Mistblowers, Self-Propelled
Mistblowers, Nozzle Parts
Pumps
Centrifugal Pumps
Hose Reels
Sprayers, Complete Power Unit
Windmills

Robinson Industries/Limb-Lopper Division, 11845 Burke Street, Santa Fe Springs, Calif. 90670
Hydraulic & Air Powered Tools
Pruners, Hydraulic
Pumps
Saws, Chain, Hydraulic, Circular
Tools, Hand, Hydraulic
Spades, Clay, Hydraulic
Tampers, Hydraulic
Wrenches, Impact, Hydraulic
Drills, Hydraulic
Pumps, Sump, Hydraulic

Rockwell International, 5001 North Rockwell Ave., Bethany, Oklahoma 73008
Rockwell Thrush Commander, agricultural aircraft, fixed wing

Rogers Bros., 100 Orchard St., Albion, Pa. 16401
Trailers

Rooft Mfg., 1011 W. Howard St., Pontiac, Ill. 61764
Ranger, mower, self-propelled, tilt blade for heavy cutting, 5 hp or 7 hp, 24-inch or 26-inch cut
Rooft 400, mower, push, blade clutch, 5 hp, 21-inch or 24-inch cut, belt-driven blade

Root-Lowell Mfg. Corporation, 1000 Foreman Road, Lowell, Michigan 49331
Chemical applicators (granular and liquid)
Flamethrower (sprayers)
Foggers
Pumps
Sprayers (complete power unit)
Line stripers
Garden sprayers (compressed air 2-4 gallon)

Roper Corporation, 1905 W. Court St., Kankakee, Ill. 60901
Saws, chain; manual and automatic; dual system chain oiler

Rosco Manufacturing Co., 3118 Snelling Ave. So., Minneapolis, Minn. 55406
Road brooms
Turf rollers

Roseman Mower Corporation, 2300 Chestnut Avenue, Glenview, Illinois 60025
Reel Mowers
Landscaping Rakes
Thatchers

Rotary Power, Inc., P.O. Box 244, Centerville, Tenn. 37033
Edgers
Hydra-Just Tractor Seat

Roto-Hoe Co., 100 Auburn Rd., Newberry, Ohio 44065
Shredders
Snow throwers
Tillers

Rowco Mfg. Co., Inc., 48 Emerald St., Keene, N.H. 03431
Brushking®, brushcutter, engine-driven

Roxy-Bonner, Inc., 200 Pioneer Rd., Huntingdon Valley, Pa. 19006
Reel mowers

Royal Coach Sprinklers, Inc., 4381 N. Brawley Avenue, Fresno, Calif. 93711
Irrigation Sprinklers, Impact
Irrigation Sprinklers, Impulse, Pop-up, Heads
Irrigation Sprinklers, Rotary, Pop-up, Heads
Irrigation Sprinklers, Spray, Pop-up, Heads
Irrigation Sprinklers, Stationary
Irrigation Sprinklers, Valve in Head

Royer Foundry & Machine Co., 186 Pringle St., Kingston, Pa. 18704
Brush Cutters
Chippers
Shredders
“Woodsman”—Land Clearing Machines

Russ International, Inc., 1100 W. 135th St., Gardena, Calif. 90247
Irrigation Controller

Ryan Turf Equipment/OMC-Lincoln, 1401 Cushman Dr., Lincoln, Nebraska 68512
Aerators
Chemical Applicators, Liquid
Flail Mowers

Bob-Cat mowers are revolutionizing the commercial and residential mowing industry. Why?
Outstanding maneuverability and unmatched durability are only two of several reasons.
These cats are guaranteed to live up to their mean reputations. Put them to work for you.
Call or write us today and discover why Bob-Cat is One Mean Cat!
Complete dealer packages are now available!
Rotary Mowers
Vertical Mowers
Sod cutters

Ryerson Steel, Box 8000-A, Chicago, Ill. 60680
Landscape Edging—Plastic and steel

Sabre Saw Chain, Inc., Third Ave. and Sabre Drive, Niagara Falls, N.Y. 14304
Sabre, saw chain, guide bars, sprockets, wedges, files, accessories

Safeline Products, P.O. Box 550, Putnam, Conn. 06260
Respirators (all types), lung protection
Safety glasses and goggles, eye and face protection
Hearing protectors, muff-type and ear plugs
Hard hats and caps, plastic safety hats and caps

Safe-T-Lawn, Inc., 7800 N.W. 32nd St., Miami, Florida 33122
Safe-T-Rain, rotor pop-up (ball drive)
Rise-N-Rain, impact type pop-up
GL-67, 2" pop-up spray type
GL-71, 6" pop-up spray type

Safety Test & Equipment Co., P.O. Drawer 400, Hwy 150 East, Shelby, North Carolina 28150
Chippers
Hoists
Dust Masks
Post Hole Digger
Pruners
Respirators
Safety Belts and Saddles, Tree Climbers
Safety Equipment
Saws, Manual
Tools, Hand and Hydraulic
Trimmers, Hedge and Grass

Sarlo Power Mowers, P.O. Box 1169, Ft. Meyers, Fla. 33902
High wheels power mower

Turf-Vac self-propelled rider vacuum, fairway vacuum sweepers

Satoh Tractor 345 Park Ave., New York, N.Y. 10022
S-650G, tractor, utility, 25 hp; water-cooled, 4-cylinder engine, category 1—3-point linkage; 2-speed PTO, 540 and 1,000 rpm

Schultz Mfg. Co., W. Parker & Broadway, Waterloo, Iowa 50704
Dumpster Wagon

Schutt's Equipment Co., P.O. Box 412, Birmingham, Mich. 48012
Tree Spades
Tree Movers

Schwartz Mfg. Co., P.O. Box 248, Lester Prairie, Minn. 55354
Aerial Bucket Lifts
Crane
Tractor Loaders
Hydraulic Truck Hoists
Hydraulic Ramp Hoists

Sea Guard, Inc., Delaware Trust Bldg., Wilmington, Dela. N-Bar®, floating barrier to hold back aquatic vegetation

Selma Trailer & Mfg. Co., P.O. Box 120, Selma, Calif. 93662
Aerial buckets—articulated boom lifts 20 to 55 feet from ground; telescoping bucket from 20 to 55 feet

Seymour Smith & Son, Inc., 900 Main St., Oakville, Conn. 06779
Garden tools, pruning shears, grass shears, hedge shears, lopping shears, tree pruners, pruning saws

Simplex Mfg. Co., 5224 N.E. 42nd Ave., Portland, Oregon 97218
Aerial chemical applicators (granular and liquid)
Aerial power dusters
Pumps
Centrifugal pumps
Aerial disc-type seeders
Aerial hopper-type seeders
Aerial hydraulic seeders
Spray booms
Spray nozzles (complete)
Sprayers (complete power unit)
Aerial spray systems
Aerial seeding systems
Aerial fertilizing systems
Aerial dust systems

Simplicity Mfg. Co., 500 N. Spring St., Port Washington, Wisc. 53074
Blades (Dozer-Scraper)
Blowers
Fork Lift (Attachment)
Flail Mowers
Rotary Mowers
Sickle Mowers
Replacement Parts, Mowers
Snow Thrower
Tillers
Tractor (8-20 HP)
Vacuum Collectors for garden tractors

Skil Corporation, 4801 W. Peterson Avenue, Chicago, Ill. 60646
Saws, Chain, Electric, Gasoline, Circular
Saws, Chain, Parts

The Skinner Irrigation Co., 2530 Spring Grove Ave., Cincinnati, Ohio 45214
Irrigation systems

GSR Color Guard, PVC fittings for pipelines, sizes include ¾-inch through 2 inches class 315 and 2 ½ inches through 8 inches; class 200, press rated

Slope Tractor, Inc., 106 W. Ninth St., Harper, Kansas 67058
Rotary mowers
Sickle bar mowers
Tractor (21-150 HP)

Smith & Co., Inc., D.B., Main St., Utica, N.Y. 13503
Pumps
Spray Guns
Spray Nozzle, Complete
Sprayers, Cart of Wheelbarrow Type
Sprayers, Complete Power Unit
Spray Tanks
"Indian" Fire Pumps
Portable Backpacks
Flame Gun Burner Units
"Weed Burning" Speedex
"Tree & Garden" Sprayer

Smithco, Inc., 11 West Ave., Wayne, Pa. 19087
Rotary Mowers
Pumps
Centrifugal Pumps
Spray Booms
Spray Guns
Spray Nozzles, Complete
Reels, Hose
Sprayers, Cart or Wheelbarrow Type
Sprayers, Complete Power Unit
Spray Tanks
Truck, Light-Hauling Utility
Turf Vehicles

Smith Precision Products Co., 1299 Lawrence Dr., Newbury Park, Calif. 91320
Liquid fertilizer dispersion (measuremix)
Irrigation, injection equipment

SMR Back-Flo Div., P.O. Box 1185, Newport Beach, Calif. 92663
Backflow Valves

The Snow Company, 4350 McKinley, Omaha, Nebraska 68112
Trailers
Light-Hauling Utility Truck
Turf Vehicles

Soilmoisture Equipment Corp., P.O. Box 30025, Santa Barbara, Calif. 93105
Earth augers
Irrigation, Miscellaneous
Moisture meters
Soil testers
Soil Core Sampler
Lord Soil Sampler
Soil Water Sampler
Plant Water Status Console
Soil Salinity Sensors
Salinity Bridge

Solo Motors, Inc., P.O. box 5030, Newport News, Virginia 23605
Augers
Earth Augers
Blowers
Chemical Applicators, Granular and Liquid
Power Dusters
Edgers
Gasoline Engines
Flamethrowers (Sprayers)
Foggers
Generators
Leaf Blowers
Backpack Mistblowers
Self-propelled Mistblowers
Truck-Mounted Mistblowers
Nozzle Parts Mistblowers
Rotary Mowers
Sickle Bar Mowers
Mowers, Replacement Parts
Post Hole Digger
Centrifugal Pumps
Saws, Chain, Electric, Gasoline
Saws, Chain, Parts
Spray Booms
Spray Guns
Spray Nozzles, Complete
Sprayers, Complete Power Unit
Spray Tanks
Tillers
 trimmers, Hedge and Grass

Sorensen Sprayers, Inc., Box 344, Worthington, Minn. 56187
Aviation sprayers, detachable

Speedex Tractor Co., 367 N. Freedom St., Ravenna, Ohio 44266
Speedex tractor, 8hp, 10hp, 4hp
Mowers rotary 36-inch, 44-inch, 50-inch

Sperry-New Holland, New Holland, Pa. 17557
Skid steer loaders
Sickle bar mowers
Trencher

Spray Baby, Inc., 751 N. Edmonds Dr., Carson City, Nev. 89701
Seeders, hydraulic
Mulchers, hydraulic

Spraying Systems Co., North Avenue at Schmale Road, Wheaton, Illinois 60187
Spray nozzles, complete
Spray guns

Sprinkler Irrigation Supply Co., 1316 N. Campbell Rd., Royal Oak, Michigan 48067
Hose, Spray, Irrigation
Irrigation, Injection Equipment
Irrigation Controller/Programmers
Irrigation Components
Irrigation Pipe, Risers
Irrigation Pumping Stations Complete
Irrigation Sprinklers (above ground; impact; impulse, pop-up, heads; shrub, bubbler; spray, rotary, and stationary)
Irrigation Sprinklers, Valve in Head
Irrigation Systems, Complete
Irrigation, Switches
Irrigation, Sand Separators
Irrigation, Miscellaneous Accessories
Irrigation valves (automatic, flow control; pressure activated; quick coupling valves; solenoid)
Moisture meters
Sisco Diesel Pumpers
Packaged Pumping Stations

Standard Golf Co., 220 E. 4th St., Cedar Falls, Iowa 50613
Golf Course Accessories

Stanley Hydraulic Tools, 13770 S.E. Ambler Road, Clackamas, Oregon 97015
Brush Cutters
Pruners
Saws, Chain, Hydraulic
Tools, Hand, Hydraulic, Pneumatic

Stihl Inc., 5898 Thurston Ave., Virginia Beach, Va. 23455
Chain saws, electric and gasoline powered, saw, chain, powered
Stihl SG-17, blower/sprayer, backpack gasoline powered
Stihl Cutquik, saw, circular cut-off for cement, stone, steel, pipes, etc.
Stihl earth auger and planting tool, gasoline powered
Stihl Brush-Cutter, brush and weed cutter, gasoline powered
Stihl Hedge-Trimmer, hedge trimmer, gasoline powered, trim hedges and small brush and trees

Stone Construction Equipment, Co.,32 East Main, Honeoye, N.Y. 14471
Compactors
Handling materials
Concrete/mortar mixers
Mortar boxes/mortar car
Power trowels
Concrete grinders
Power screens
LP/oil fired heaters
Re-rod bender/cutters
Portable conveyors

Whole tree chipper

Sudbury Laboratory, Inc., 572 Dutton Rd., Sudbury, Mass. 01776
Soil Testers
Pest Repellents
Liquid Sea Weed
Water Soluble Fertilizers
Sun-Mastr Corp., P.O. Box 31, 603 S. Kansas, Olathe, Kansas 66061
- Brush cutters
- Flail mowers
- Rotary mowers
- Shredders
- Flail shredders

Superflex Hitches, P.O. Box 437, St. Marys, Ohio 45885
- Shock-absorbing hitches for trailers, cars, and trucks

Superior Controls Co., Inc., 427 W. Palmer Ave., Glendale, Calif. 91204
- Automatic sprinkler controls

Swan Hose Div., Amerace Corp., P.O. Box 509, Worthington, Ohio 43085
- Swan garden hose, industrial and maintenance hose

Superior Controls Co., Inc., 427 W. Palmer Ave., Glendale, Calif. 91204
- Automatic sprinkler controls

Swan Hose Div., Amerace Corp., P.O. Box 509, Worthington, Ohio 43085
- Swan garden hose, industrial and maintenance hose

Superior Controls Co., Inc., 427 W. Palmer Ave., Glendale, Calif. 91204
- Automatic sprinkler controls

Swan Hose Div., Amerace Corp., P.O. Box 509, Worthington, Ohio 43085
- Swan garden hose, industrial and maintenance hose

Superior Controls Co., Inc., 427 W. Palmer Ave., Glendale, Calif. 91204
- Automatic sprinkler controls

Swan Hose Div., Amerace Corp., P.O. Box 509, Worthington, Ohio 43085
- Swan garden hose, industrial and maintenance hose

Superior Controls Co., Inc., 427 W. Palmer Ave., Glendale, Calif. 91204
- Automatic sprinkler controls

Swan Hose Div., Amerace Corp., P.O. Box 509, Worthington, Ohio 43085
- Swan garden hose, industrial and maintenance hose

Superior Controls Co., Inc., 427 W. Palmer Ave., Glendale, Calif. 91204
- Automatic sprinkler controls

Swan Hose Div., Amerace Corp., P.O. Box 509, Worthington, Ohio 43085
- Swan garden hose, industrial and maintenance hose

Superior Controls Co., Inc., 427 W. Palmer Ave., Glendale, Calif. 91204
- Automatic sprinkler controls
Super Pro 81" 5 or 6 blades
Greenmaster, 21" walk
Greensmaster 3-14 hp riding mower
Sand Pro
Turf tractor
Gangmowers-30" Spartans 5 or 7 blades
Rough Masters 4 or 6 blades
Park Master 5, 7 or 9 units
Rake-O-Vac
Workmaster-Turf Truck
Toro Front Runner Line
80" Batwing mower
GMT tractors 18 hp, 19.8 hp, 16 hp
Front Runner Turf Truck
Front Runner 3 wheeler 16, 19.8 hp.

**Toro Irrigation Division, P.O. Box 489, Riverside, Calif. 92502**
Irrigation controller/programmer
Irrigation components
Irrigation sprinklers (impact; shrub and bubbler; spray, pop-up, heads; rotary, pop-up, heads; valve in head)
Irrigation (miscellaneous accessories)
Irrigation valves (automatic; quick coupling valves; solenoid)
Back flow preventers

Towner Mfg. Co., P.O. Box 6096, Santa Ana, Calif. 92706
Cultivating Discs
Scrapers
Ditchers
Mold Board Plows
Offset Disc Harrows
Toolbars and attachments
Slopers
Land Planes
Disc Ridgers
Asparagus Harvesters
Bottom Plows and Disc Plows

Tradewinds, Inc., P.O. Box 1191, Tacoma, Washington 98401
Flamethrowers (Sprayers)
Mistblowers, Backpack
Tillers
Tractor (13-60 hp)

Travelrain Sprinkler Co., 239 N. Robertson Blvd., Beverly Hills, Calif. 90211
Hose, Spray, Irrigation
Irrigation Sprinklers, Above Ground
Irrigation Systems, Complete

Tree Guying Systems Inc., P.O. Box 452, Kent, Ohio 44240
Tree collars, turnbuckles, cable and anchors to support trees until they reach self-supporting size

Tree-ject Company, Box 396, Waycross, Ga. 31501
Sprayers, hose end, complete power unit

T.R.E.E.S., Inc., 6605 N. Nebraska Ave., Tampa, Fla. 33604
Blowers
Power dusters
Earth augers
Edgers
Backpack mistblowers
Gasoline chain saws and parts
Chain saw sharpeners

Turf Vac Corp., P.O. Box 4339, Long Beach, Calif. 90804
Lawn Sweepers
Turf Vac Model 70 Rider
Turf Vac Model 70 Lift Dump Rider
Turf Vac Model 80 Rider
Turf Vac Model G.T.S. Towed Model
Turf Vac Model FM-5 PTO Towed Model
Turf Vac Model FM-5 Lift Dump Towed Model
Turf Vac Model FM-5 Towed Model
Turf Vac Model FM-Truck Loader
Turf Vac Model FM-10 Towed Model
Turf Blo

**Universal Gerwin Division, Leigh Products, Inc., 411 64th Ave., Coopersville, Mich. 49404**
Garden dusters
Flamethrowers (sprayers)
Cart or wheelbarrow type sprayers
Complete power unit sprayers
Spray tanks

Universal Motor Division, Medalist Industries, P.O. Box 920, Oshkosh, Wisconsin 54901
Aquamaster pumps, portable centrifugal pumps 1 1/2" or 2" suc/disch., 3 hp gas engine or 1/4, 1/2, 2 hp electric motors, standard seal for water, corrosion resistant seal for fertilizer, herbicides, etc.

Up-Right Scaffolds, 1013 Pardee St., Berkeley, Calif. 94710
Aerial Platforms
Hydraulic Lifts
Portable Aluminum Scaffolds
Self-propelled Work Platforms
Telescopic Work Platforms

Utility Body Co., 901 Gilmen, Berkeley, Calif. 94710
Buckets—aerial towers

Valcon Automatic Irrigation Equipment Company of San Gabriel, Calif. 1726 S. DelMare Avenue, San Gabriel, Calif. 91776
Irrigation Controllers
Irrigation Sprinklers
Turret Sprinklers
ADV Valves—Check Valves

Vandermolen Corp., 119 Dorsa Ave., Livingston, N.J. 07039
Blowers
Chemical Applicators, Liquid
Chippers
Power Dusters
Insect Killer
Leaf Blowers
Mistblowers, Backpack
Mistblowers, Truck-Mounted
Spreaders, Hopper-Type

Vemco, 1331, 23rd Street, Racine, Wisconsin 53403
Flail Mowers
Blades

Venable Sprinkler Sales, Inc., 3401 Conflans, Irving, Texas 75060
Pump-A-Matic, pre-built pump station for golf course, etc., irrigation
Pressure-Matic, booster pump unit to increase pressure of water in hydraulic system tubing to use potable water

Veri Products, 1252 W. Keats, Fresno, Calif. 93705
Log splitters
Rotary mowers Parts
Electric and gasoline chain saws
Chain saw sharpener

Vermeer Manufacturing Company, P.O. Box 200, Pella, Iowa 50219
Backhoes
Blades (Dozer-Scraper)
Boring Units
Chippers
Irrigation Sprinklers, Above Ground
Irrigation Systems, Complete
Log Splitters
Vibratory Plows
Tree Spades
Stump Cutter/Remover
Trailers
Tree Movers
Trencher

Viking Pump Division, Houdaille Industries, Inc., 4th & Shuttle Sts., Cedar Falls, Iowa 50613
Pumps
Village Blacksmith, McGraw Edison Portable Electric Tool Division, 1200 East State St., Geneva, Illinois 60134
Village Blacksmith, garden cutting tools, electric chain saws, electric hedge trimmers, electric edger trimmers, electric cultivator, cord reels, "Blitz Fog" insect fogging devices, gas engine fogger, electric tree surgeon, post hole diggers and augers

Vogel Tool & Die Corp., Stone Park, Illinois
Post hole drill

W
Waco Industries, Inc., 749 Airways Blvd., Jackson, Tenn. 38301
Chain saws

Waldon, Inc., 201 W. Oklahoma Ave., Fairview, Okla. 73737
Tractor loaders
Handling materials

Walsh Manufacturing Co., 1200 Fisher Street, Charles City, Iowa 50616
Trailer model sprayer, exclusive sump trap, exclusive unit-stand, rear safety stand 200, 300, and 500-gallon cap.; built in nylon agitator
RA side mounted sprayer, 400-gallon capacity; each tank valve controlled, 2-200 gallon tanks, custom fit mounting brackets, valve stand
3-point hitch sprayer, 165, 200, or 300-gallon capacity, Cat. II hitch pins
Fiberglass tanks (all above units), 10" x 20" fill hole; bullet-shaped ends; built in agitators, built in steel outlet; 1 1/4" steel sump outlet; double protection inner lining; lid with snap-over lock; special sump trap and anti-swirl baffle; continuous flow pump; sprays evenly over all terrain
Index-O-Matic Washer, completely portable; semi-pneumatic tires

Waymark, 44 River St., Cortland, N.Y. 13045
Spreaders, disc type
Sprayers, boom; complete power unit

Wayne Engineering Corp., 1st & Iowa Sts., Cedar Falls, Iowa 50613
Honey B, lightweight refuse packer for parks, highway rest stops, etc.
Pup, pickup refuse packer

WD-40 Company, 1061 Cudahy Pl., San Diego, Calif. 92110
WD-40: lubricant, penetrant, rust preventative, moisture displacement

Weather-matic Division/Telsco Industries, P.O. Box 18205, Dallas, Texas 75218
Irrigation controller/programmers
Irrigation components
Irrigation sprinklers (above ground; impact; impulse, pop-up, heads; shrub and bubbler; spray, pop-up, heads; rotary, pop-up, heads)
Irrigation systems complete
Irrigation (miscellaneous accessories)
Irrigation valves (automatic, quick coupling valves; solenoid)

Weather-Tec Corp., 5645 E. Clinton, Fresno, Calif. 93727
Sprinklers, Pop-up

H. N. Webster Mfg., P.O. Box 1628, Sebring, Florida 33870
Quick coupling riser irrigation valves
Rust catchers to fit under sprinklers on tall risers

Welsh Mfg. Co., Magnolia St., Providence, R.I. 02909
Respirators, for use in pesticide application
Ammonia respirators
Dust respirators
Goggles
Safety caps

Western Products, 7777 N. 73rd Street, Milwaukee, Wisconsin 53223
Salt Spreaders
Snowplows for 4WD Vehicles

Westinghouse Electric Vehicles, Westinghouse Bldg., Pittsburgh, Pa. 15222
Electric golf cars

Wet Mfg. Co., Inc., 955 Elm St., Orange, Calif. 92667
Sprinkler irrigation equipment

Wheel Horse Products, 515 W. Ireland Rd., South Bend, Indiana 46614
Wheel Horse D-200 Automatic, 19.9 hp twin cylinder tractor
Wheel Horse D-180 Automatic, 18 hp twin cylinder tractor
Wheel Horse D-160 Automatic, 16 hp tractor
Wheel Horse C-160 Automatic, 16 hp tractor
Wheel Horse C-160 8-speed, 16 hp tractor
Wheel Horse C-100 8-speed, 10 hp tractor
Wheel Horse D-Series Attachments, for D-1 200 automatic, D-180 automatic and D-160 Automatic: 60" rear mount mower; 48" side discharge mid-mount mower; 56" snow/dozer blade; 50" grader blade; 50" tiller; 36" aerator; 38" or 31" lawn sweeper; 32" lawn roller; 4-wheel wagon; 2-wheel dump cart; and a 48" snow thrower
Wheel Horse C-Series Attachments, for C-160 Automatic, C-160 8-speed, C-120 automatic and C-100 8-speed: 48" side discharge mower; 42" side discharge mower; 36" side discharge mower; 36" rear discharge mower; 42" snowthrower; 56" snow/dozer blade; 42" snow/dozer blade; 40" grader blade; 36" tiller; 36" aerator; 38" or 31" lawn sweeper; 32" roller; 2-section cultivator; harrow; 32" disc; lawn vacuum; 4-wheel wagon; and a 2-wheel pump cart
Wheel Horse B-Series Attachments, for B-100 Automatic and B-80 4-speed: 36" side discharge mower; 36" rear discharge mower; 37" snow thrower; 42" snow/dozer blade; 40" grader blade; 36" aerator; 38" or 31" lawn sweeper; 32" lawn roller; 32" disc; 2-section cultivator; harrow; 36" tiller; 4-wheel wagon; and a 2-wheel dump cart
Wheel Horse A-Series Attachments, for A-800 42" snow blade; 36" aerator; 38" or 31" lawn sweeper; 32" lawn roller; 4-wheel wagon; and a 2-wheel dump cart

Wheel Power Corp., P.O. Box 21227, Phoenix, Ariz. 85036
Wheel Power Truck Tractor, two-passenger, 25 hp gas, 3,000 lb. load capacity, four-wheel drive, center articulated steering; accessories: hydraulic dump bed can and windshield, hyd. blade, 3-point hitch.

White Farm Equipment, 2625 Butterfield Rd., Oak Brook, Ill. 60521
Cultivating discs
Diesel engines
Spring-toothed harrow

Tractor loaders
Gasoline chain saws
Tillers
Tractors 13-20 hp and 61-161 and up hp

White Turf, Winchedon, Mass. 01475
Irrigation Equipment

Willmar Mfg. Co., Wilmar, Minn.
Spreader, pull-type, floatation tires, spreads up to 1½ tons per load

Willson Products Div., ESB Inc., P.O. Box 622, Reading, Pa. 19603
Masks, gas; dust
Respirators
Safety equipment-ear muffs, ear plugs, blasting helmets, welding goggles, face masks/shields, safety spectacles, and hard hats.

Wisconsin Marine, Inc., P.O. Box 28, Lake Mills, Wisconsin 53551
Rotary Mowers
Snow Thrower

Wood Brothers, Inc., Hwy. 2 So., Oregon, Ill. 61061
RM 59, rear mounted rotary lawn mower; three blades cut a 5-foot swath; adapts to any standard 3-point hitch

Woods, Div. of Hesston Corp., Oregon, Ill. 61106
Backhoes
Blades (dozer-scaper)
Hoists
Rotary mowers
Vacuums

Yard Vac Inc., 5567 Airways Ave., Fresno, Calif. 93727
Edgers

Yamaha Motor Corp., U.S.A., P.O. Box 6620, 6620 Orangethrop Ave., Buena Park, Calif. 90620
Golf Cars

Yannar Diesel Engine, c/o Mitsui & Co., 303 E. Ohio St., Chicago, Ill.

Tractors

Yazoo Mfg. Co., Inc., 3607 Livingston Rd., Jackson, Miss. 39216
Edgers
Gasoline Engines
Rotary Mowers
Tillers
Tractor (8-20 HP)

York Rakes: A Division of York Modern Corporation, P.O. Box 488, Unadilla, N.Y. 13849
Blades
Landscaping Rakes
## Equipment Manufacturers by Item

### AERATORS
- Brighton By-Products Co. Inc.
- Brinly Hardy Co.
- Capital Equipment Co.
- Fuerst Brothers, Inc.
- Hahn Inc., Turf-Ag, Division
- Howard Rotator Co., Inc.
- F. D. Kees Mfg. Co.
- Kinco Mfg.
- Lakes Supply Co., Inc.
- Lawn Medic Inc.
- Power Spike Mfg. Co.
- ProTurf Div., O. M. Scott and Sons
- Ryan, OMC-Lincoln

### AERIAL BUCKET LIFTS
- Causco Inc.
- Correct Mfg., Hughes Keenan Div.
- McCabe-Powers Body Co.
- Merritt Equipment Service Inc. D/B/A
- Diamond Mfg., Div. of J I Case
- Deere and Company
- Ditch Witch of Georgia
- Mobile Aerial Towers Inc.
- Pac Craft Products, Inc.
- Pitman Mfg. Co., Div. A. B.
- Chance Co.
- Plastic Techniques, Inc
- Reach-All Mfg and Engineering Co.
- Schwartz Mfg. Co.
- Selma Trailer & Mfg. Co.
- Time Mfg. Co.
- Utility Body Co.

### AERIAL PLATFORMS
- McCabe-Powers Body Co.
- Mobile aerial Towsers Inc.
- Pac Craft Products, Inc.
- Reach-All Mfg and Engineering Co.
- Up-Right Scaffolds

### AIRCRAFT, FIXED WING
- Grumman Aircraft Corp.
- Piper Aircraft
- Rockwell International

### AIRCRAFT, HELICOPTER
- Bell Helicopter Co.
- Hiller Aircraft Corp.

### AQUATIC WEED HARVESTER
- Air-Lec Industries, Inc. Outdoor
- Aquamarine Corp.
- Mud Cat Div. Of National Car Rental

### ARBORIST SUPPLIES
- American Arborist Supplies
- Crown Chemicals
- The Fanno Saw Works
- Friend Mfg. Corp.
- Jameson Corp.
- Karl Kuemmerling, Inc.
- Ben Meadows Co.

### AUGERS
- Austin Products
- Ditch Witch of San Diego
- W. W. Grinder Corp.
- Ground Hog, Inc.
- Lakes Supply Co.
- Fred A. Lewis Co.
- McCabe-Powers Body Co.
- Ben Meadows Co.
- Merritt Equipment Service Inc. D/B/A
- Ditch Witch of Georgia
- Solo Motors Inc.
- Village Blacksmith, McGraw Edison
- Portable Electric Tool Div.

### BACKHOES
- Allis-Chalmers Corp.
- Arps Corp.
- Bolens: FMC Corp., OPE Div.
- Case Mfg., Div. of J I Case
- John Deere and Company
- Ditch Witch of The
- Charles Machine Works, Inc.
- Ditch Witch Equipment Co.
- Ditch Witch of San Diego
- Erickson Corp.
- Ford Tractor Operations
- Howard Rotator Co., Inc.
- Kubota
- Lansdowne Equipment Co. Inc.
- Massey-Ferguson, Inc.
- Melroe Division, Clark
- Equipment Co.
- Merritt Equipment Service Inc. D/B/A
- Ditch Witch of Georgia
- Payline Division, International
- Harvester
- Vermeer Mfg. Co.
- Woods, Div. of Hesston Corp.

### BARRIER, AQUATIC WEEDS
- Aquamarine Corp.
- Sea Guard, Inc.

### BATTERIES, STORAGE
- ESB Brands, Inc.
- Gould Inc.
- Landsdowne Equipment Co., Inc.
- Prestolite Battery Division of Eltra Corp.
- Trojan Battery Co.

### BATTERY CHARGERS
- Black and Decker Mfg. Co.
- ESB Brands, Inc.
- Medalist Universal Motors
- Onan Division of Onan Corp.

### BLADES, DOZER-SCRAPER
- Ariens Co.
- Arps Corp.
- Austin Products
- Brinly Hardy Co., Inc.
- J. I. Case, Outdoor Power
- Equipment Division
- Davis Mfg.
- Excel Industries, Inc.
- Ford Tractor Operations
- Kubota
- Massey-Ferguson, Inc.
- Merritt Equipment Service Inc. D/B/A
- Ditch Witch of Georgia
- Payline Division, International
- Harvester
- Simplicity Mfg. Co.
- Vermeer Mfg. Co.
- Woods, Div. of Hesston Corp.
- Yazo Mfg. Co.

### BLOWERS
- Atwater Strong Div. Gouge
- Industries, Inc.
- Billy Goat Industries Inc.
- Capital Equipment Co.
- Conaway, Inc.
- J. J. Dill Co.
- Echo Chain Saw Div., Kioritz Corp.
  of America
- FMC Corp., Agricultural
- Machinery Div.
- Hahn, Inc.—Turf Ag. Div.
- HMC—The Green Machine
- F. D. Kees Mfg. Co.
- Kioritz Corp. of America
- Merritt Equipment Service, Inc.
- Mid-State Metal Casting
  & Mfg. Co.
- MTD Products, Inc.
- Parker Sweeper Company
- Reinco/Grass Growers Inc.
- Robco, Inc.
- Simplicity Mfg. Co.
- Solo Motors, Inc.
- Stanley Hydraulic Tools
- Stihl American Inc.
- T.R.E.E.S., Inc.
- Vandermolen Corp.

### BORES, PORTABLE

### BROOMS
- Ariens Co.
- Atwater Strong Div.
- Excel Industries, Inc.
- Karl Kuemmerling, Inc.
- Landsdowne Equipment Co., Inc.
- Mars Industries, Inc.
- Merritt Equipment Service, Inc. D/B/A
- Ditch Witch of Georgia
- Vermeer Mfg. Co.
- Rosco Mfg. Co.
- Solo Motors, Inc.
- Sweeper, Inc.

### BRUSH CUTTERS
- Austin Products
- Bachtold Bros. Inc.
- BMB Co. Inc.
- Bombardier Limited
- E. L. Caldwell & Sons, Inc.
- Echo Chain Saw Div., Kioritz Corp.
  of America
- FMC Corp., Side Winder Div.
- Fairmont Hydraulics
- Friend Mfg. Corp.
- HMC—The Green Machine
- Hoffco, Inc.
- Kershaw Mfg. Co., Inc.
- Karl Kuemmerling, Inc.
- Vermeer Mfg. Co.
- Woods, Div. of Hesston Corp.
- Yanmar Mfg. Co.
- Yazo Mfg. Co.

### BRIDGES, PORTABLE

### BROOMS
- Ariens Co.
- Atwater Strong Div.
- Excel Industries, Inc.
- Karl Kuemmerling, Inc.
- Landsdowne Equipment Co., Inc.
- Mars Industries, Inc.
- Merritt Equipment Service, Inc. D/B/A
- Ditch Witch of Georgia
- Vermeer Mfg. Co.
- Rosco Mfg. Co.
- Solo Motors, Inc.
- Sweeper, Inc.

### BRUSH CUTTERS
- Austin Products
- Bachtold Bros. Inc.
- BMB Co. Inc.
- Bombardier Limited
- E. L. Caldwell & Sons, Inc.
- Echo Chain Saw Div., Kioritz Corp.
  of America
- FMC Corp., Side Winder Div.
- Fairmont Hydraulics
- Friend Mfg. Corp.
- HMC—The Green Machine
- Hoffco, Inc.
- Kershaw Mfg. Co., Inc.
- Karl Kuemmerling, Inc.
- Vermeer Mfg. Co.
- Woods, Div. of Hesston Corp.
- Yanmar Mfg. Co.
- Yazo Mfg. Co.
Merritt Equipment Service Inc. D/B/A Ditch Witch of Georgia
National Hydro-Ax Inc.
New Draulics, Inc.
H. K. Porter, Inc.
Rowco Mfg. Co., Inc.
Royer Foundry and Machine Co.
Stanley Hydraulic Tools
Stihl American, Inc.
Stone Construction Equipment
Sun Master Corp.
Tilton Equipment Co.
True Temper Corp.

CHEMICAL APPLICATORS, GRANULAR
Agro Care
Avco New Idea
John Blue Co.
Brighton By-Products Co. Inc.
Buffalo Turbines Ag. Equipment Co.
Contree Sales, Inc.
J. J. Dill Co.
Gandy Co.
Hahn Inc., Turf-Ag. Div.
Herd Seeder Company, Inc.
F. D. Kees Mfg. Co.
Kioritz Corp of America
Karl Kuemmerling, Inc.
L. L. Larson Machine Inc.
Lawn Medic, Inc.
Lely
Loft-Kellogg Seed, Inc.
ProTurf Div., O. M. Scott and Sons
Root-Lowell Corp.
Simplex Mfg. Co.
Solo Motors, Inc.

CHEMICAL APPLICATORS, LIQUID
Agro Care
John Blue Co.
The Brohill Co.
Buffalo Turbine Ag. Equipment Co.
Cenol-Division Burgess
Vibrocrafters Inc.
Contree Sales, Inc.
Crown Chemicals
Curtis Dyna Products Corp.
J. J. Dill Co.
Friend Mfg. Corp.
Hahn Inc., Turf-Ag. Div.
Inject-O-Meter Mfg. Co.
Kioritz Corp of America
Lakes Supply Co. Inc.
L. L. Larson Machine Inc.
Lawn Medic Inc.
Lely
Loft-Kellogg Seed, Inc.
ProTurf Div., O. M. Scott and Sons
Root-Lowell Corp.
Simplex Mfg. Co.
Solo Motors, Inc.

COMPACTORS
Davis Mfg.
Deere & Co.
Earth Picking Industries
Melroe Division,
Clark Equipment Co.
Merritt Equipment Service, Inc.
Dbg Ditch Witch of Georgia
Stone Construction Equipment Co.
TCI Power Products Inc.

CRANES
Adventure Line Mfg. Co.
Austin Products
Blue Bird International, Inc.
Ideal Crane Div., Bert Parkhurst & Co.
McCabe-Powers Body Co.
Reach-All Manufacturing & Engineering Co.
Rental Equip. Mfg. Co.
Schwartz Mfg. Co.

DISCS, CULTIVATING
Allis-Chalmers Corp.
Austin Products
Brinly Hardy Co., Inc.
Massey-Ferguson Inc.
Towner Mfg. Co.
White Farm Equipment

DRAINAGE TUBING
Advanced Drainage Systems, Inc.
Amoco Chemicals Corp.
Industrial Products Div.
Certain-Teed Daymond Co.
Ditch Witch of San Diego
Hancor, Inc.

EDGERS
A.M.F. Lawn and Garden
Capital Equipment Co.
Clintron Engines Corp.
Conaway, Inc.
Cooper Mfg. Co.
Excel Industries, Inc.
HMC—The Green Machine
Hortiscape, Inc.
K-D Mfg. Co.
Kioritz Corp of America
Lakes Supply Co. Inc.
Lindell Industries, Div. of
Lindell Pattern Works
Rotary Power, Inc.
Joseph T. Ryerson & Son, Inc.
Solo Motors, Inc.
T.R.E.E.S., Inc.
Village Blacksmith, McGraw Edison
Portable Electric Tool Div.
Weed Eater, Inc.
Yard Vac Inc.
Yazoo Mfg. Co.

ENGINES, DIESEL
Allis-Chalmers Corp.
Capital Equipment Co.
Deere and Co.
Landsdowne Equipment Co. Inc.
Merritt Equipment Service, Inc.
Onan Division-Onan Corp.
Payline Division,
Corp. of America
Rental Equipment Mfg. Co.
Solo Motors, Inc.

ENGINES, GASOLINE
Briggs & Stratton Corp.
Capital Equipment Co.
Clintron Engines Corp.
Echo Chain Saw Division-Kioritz Corp. of America
Kohler Co.
Landsdowne Equipment Co., Inc.
| GENERATORS |
| Allis-Chalmers Corp.  
| Beard-Poulain Div., Emerson Electric Co.  
| Capital Equipment Co.  
| Conaway, Inc.  
| Friend Mfg. Corp.  
| Homelite, Division of Textron  
| Kohler Co.  
| London Fog Co.  
| McCulloch Corp.  
| Medalist Universal Motors  
| Merritt Equipment Service, Inc.  
| D/B/A Pitch Witch of Georgia  
| Onan Div. of Onan Corp.  
| Solo Motors, Inc.  
| Tallman Equipment Co., Inc. |

| GRADERS |
| E. L. Caldwell & Sons, Inc.  
| Deere and Company  
| DrAll, Inc. |

| GOLF SUPPLIES |
| Bogue Club Car  
| Club Car, Inc.  
| Coursigns, Inc.  
| E-Z-Go Car Division Textron Inc.  
| Fore-Par, Inc.  
| Game Time, Inc.  
| Ginther Equipment Corp.  
| Johns Manville, Club Car  
| Lakeshore Equipment & Supply Co.  
| Lewis Systems Inc.  
| Lift-Quik Mfg. Co.  
| Otis Elevator Co.  
| Special Vehicle Div.  
| Par Aide Products Co.  
| Pargo, Inc.  
| Rivlex Industries  
| Taylor Dunn Mfg. Co.  
| Westinghouse Electric Vehicles  
| Yamaha Motor Corp. U.S.A |

| FORK LIFTS |
| Allis-Chalmers Corp.  
| Davis Mfg.  
| Deere and Company  
| Harvestall Industries, Inc.  
| Johnson Hydraulic Equipment Co.  
| K-D Mfg. Co.  
| Landsdowne Equipment Co., Inc.  
| Massey-Ferguson, Inc.  
| Otis Materials Handling  
| Payline Division, International Harvester  
| TCI, Power Products |

| FORK LIFT (ATTACHMENT) |
| Allis-Chalmers Corp.  
| Caretree Systems  
| J 1 Case, Outdoor Power Equipment Div.  
| Davis Mfg.  
| K-D Mfg. Co.  
| Landsdowne Equipment Co., Inc.  
| Massey-Ferguson Inc.  
| Melroe Div., Clark Equipment Co.  
| Simplicity Mfg. Co.  
| Sweepster Inc.  
| T. C. I. Power Products |

| HOISES |
| Aeroquip Corporation  
| American Arborist Supplies  
| Contree Sales  
| Fairmont Hydraulics  
| Friend Mfg. Corp.  
| Hub States Chemical |

| HOISTS |
| Austin Products  
| Bluebird International, Inc.  
| Crysteel Mfg. Inc.  
| Dico, Inc.  
| Fairmont Hydraulics  
| Hoffco, Inc.  
| Maasdam Pow'r Pull Inc.  
| Rental Equipment Mfg. Co.  
| Safety Test & Equipment Mfg.  
| Schwartz Mfg.  
| Tallman Equipment Co., Inc.  
| Terrain King Corp.  
| Woods, Div. of Hestson Corp. |

| HOSE |
| American Arborist Supplies  
| Caretree Systems  
| Contree Sales  
| Fairmont Hydraulics  
| Friend Mfg. Corp.  
| Hub States Chemical  
| Lawn-Gen, Inc.  
| Payline Equipment Co.  
| Payline Div.  
| nationwide |

| HYDRAULIC & AIR POWERED TOOLS |
| Causco Inc.  
| Ditch Witch Equipment Co.  
| Fairmont Hydraulics  
| The Fanno Saw Works  
| Ginther Equipment Corp.  
| Limb-Lopper Co., Inc.  
| New Draulics, Inc.  
| Robinson Industries  
| Limb-Lopper Div.  
| Stanley Hydraulic Tools  
| Tallman Equipment Co., Inc. |

| HYDRAULIC LIFTS |
| Bluebird International Inc.  
| Caretree Systems  
| Magline, Inc.  
| McCabe-Powers Body Co.  
| Reach-All Mfg. & Engineering Co.  
| Turf Vac Corp.  
| Up-Right Scaffolds |

| HYDRAULIC SEEDING & MULCHING MACHINES |
| Bowie Industries, Inc.  
| Hydro Turf  
| Reino, Inc.  
| Rinn Equipment Co.  
| Spray Baby, Inc. |

| IRRIGATION, COMPONENTS |
| California Brass Mfg.  
| Capital Equipment Co.  
| Champion Brass Mfg. Co.  
| Johns Manville-Ag Turf Div. (irrigation)  
| Lumenite Electronic Co.  
| National Irrigation Co.  
| Rainbow Mfg. Co.  
| RainBird Sprinkler Mfg. Corp.  
| Sprinkler Irrigation Supply Co.  
| Thompson Mfg. Co.  
| Toro Irrigation Div.  
| Toro Technology Center-Div. of the Toro Company  
| Weathermatic Div., Telesco Industries  
| Wet Mfg. Co., Inc.  
| White Turf |
New
Pointed tine gives you up to a 3” depth!

You **can have a neat, clean aerating pattern on close to 2” centers**

The Dedoes pivoting tines enter straight in the turf and come out straight, leaving your green in a playable condition. ONE MAN CAN AERATE A 5000 SQUARE FOOT GREEN IN LESS THAN 15 MINUTES, with the plugs collected inside the drum! Saves costly clean-up.

TCA-550 Two Drum
This model available with 240 tines on close to 2” centers — gives you a 25” swath, or with the usual 60 tines per drum.

TCA-501 Three-Drum Supreme
With 180 tines this model gives you a 42” swath and is available in three tine sizes to satisfy your individual requirements.

Dedoes the Aerating Pro
Quickly mounts to any all-purpose vehicle you may already have. Three sized tines to choose from 3/4” tine gives you 3” penetration, and 3/8” and 1/2” tines are also available. BACKWARDS OR FORWARDS you have complete mobility—no special attachments necessary.

WE HAVE A DISTRIBUTOR IN YOUR AREA.

Our economy model TCA-450 costs 20% less than the regular models — has 120 tines on 2 drums.

Fairway Models also available with the same advantages — and they can pick up the plugs.

Manufactured by

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

Circle 105 on free information card
IRRIGATION

CONTROLLER/PROGRAMMERS
Aqua-Dial
California Brass Mfg. Co.
Champion Brass Mfg. Co.
Griswold Controls
Imperial Underground Sprinkler
Irri-Trol Mfg., Inc.
John Manville-Ag Turf
Div. (irrigation)
Lumenite Electronic Co.
Melnor, Turf Irrigation Div.
Moody Sprinkler Co., Inc.
National Irrigation Co.
L. R. Nelson Corp.
Rain Bird Sprinkler Mfg. Corp.
Rain-O-Mat Sprinklers, Inc.
Richel, Inc.
Russ Intl., Inc.
Sprinkler Irrigation Supply Co.
Superior Controls Co., Inc.
Tork Time Controls, Inc.
Toro Irrigation Division
Toro Technology Center-Div.
Venable Sprinkler Sales, Inc.
Wet Mfg. Co., Inc.

IRRIGATION, INJECTION EQUIPMENT
Agro Care
Andrasko Engineering Co.
John Blue Company
Capital Equipment Co.
Hunt Malyce, Inc.
Inject-O-Meter Mfg. Co., Inc.
Smith Precision Products Co.
Sprinkler Irrigation Supply Co.
Wet Mfg. Co., Inc.

IRRIGATION MISCELLANEOUS ACCESSORIES
Ametek, Inc.
California Brass Mfg.
Champion Brass Mfg.
Greenlawn Sprinkler Co.
Irrometer Co., Inc.
Johns Manville-Ag Turf
Division (irrigation)
Melnor, Turf Irrigation Div.
National Irrigation Co.
L. R. Nelson Corp.
Rain Bird Sprinkler Mfg. Corp.
Rain-O-Mat Sprinklers, Inc.
Rain Jet Corp.
Soilmoisture Equipment Corp.
Sprinkler Irrigation Supply Co.
Thompson Mfg. Co.
Toro Technology Division
Toro Technology Center-Div.
Valcon
Weather-Matic Div., Telso Co.
Wet Mfg. Co., Inc.

IRRIGATION SPRINKLERS, COMPLETE
Kirchdorfer Irrigation
National Irrigation Co.
Sprinkler Irrigation Supply Co.
Venable Sprinkler Sales, Inc.
Wet Mfg. Co., Inc.

IRRIGATION SPRINKLERS, ABOVE AGRICULTURAL
California Brass Mfg. Co.
Capitaal Equipment Co.
Champion Brass Mfg. Co.
Hydro-Turf
F. D. Kees Mfg. Co.
Loft-Kellogg Seed, Inc.
National Irrigation Co.
L. R. Nelson Corp.
Rain Bird Sprinkler Mfg. Corp.
Royal Coach Sprinklers, Inc.
Sprinkler Irrigation Supply Co.
Thompson Mfg. Co.
Toro Technology Center-Div.
Travelrain Power Sprinkler Co.
Valcon
Vermeer Mfg. Co.
Weather-Matic Div., Telso Co.
Wet Mfg. Co., Inc.

IRRIGATION SPRINKLERS, IMPULSE, POP-UP, HEADS
Aqua-Dial
California Brass Mfg. Co.
Champion Equipment Co.
National Irrigation Co.
L. R. Nelson Corp.
Rain Bird Sprinkler Mfg. Corp.
Rain-O-Mat Sprinklers, Inc.
Royal Coach Sprinklers, Inc.
Sprinkler Irrigation Supply Co.
Travelrain Power Sprinkler Co.
Valcon
Weather-Matic Div., Telso Co.
Wet Mfg. Co., Inc.

IRRIGATION SPRINKLERS, STATIONARY
California Brass Mfg. Co.
Capital Equipment Co.
Champion Brass Mfg. Co.
Greenlawn Sprinkler Co.
Imperial Underground Sprinkler
Johns Manville-Ag Turf
Div. (irrigation)
Melnor, Turf Irrigation Div.
Moody Sprinkler Co., Inc.
National Irrigation Co.
L. R. Nelson Corp.
Rain Bird Sprinkler Mfg. Corp.
Rain-O-Mat Sprinklers, Inc.
Royal Coach Sprinklers, Inc.
Sprinkler Irrigation Supply Co.
Travelrain Power Sprinkler Co.
Valcon
Weather-Matic Div., Telso Co.
Wet Mfg. Co., Inc.
IRRIGATION SPRINKLERS, VALVE IN HEAD
Capital Equipment Co.
Greenlawn Sprinkler Co.
Johns Manville-Ag. Turf Div. (irrigation)
National Irrigation Co.
Rain Bird Sprinkler Mfg. Corp.
Royal Coach Sprinklers, Inc.
Sprinkler Irrigation Supply Co.
Toro Irrigation Div.
Toro Technology Center-Div. of the Toro Co.
Wet Mfg. Co., Inc.

IRRIGATION VALVES, PRESSURE ACTIVATED
Griswold Controls
National Irrigation Co.
L. R. Nelson Corp.
Rain Bird Sprinkler Mfg. Corp.
Sprinkler Irrigation Supply Co.
Toro Technology Center-Div. of the Toro Co.
Wet Mfg. Co., Inc.

IRRIGATION VALVES QUICK COUPLING
California Brass Mfg. Co.
Flo-Control Inc.
Melnor, Turf Irrigation Div.
National Irrigation Co.
L. R. Nelson Corp.
Rain Bird Sprinkler Mfg. Corp.
Rain-O-Mat Sprinklers, Inc.
Sprinkler Irrigation Supply Co.
Thompson Mfg. Co.
Toro Irrigation Division
Toro Technology Center-Div. of the Toro Co.
Weather-Matic Div., Telsco Ind.
H. N. Webster Mfg.

IRRIGATION VALVES, SOLENOID
California Brass Mfg. Co.
Greenlawn Sprinkler Co.
Griswold Controls
Hays Mfg. Div., Zurn Industries, Inc.
Melnor, Turf Irrigation Div.
National Irrigation Co.
L. R. Nelson Corp.
Rain Bird Sprinkler Mfg. Corp.

LEVELERS
DriAll, Inc.
Eversman Mfg. Co.
Lely
York Modern Corp.

Grasshopper Industrial Lawn Maintenance Reliability Your Operation Can Afford...

Independent, dual lever directional control of drive wheels instantly positions the fully visible mower deck exactly where you want it.

Dual hydrostatic power for maximum maneuverability, traction and stability. Cuts wide open areas — flat or hillside terrain — at full speed. Hardly slows to trim around trees in a single pass, under fences, shrubs and tight along buildings. Power mows intricate trimming assignments normally left to push-type units. Drive shaft power input to mower decker assures a quality cut in the toughest weeds.

MORIDGE MANUFACTURING, INC.
Telephone (316) 345-6301
Box 810-WT • Moundridge, Kansas 67107

Circle 151 on free information card

35D
Hypro sprayer pumps

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

PISTON PUMPS

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

Series 5400
4-Cylinder
25 gpm output at 600 psi

ROLLER PUMPS

Choice of rubber or nylon rollers

Series 6500
5 Rollers
7.6 gpm at 100 psi
6 gpm at 200 psi
4 hp gas engine

Series 7560C
8-Rollers
10 gpm at 200 psi with 4 hp engine

WRITE FOR A FREE SPRAYER PUMP HANDBOOK

A division of Lear Siegler, Inc.
347 Fifth Ave NW, St. Paul, Minn. 55112

MOWERS, SICKLE BAR

Allis-Chalmers Corp.
Capital Equipment Co.
Didier Mfg. Co.
Engineering Products Co.
Ferrari International Inc.
Ford Tractor Operations
Jari Div. Year A Round
Cab Co., Inc.
Kinco Mfg.
Massey-Ferguson, Inc.
Simplicity Mfg. Co.
Slope Tractor, Inc.
Solo, Inc.
Sperry-New Holland
Thomas Equipment Ltd.
Triumph Machinery Co.

MOWERS, VERTICAL
(Also See Thatcher)
BlueBird International, Inc.
Capital Equipment Co.
Hahn, Inc., Turf-Ag Div.
Jacobsen Mfg. Co.
Kinco Mfg.
Ryan, OMC-Lincoln

MULCH BLOWERS

A. M. F. Lawn and Garden
Brighton By-Products Co., Inc.
Finn Equipment Co.
Morbark Industries, Inc.
Reinco
J. J. Dill Co.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
General Scientific Equipment Co.
Gorman-Rupp Co.
Hahn, Inc., Turf-Ag. Div.
HMC—The Green Machine
Homelite, A Div. of Textron
Hub States Chemical
Hydraulic Products Co., Inc.
Hypro, Div. Lecar Siegler, Inc.
ITT Marlow
L. L. Larson Machine, Inc.
Lockwood Corp.
Master Mfg. Co.
Minnesota Wanner Co.
The F. E. Myers Co.
Oberdorfer Foundries, Inc., Agri.
Pump Div.
Proven Pumps Corp.
Robco, Inc.
Robinson Industries/Limb-Lopper Div.
Root-Lowell Corp.
Simplex Mfg. Co.
Smith & Co., Inc.
Smithco Inc.
Tallman Equipment Co., Inc.
Tufl-Cheq Mfg. Co.
Universal Motor Division
Viking Pump Co.

PUMPS, CENTRIFUGAL
Allis-Chalmers Corp.
Aurora Pump Div., NY Air Brake
Beard-Poulan Div., Emerson Electric
Berkley Pump Co.
The Brohlyl Co.
Clinton Engines Corp.
Contree Sales
J. J. Dill Co.
FMC Corp., Agricultural Machinery Div.
HMC—The Green Machine
Homelite, A Div. of Textron
Hypro Div.Incar Siegler, Inc.
Lockwood Corp.
Master Mfg. Co.
Medalist Unlimited Makers
Merritt Equipment Service, Inc. Dba
Ditch Witch of Georgia
The F. E. Myers Co.
Oberdorfer Foundries Inc., Agri.
Pump Div.
Robco, Inc.
Reinco/Grass Growers Inc.
Simplex Mfg. Co.
Smithco Inc.
Solo Motors, Inc.
Stanley Hydraulic Tools
Tallman Equipment Co., Inc.
Universal Motor Div., Medalist Ind.
Viking Pump Co.

RAKES, ALL PURPOSE
Haynes Mfg. Co., Inc.
F. D. Kees Mfg. Co.
Loft-Kelllog Seed, Inc.
Tallman Equipment Co., Inc.
True Temper Corp.
York Modern Corp.

RAKES, LANDSCAPING
Armor Metal Products
Arps Corp.
Austin Products, Inc.
Brillion Iron Works
Ford Tractor Operations
Fuerst Brothers, Inc.
Karl Kueenmering, Inc.
Lely
Loft-Kelllog Seed Inc.
Roseman Mower Corporation
Smithco, Inc.
Tallman Equipment Co., Inc.
Triumph Machinery Co.
True Temper Corp.
York Modern Corp.

REELS, HOSE
American Arborist Supplies
American Hose & Reel Co.
Brighton By-Products Co., Inc.
The Brohlyl Co.
Crown Chemicals
J. J. Dill Co.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
Clifford B. Hannay & Son, Inc.
Hub States Chemical
Robco Inc.
Smithco Inc.
True Temper Corp.

RESPIRATORS
American Arborist Supplies
American Optical Co.
Brighton By-Products Co., Inc.
Crown Chemical
J. J. Dill Co.
Friend Mfg. Co.
General Scientific Equipment Co.
Hub States Chemical
Ben Meadows Co.
Melnor Industries
Occupational Safety Marketing Div.
Safeline Products
Safety Test & Equipment Co.
Weldco Mfg. Co.
Willson Products Div., EBS Inc.

ROCK PICKERS
Armor Metal Products
William Bergman Co.
Bridgeport Impel. Works, Inc.
Lockwood Corp.

ROLLERS, TURF
Briny Hardy Co., Inc.
Davis Mfg.
Hadfield Sod Roller Co.
Maxey Mfg. Co., Inc.
Rosco Mfg. Co.
Simplicity Mfg. Co.

ROOT-FEEDING RODS
Ross Daniels, Inc.
Ferti-Feeder
Job's Treespikes
Karl Kueenmering, Inc.
Minnesota Wanner Co.

SAFETY BELTS AND SADDLES
American Arborist Supplies
General Scientific Equipment Co.
Karl Kueenmering, Inc.
Ben Meadows Co.
Occupational Safety Marketing Div.
Division of EBS, Inc.
Safety Test & Equipment Co., Inc.

SAFETY EQUIPMENT
American Arborist Supplies
American Optical Corp.
J. J. Dill Co.
Fox Valley Marking Systems

SAFETY TEST & EQUIPMENT
American Arborist Supplies
American Optical Co.
J. J. Dill Co.

SAWS, CHAIN, ELECTRIC
Beaird-Poulan Div., Emerson Electric Co.
DESA Industries, Inc.
Karl Kueenmering, Inc.
Jobu Chain Saws
Fred A. Lewis Co.
Lombard Power Equipment
McCulloch Corp.
Omark Industries, Inc.
Oregon
Saw Chain Div.
Partner Industries of America Inc.
Pioneer, OMC-Lincoln
Roper Corp.
Sabre Saw Chain, Inc.
Skil Corp.
Solo Motors, Inc.
Stihl American, Inc.
Tallman Equipment Co., Inc.
Tilton Equipment Co.
Ve-ri Products
Village Blacksmith, McGraw Edison
Portable Electric Tool Div.
Waco Industries, Inc.

SAWS, CHAIN, GASOLINE
Allis-Chalmers Corp.
American Arborist Supply
Beaird-Poulan Div., Emerson Electric Co.
Campbell-Hausfeld Co., Lombard
Chain Saws
Clinton Engines Corp.
Conaway, Inc.
DESA Industries, Inc.
Echo Chain Saw Div., Kioritz Corp.
of America
Homelite, A Div. of Textron
Husqvarna, Inc.
Jobu Chain Saws
Karl Kueenmering, Inc.
Lakes Supply Co., Inc.
Landcaster Pump & Mfg. Co., Inc.
Lombard Power Equipment
Massey-Ferguson Inc.
McCulloch Corp.
Merritt Equipment Service, Inc. Dba
Ditch Witch of Georgia
Husqvarna, Inc.
Jobu Chain Saws
Karl Kueenmering, Inc.
Lakes Supply Co., Inc.
Landcaster Pump & Mfg. Co., Inc.
Lombard Power Equipment
Massey-Ferguson Inc.
McCulloch Corp.
Merritt Equipment Service, Inc. Dba
Ditch Witch of Georgia
Husqvarna, Inc.
Jobu Chain Saws
Karl Kueenmering, Inc.
Lakes Supply Co., Inc.
Landcaster Pump & Mfg. Co., Inc.
Lombard Power Equipment
Massey-Ferguson Inc.
McCulloch Corp.
Merritt Equipment Service, Inc. Dba
Ditch Witch of Georgia
Husqvarna, Inc.
Jobu Chain Saws
Karl Kueenmering, Inc.
Lakes Supply Co., Inc.
Landcaster Pump & Mfg. Co., Inc.
Lombard Power Equipment
Massey-Ferguson Inc.
McCulloch Corp.
Merritt Equipment Service, Inc. Dba
Ditch Witch of Georgia
Husqvarna, Inc.
Jobu Chain Saws
Karl Kueenmering, Inc.
Lakes Supply Co., Inc.
Landcaster Pump & Mfg. Co., Inc.
Lombard Power Equipment
Massey-Ferguson Inc.
McCulloch Corp.
Merritt Equipment Service, Inc. Dba
Ditch Witch of Georgia
Husqvarna, Inc.
Jobu Chain Saws
Karl Kueenmering, Inc.
Lakes Supply Co., Inc.
Landcaster Pump & Mfg. Co., Inc.
Lombard Power Equipment
Massey-Ferguson Inc.
McCulloch Corp.
Merritt Equipment Service, Inc. Dba
Ditch Witch of Georgia
Husqvarna, Inc.
Jobu Chain Saws
Karl Kueenmering, Inc.
Lakes Supply Co.
Limb Lopper Co., Inc.
McCulloch Corp.
Merritt Equipment Service, Inc. Dba Ditch Witch of Georgia
New Draulics, Inc.
Partner Industries of America Inc.
Pioneer, OMC-Lincoln
Robinson Industries/Limb Lopper Div.
Roper Corp.
Sabre Saw Chain, Inc.
Stanley Hydraulic Tools
Tilton Equipment Co.
Waco Industries, Inc.

SAWS, CHAIN, PARTS
Baier-Poulan Div., Emerson Electric Co.
Campbell-Hausfeld Co., Lombard Chain Saws
DESA Industries
Echo Chain Saw Div., Kioritz Corp. of America
Fairmont Hydraulics
Homelite, Div. of Textron Husqvarna Inc.
Merritt Equipment Service, Inc. D/B/A Ditch Witch of Georgia
Skil Corp.
Solo Motors, Inc.
Tallman Equipment Co., Inc.
T.R.E.E.S., Inc.
Waco Industries, Inc.

SAWS, CIRCULAR, ELECTRIC
Friend Mfg. Corp.
Skil Corp.
Stihl American, Inc.
Tallman Equipment Co., Inc.

SAWS, CIRCULAR, GASOLINE
Bachold Bros. Inc.
Fairmont Hydraulics
Husqvarna Inc.
Stihl American, Inc.
Tallman Equipment Co., Inc.

SAWS, MANUAL
Corona Clipper Co.
The Fanno Saw Works
Friend Mfg. Corp.
Karl Kueumerling Inc.
Roper Corp.
Safety Test & Equipment Co.
Tallman Equipment Co., Inc.

SCRAPERS
Austin Products
Deere & Co.
Massey-Ferguson, Inc.
Payline Division, International Harvester
Towner Mfg. Co.

SEEDERS, DISC-TYPE
Capital Equipment Co.
Jacobsen Mfg. Co.
Loft-Kellogg Seed, Inc.
Simplex Mfg. Co.

SEEDERS, HOPPER-TYPE
Allis-Chalmers Corp.
Avco New Idea Flow
Avco New Idea
Brillion Iron Works
Capital Equipment Co.
Cyclone Seeder Co., Inc.
Garber Seeders, Inc.
Herd Seeder Co., Inc.

F. D. Kees Mfg. Co.
Lakes Supply Co., Inc.
Lawn Medic Inc.
Lely
L. L. Larson Machine, Inc.
Loft-Kellogg Seed, Inc.
MTD Products Inc.
Simplex Mfg. Co.

SEEDERS, HYDRAULIC
Bowie Industries, Inc.
Capital Equipment Co.
Finn Equipment Co.
Reinco, Inc.
Simplex Mfg. Co.
Spray Baby, Inc.

SHARPENER, CHAIN SAW
American Arborist Supply
Foley Mfg. Co.
Granberg Industries Inc.
Karl Kueumerling, Inc.
Tallman Equipment Co., Inc.
Travelrain Power Sprinkler Co.
Ve-ri Products

SHARPENER, MOWERS & CUTTERS
Foley Mfg. Co.
Tallman Equipment Co., Inc.
Travelrain Power Sprinkler Co.

SHEARS
Black & Decker
Corona Clipper Co.
Friend Mfg. Co.
Karl Kueumerling, Inc.
Ben Meadows Co.
H. K. Porter, Inc.
Seymour Smith & Son, Inc.
True Temper Corp.

SHREDDERS
Austin Products
BMI Co. Inc.
E. L. Caldwell & Sons, Inc.
Capital Equipment Co.
Excel Industries Inc.
Gibson Bros. Co.
W-W Grinder Corp.
Haynes Mfg. Co., Inc.
International Harvester Co.
F. D. Kees Mfg. Co.
Kemp Shredder Co.
Lindig Mfg. Co.
MTD Products, Inc.
Mathews Co.
Piqua Engineering Inc.
The Roto-Hoe Co.

SNOW THROWER
Allis-Chalmers Corp.
A.M.F. Lawn and Garden
Ariens Co.
Avco New Idea
Bolens: FMC Corp., OPE Div.
Deere & Co.
Ditch Witch of Georgia
MTD Products Inc.

SPADE, TREE
Sweepster, Inc.

SPRAY BOOMS
Agro Care
Brighton By-Products Co., Inc.
Causco Inc.

SPRAY GUNS
Agro Care
American Arborist Supplies
Brighton By-Products Co., Inc.
The Broyhill Co.
Johnson's Industrial Supply
Hahn Inc—Turf Ag. Division
Jacobsen Mfg. Co.
L. L. Larson Machine, Inc.
American Arborist Supplies

SOIL TESTERS
Johnson's Industrial Supply
L. L. Larson Machine, Inc.

SOD CUTTERS
Big Brute Turf Cut
Capital Equipment Co.
Jacobsen Mfg. Co.
Ryan, OMC-Lincoln

SOD HARVESTERS
Bermuda King, Inc.
Big "T" Products
Brouwer Turf Equipment Ltd.
Nunes Mfg.

T.O.M. MACHINES

TOWER MACHINES

TRIMMERS
American Arborist Supplies

VERMICULTURE
American Arborist Supplies

WATER TANKS
American Arborist Supplies

WATER TREATMENT EQUIPMENT
American Arborist Supplies

WEED CONTROL
American Arborist Supplies

WHEEL SCALES
American Arborist Supplies

WHEEL TRACTORS
American Arborist Supplies

WIRE MACHINES
American Arborist Supplies

WOOD CHIPS
American Arborist Supplies

WOOD CRUSHERS
American Arborist Supplies

WOOD LAMINATORS
American Arborist Supplies

WOOD MILLING MACHINES
American Arborist Supplies

WOOD PARTICLE BOARDS
American Arborist Supplies

WOOD SLABS
American Arborist Supplies

WOOD SLICES
American Arborist Supplies

WOODWORKING MACHINERY
American Arborist Supplies
SPRAYERS, CART OR WHEELBARROW TYPE
Argo Care
John Blue Co.
Brighton By-Products Co. Inc.
The Brohyl Co.
Campbell Hausfeld Co., Lombard
Chain Saws
Capital Equipment Co.
Century Engineering Corp.
R. E. Chapin Mfg. Works Inc.
The Cyclone Seeder Co., Inc.
J. J. Dill Co.
Dobbins, Inc.
Gandy Co.
Ginter Equipment Corp.
Hahn Inc., Turf-Ag. Div.
Herd Seeder Co., Inc.
Highway Equipment Co.
Hub States Chemical
F. D. Kees Mfg. Co.
L. L. Larson Machine, Inc.
Lawn,Medic Inc.
Lely
Melnor Industries
Minnesota Wanner Co.
F. E. Myers Co.
Red Ewald Inc.
Reinco/Grass Growers Inc.
Simplex Mfg. Co.
Smith & Co., Inc.
Smithco Inc.
Spraying Systems Co.

SPRAYERS, COMPLETE POWER UNIT
(Also See Pumps)
Argo Care
American Arborist Supplies
John Bean Div., FMC Corp.
Bowie Industries, Inc.
Brighton By-Products Co. Inc.
The Brohyl Co.
Buffalo Turbine Ag. Equip Co.
Campbell Hausfeld Co., Lombard
Chain Saws
Capital Equipment Co.
R. E. Chapin Mfg. Works, Inc.
Clintong Engies Corp.
Contree Sales
Crown Chemicals
Curtis Dyna Products Corp.
J. J. Dill Co.
Ferrari International Inc.
Fimco, Inc.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
The Guildsman Co.
Hahn Inc., Turf-Ag. Div.
Hays Spray Gun Co.
Hills Liqui System
Hub States Chemical
Hydro Turf
L. L. Larson Machine, Inc.
Lawn Medic Inc.
Lindig Mfg. Corp.
Lockwood Corp.
Mars Industries Inc.
Master Mfg. Co.
Minnesota Wanner Co.
F. E. Myers Co.
National Chemsearch
National Foam System, Inc.
Red Ewald, Inc.
Robeco
Root-Lowell Corp.
Simplex Mfg. Co.
Smith & Co., Inc. D. B.
Smithco Inc.
Solo Motors, Inc.
Tradewinds, Inc.
Tree Jct Company
Universal-Gerwin Div., Leigh
Products, Inc.
Walsh Mfg. Co.
Waymark

SPREADERS, HOPPER-TYPE
Arctic Mizer Mfgs., Inc.
Avco E-Zee Flow
John Blue Co.
Buffalo Turbine Ag. Equip. Co. Inc.
The Cyclone Seeder Co., Inc.
J. J. Dill Co.
Dobbins, Inc.
Gandy Co.
Ginter Equipment Corp.
Hahn Inc., Turf-Ag. Div.
Herd Seeder Co., Inc.
Highway Equipment Co.
Hub States Chemical
F. D. Kees Mfg. Co.
L. L. Larson Machine, Inc.
Lawn Medic Inc.
Lely
Melnor Industries
Minnesota Wanner Co.
F. E. Myers Co.
Reinco/Grass Growers Inc.
Simplex Mfg. Co.
Smith & Co., Inc.
Smithco Inc.
Universal-Gerwin Div., Leigh
Products, Inc.

THATCHERS
(See Mowers, Vertical)
Arctic Mizer Mfgs., Inc.
Bluebird International, Inc.
Capital Equipment Co.
E-Z Rake, Inc.
Giant-Vac Mfg., Inc.
Hahn Inc., Turf-Ag. Div.
Jenkins Mfg. Co.
K. D. Kees Mfg. Co.
Kinco Mfg.
Mathew Co.
Parker Sweeper Co.
Swenson Spreader & Mfg. Co.

SWEEPERS, LAWN
(Also See Broom, Vacuum)
A.M.F. Lawn and Garden
Atwater Stron Div., Gougler
Industries, Inc.
Billy Goat Industries, Inc.
Brinly Hardy Co., Inc.
Capital Equipment Co.
J J Case, Outdoor Power
Equipment Division
Clark Div., Clarke-Gravely Corp.
E-Z Rake Inc.
Giant-Vac Mfg., Inc.
W-W Grinder Corp.
Jacobsen Mfg. Co.
Lakes Supply Co., Inc.
Lindall Industries, Div. of
Lindell Pattern Works
Mars Industries, Inc.
Mathews Co.
M-B Company of Wisconsin
Mid-State Metal Casters & Mfg. Co.
MTD Products Inc.
Nunes Mfg.
Parker Sweeper Co.
Sweepest, Inc.
Tennant Co.
Turf Vac Corp.

TANKS, SPRAY
Argo Care
John Blue Co.
The Brohyl Co.
Capital Equipment Co.
Contree Sales
Crown Chemicals
J. J. Dill Co.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
Hahn Inc., Turf-Ag. Div.
Hemco Corp.
Hub States Chemical
Karl Kueemmerling, Inc.
L. L. Larson Machine, Inc.
Lawn Medic Inc.
Lely
Melnor Industries
Raven Industries, Inc.
Red Ewald, Inc.
Robeco
Simplex MFG. Co.
Smith & Co., Inc.
Smithco Inc.
Solo Motors Inc.
Universal-Gerwin Div., Leigh
Products, Inc.
Tuflex Mfg. Co.

Valley Products Corp.

Huss Sales and Service
Karl Kueemmerling, Inc.
Leveo Mfg., Inc.
Lindig Mfg. Corp.
Olathie Mfg., Inc.
Valley Products Corp.
Vermeer Mfg. Co.

Root-Lowell Corp.
Robco, Inc.
Red Ewald, Inc.
Smith & Co., Inc.
Smithco Inc.
Tennant Co.
Turf Vac Corp.

Chain Saw
Contree Sales
Crown Chemicals
J. J. Dill Co.
FMC Corp., Ag. Machinery Div.
Friend Mfg. Corp.
W. L. Hamilton Co.
Hub States Chemical
L. L. Larson Machine, Inc.
Lockwood Corp.
F. E. Myers Co.
Minnesota Wanner Co.
Red Ewald Inc.
Smith & Co., Inc.
Smithco Inc.
Solo Motors, Inc.
Spraying Systems Co.
TILLERS
A.M.F. Lawn and Garden
Ariens Co.
Auto Hoe, Inc.
Black and Decker Mfg. Co.
Bolens: FMC Corp., OPE Div.
Capital Equipment Co.
Deere Tiller Co.
J.I. Case, Outdoor Power
Equip. Div.
Conaway, Inc.
Engineering Products Co.
Excel Industries, Inc.
Ferrari International Inc.
FMC Corp., Outdoor Power
Equip. Div.
Ford Tractor Operations
Gravely, Div. Clarke-Gravely Corp.
Hefty Tractors
Hesston Corporation, Lawn Equip. Div.,
The Toro Co.
International Harvester Co.
Kubota
Lakes Supply Co., Inc.
Massey-Ferguson, Inc.
MTD Products Inc.
Satoh Tractor c/o NEDA
Simplicity Mfg. Co.
The Toro Co.
Tradewinds, Inc.
Wheel-Horse Products
White Farm Equipment
Yazoo Mfg. Co.

TRACTORS, 21-60 HP
Capital Equipment Co.
Deere & Co.
Excel Industries
Ferrari International Inc.
Hefty Tractor
International Harvester
Kubota
Massey-Ferguson, Inc.
Payline Div., International
Harvester
Satoh Tractor c/o NEDA
Slope Tractor, Inc.
Tradewinds, Inc.
Wheel Power Corp.

TRACTORS, 61-150 HP
Deere & Co.
International Harvester
Jacobsen Mfg. Co.
Massey-Ferguson, Inc.
National Hydro-Ax Inc.
Slope Tractor, Inc.
White Farm Equipment

TRACTORS, 151 and up HP
Allis-Chalmers Corp.
Deere & Co.
White Farm Equipment

TRACTORS, CRAWLERS
Allis-Chalmers Corp.
Deere & Co.
Massey-Ferguson Inc.
Payline Div., International
Harvester

TRAILERS
Agro Care
Bachtold Bros. Inc.
Beatty Trailers
Bock Industries, Inc.
The Champion Co.
Clarke Equipment Trailer Div.
Deere & Co.
Ditch Witch Div., The Charles
Machine Works, Inc.
Ditch Witch Equipment Co.
Ditch Witch of San Diego
Excel Industries
Fayette Division, Dayton-Waler
Corp.
Ginther Equipment Corp.
Harvestall Industries, Inc.

TOOLS, HAND, HYDRAULIC, PNEUMATIC
Fairmont Hydraulics
The Fanno Saw Works
Ginther Equipment Corp.
Robinson Industries/Limb Lopper Div.
Safety Test & Equipment Co.
Skil Corp.
Stanley Hydraulic Tools
Tallman Equipment Co., Inc.
True Temper Corp.

TOP DRESSERS
Jacobsen Mfg. Co.

FANNO SAW WORKS
P.O. Box 628 • Chico, California 95927
Phone: (916) 342-3897

FOR THE PROFESSIONAL
FANNO PRUNING & TREE SURGERY SAWS

TRAILERS
Agro Care
Bachtold Bros. Inc.
Beatty Trailers
Bock Industries, Inc.
The Champion Co.
Clarke Equipment Trailer Div.
Deere & Co.
Ditch Witch Div., The Charles
Machine Works, Inc.
Ditch Witch Equipment Co.
Ditch Witch of San Diego
Excel Industries
Fayette Division, Dayton-Waler
Corp.
Ginther Equipment Corp.
Harvestall Industries, Inc.

Write for Free Catalog and Prices
BARTLETT MANUFACTURING CO.
3009 East Grand Blvd. • Detroit, Mich. 48202
Circle 106 on free information card

FOR THE PROFESSIONAL
FANNO PRUNING & TREE SURGERY SAWS

TRAILERS
Agro Care
Bachtold Bros. Inc.
Beatty Trailers
Bock Industries, Inc.
The Champion Co.
Clarke Equipment Trailer Div.
Deere & Co.
Ditch Witch Div., The Charles
Machine Works, Inc.
Ditch Witch Equipment Co.
Ditch Witch of San Diego
Excel Industries
Fayette Division, Dayton-Waler
Corp.
Ginther Equipment Corp.
Harvestall Industries, Inc.

Write for Free Catalog and Prices
BARTLETT MANUFACTURING CO.
3009 East Grand Blvd. • Detroit, Mich. 48202
Circle 106 on free information card

FANNO SAW WORKS
P.O. Box 628 • Chico, California 95927
Phone: (916) 342-3897

Write for Distributor nearest you.
Dealer inquiries invited.

Circle 138 on free information card
Holsclaw Bros., Inc.
Jacobsen Mfg. Co.
Lakeside Mfg. Corp.
Lansdowne Equipment Co., Inc.
Magline, Inc.
Maxey Mfg. Co., Inc.
Merritt Equipment Service, Inc. D/B/A
Ditch Witch of Georgia
Miller Tilt-Top Trailers, Inc.
MTD Products Inc.
Rogers Bros.
The Snow Company
Vermeer Mfg. Co.
Yazoo Mfg. Co.

TREE INJECTORS
Agro Care
American Arborist Supplies
Creative Sales
Crown Chemicals
Ben Meadows Co.
Product Development International

TREE MOVES
Big John Tree Transplanter Mfg. Co.
CareTree Systems
Schutt’s Equipment Co.
Vermeer Mfg. Co.

TREE WRAPPPINGS
American Arborist Supplies
Karl Kuemmerling, Inc.
Tree Guying Systems Inc.

TRENCHER
Davis Mfg., Div. of J I Case
Ditch Witch Equipment Co.
Ditch Witch of Columbus, Inc.
Ditch Witch of San Diego
Ground Hog, Inc.
Lansdowne Equipment Co., Inc.
Merritt Equipment Service, Inc. D/B/A
Ditch Witch of Georgia
Sperry-New Holland
Vermeer Mfg. Co.

TRIMMERS, HEDGE AND GRASS, PARTS
Capital Equipment Co.
Corona Clipper Co.
Gielow Co., Inc.
HMC
Kioritz Corp of America
Karl Kuemmerling, Inc.
H. K. Porter, Inc.
Safety Test 9 Equipment Co.
Seymour Smith & Son, Inc.
Solo Motors, Inc.
Stihl American, Inc.
Tallman Equip. Co., Inc.
True Temper Corp.
Village Blacksmith, McGraw Edison
Portable Electric Tool Div.
Weed Eater, Inc.

TRUCK, FORESTRY
McCabe-Power Body Co.

TRUCK, LIGHT-HAULING, UTILITY
Agro Care
Club Car, Inc.
E-Z-Go Car Div. Textron Inc.
Ginther Equipment Corp.
HMC—The Green Machine
Jacobsen Mfg. Co.

McCabe-Power Body Co.
Smithco Inc.
The Snow Co.

TURF VEHICLES
Agro Care
Capital Equipment Co.
Club Car, Inc.
Ginther Equipment Corp.
E-Z-Go Car
Jacobsen Mfg. Co.
Jeep Corp.
Lawn Medic Inc.
Massey-Ferguson, Inc.
Pargo, Inc.
Promark Corp.
Smithco, Inc.
The Snow Co.
The Toro Company

VACUUMS
A.M.F. Lawn and Garden
Arctic Mizer Mfrs., Inc.
Ariens Co.
Billy Goat Industries, Inc.
Capital Equipment Co.
Clark Div., Clarke-Gravely Corp.
E-Z Rake, Inc.
Mid-States Metal Casting & Mfg. Co.
MTD Products Inc.
Satco-Systems Inc.
Turf Vac Corp.

WINCH
(AAlso See Hoist)
Fairmont Hydraulics
Hoffco, Inc.
Karl Kuemmerling, Inc.
Maasdam Pow’r Pull, Inc.
McCabe-Powers Body Co.
Tallman Equipment Co., Inc.
Cut the cost of expensive horsepower and expensive manpower.

Bolens® HT-20 Tractor.
Jobs too small for big specialized equipment can add up to a punishing expense in manpower. Hauling, Mowing, Tilling, Grading, Loading, Trenching, Backfilling.
The intermediate size Bolens HT-20 Tractor can cut that expense by quickly adapting to over a dozen custom matched attachments including mower, tiller, bucket loader, back hoe, rakes, blades and brooms.
The foot operated hydrostatic transmission goes from forward to reverse without clutching or changing gears. Perfect for close-quarters work. Allows optimum power/speed combinations with hands free to operate hydraulics.
More than just a lawn and garden tractor, the HT-20 is powered by a 19.5 hp twin cylinder Kohler engine. The channeled steel frame, massive rear axle/differential and heavy duty front axle give a full day's work. Day after day.
Get more value from your big horsepower and expensive manpower. With the rugged HT-20. It fits right in-between. To save money on both ends.

Bolens Mulching Mowers.
They cut the grass and the workload. In one pass. When a Bolens Mulching Mower cuts the grass, it also cuts and recuts the clippings into tiny particles that are blown down into the turf. There, they disappear and quickly decompose. No clippings. No clean-up. No thatch build-up. The fine mulch actually feeds the turf while the crew moves on to other jobs.*
3, 4 and 5 hp models are specially built for commercial and institutional use. Straight-thru steel axles, rugged all-steel deck, tough one-piece handle and positive cutting height adjustment. Bolens Mulching Mowers. Tough, economical answers to your continuing turf maintenance program.
*For a free copy of a University study on nitrogen return, contact FMC Corporation, Port Washington, Wisconsin 53074.

Bolens Mulching Mower is a trademark of FMC Corporation © Copyright 1977 FMC Corporation

See the complete line of Bolens commercial power equipment at your nearest dealer. For his name and address send the free response card or write, FMC Corporation, Port Washington, Wisconsin 53074.
Abbott Laboratories, Agricultural and Veterinary Products Div., Dept. 95M, North Chicago, IL 60064

INSECTICIDES — Bacillus Thuringiensis, Dipel

Agricola Chemicals Ltd. (Great Britain), 2 Stratford Place, London W1N 9AE, England

HERBICIDE — Calcium Arsenate
INSECTICIDES — Calcium Arsenate

Agway Inc., Box 1333, Syracuse, NY 13201

FUNGICIDES — Glyodin

Amchem Products, Inc., Brookside Ave., Ambler, PA 19002

HERBICIDES — Amdom, Amitrol, Amizine, Amizol, Benzac, Brominal, Bromoxynil, Fenac, Weedazol

American Cyanamid Co., Agricultural Div., P.O. Box 400, Princeton, NJ 08540

INSECTICIDES — AC 18682, Dimethoate, Thiophos

The Ansul Company, One Stanton Street, Marinette, WI 54143

HERBICIDES — Ansar, DSMA, MSMA, Sodium Cacodylate
GROWTH RETARDANTS — Maleic Hydrazide

Applied Biochemists, Inc., 5300 W. County Line Rd., Mequon, WI 53092

HERBICIDES — Weedtrine D

Atanor S.A.M., Lavalle 348 2° Piso, Buenos Aires, Argentina

HERBICIDES — MCPA

A & V, Incorporated, P.O. Box 211, Butler, WI 53007

HERBICIDES — A & V-70 Algeacide

BASF Aktiengesellschaft, Carl-Bosch-Str. 38, 6700/Ludwigshafen (Federal Republic of Germany)

FUNGICIDES — Carbendazim, Doremorph, Doremorph Polyan-Ultra
HERBICIDES — Alipur, Dichlorprop, MCPA, MCP, U-46
INSECTICIDES — Basamid, Carbaryl, Dazomet, Dimethoate, Perfekhion, Rebelate

BASF Wyandotte Corp., Agricultural Chemicals, 100 Cherry Hill Rd., P.O. Box 181, Parsippany, NJ 07054

HERBICIDES — Dimethoate

Bayer AG, Pflanzenschutz Anwendungstechnik Beratung, 509 Leverkusen Bayerwerk, Federal Republik of Germany

FUNGICIDES — Dexon, Eradex, Euparen M, Pomarsol forte, Thiram
HERBICIDES — Amitrol, Hedonal MCP
INSECTICIDES — Basamid, Carbaryl, Dazomet, Dimethoate, Perfekthion, Rebelate

Crystal Chemical Co., P.O. Box 7415, Memphis, TN 38107

HERBICIDES — Calcium Arsenate
INSECTICIDES — Calcium Arsenate

Crystal Chemical de Costa Rica, Apartado 5397, San Jose, Costa Rica, C.A.

HERBICIDES — Diuron, DSMA, MSMA
INSECTICIDES — Dimethoate, Guthion

Crystal Chemical Interamerica, 1525 N. Post Oak Rd., Houston, TX 77055

HERBICIDES — Diuron, DSMA, Dynex, Mesamate, MSMA, Namate
INSECTICIDES — Crysthion 2L, Dimethoate, Guthion

Egyptian Fertilizer Company, Production Unit, Al-Malawi, Giza, EGYPT

HERBICIDES — Apham, Dival, Eumber, Metasystox, Systox
INSECTICIDES — Baygon, Guthion, Metasystox-R, Nemacur, Systox

E. I. duPont De Nemours & Co., Inc., 1007 Market Street, Wilmington, DE 19898

FUNGICIDES — Arasan, Benomyl, Chloronob, Hydroxymercuricchlorophenols, Tersan, Thiram
HERBICIDES — Bromacil, Diuron, Karmex, Lkoben, Neburon, Siduron, Trichlorobenzoic Acid, Trysken

Chemical Formulators, Inc., Box 26, Nitro, WV 25143

INSECTICIDES — Methoxychlor
GROWTH RETARDANTS — Maleic Hydrazide

Chemviron, P.O. Box 9, DK 7620 Lemvig, Denmark

INSECTICIDES — Dimethoate, Parathion

Cyprus Industrial Minerals Co., 555 S. Flower Street, Los Angeles, CA 90017

Miscellaneous — Diatomaceous Earth

Diamond Shamrock Chemical Co., Agricultural Chemical Div., 1100 Superior Ave., Cleveland, OH 44114

FUNGICIDES — Bravo
HERBICIDES — Arsonate Liquid, Daconate, Daclath, DSMA, MSMA

Dow Chemical Co., P.O. Box 1706, Midland, MI 48640

HERBICIDES — Kuron, Silvex, Tordon

E. I. duPont De Nemours & Co., Inc., 1007 Market Street, Wilmington, DE 19898

FUNGICIDES — Arasan, Benomyl, Chloronob, Hydroxymercuricchlorophenols, Tersan, Thiram
HERBICIDES — Bromacil, Diuron, Karmex, Lkoben, Neburon, Siduron, Trichlorobenzoic Acid, Trysken
INSECTICIDES — Lannate Methomly Methoxychlor Oxamyl
GROWTH REGULATORS — Krenite Brush Control Agent
Eagle-Picher Industries, Inc., Agricultural Chemicals Div.,
P.O. Box 83, Joplin, MO 64801
MISCELLANEOUS — Diatomaceous Earth

Elanco Products Co., Div. of Eli Lilly & Co., P.O. Box 1750,
Indianapolis, IN 46206
FUNGICIDES — Pipron
HERBICIDES — Balan, Surflan
Eli Lilly & Co., P.O. Box 708, Greenfield, IN 46140
HERBICIDES — Dynid, Ryzelan

Fabriek van Chemische Producten, Vondelingenplaat B.V.,
P.O. Box 7120, Rotterdam 3031, Netherlands
FUNGICIDES — Thiram, Tripolom
INSECTICIDES — Tribactur
HERBICIDES — Diuron, Vonduron

Fairmount Chemical Co., Inc., 117 Blanchard Street, Newark
NJ 07105
HERBICIDES — Amitrol, Herbezole
GROWTH RETARDANTS — De-Cut, Malec
Hydrazide

Fisons Corp., Ag. Chemicals Division, 2 Preston Court, Bedford,
MA 01730
HERBICIDES — MCPA

Fisons Limited, Agrochemical Division, Hauxton, Cambridge
CB2 5HU, England
HERBICIDES — Nortron, Phenoxyline-Plus, Premalin

FMC Corp., Agricultural Chemical Div., 2000 Market Street,
Philadelphia, PA 19103
FUNGICIDES — Actispray
HERBICIDES — Tandex
INSECTICIDES — Endosulphan, NIA 5488

GAF Corp., Chemical Division, 140 W. 51st Street, New
York, NY 10020
MISCELLANEOUS — Blancol

Great Lakes Chemical Corp., P.O. Box 2200, West Lafayette,
IN 47906
INSECTICIDES — Brom-Ô-Sol
MISCELLANEOUS — Terr-O-Gel

Guard Chemical Co., One Avenue L, Newark, NJ 07105
FUNGICIDES — Cadmium-Calcium Copper Zinc Chromate Complex, Puraturf 117

Harshaw Chemical Co., 1945 E. 97th Street, Cleveland, OH
44106
FUNGICIDES — Cooper Carbonate, Basic

Hoechst AG (West Germany), 6230 Frankfurt (Main)-80,
West Germany
FUNGICIDES — Afugan, Carbendazim
HERBICIDES — Aresin
INSECTICIDES — Endosulfan, Hostaquick, Thiodan

Hysan Products Co., 919 W. 38th Street, Chicago, IL 60609
HERBICIDES — GCC-711

ICI Australia Limited, ICI House-1 Nicholson Street, P.O.
Box 4311, Melbourne, Victoria, 3001, Australia
HERBICIDES — MCPA

ICI Plant Protection Division, Fernhurst, Haslemere, Surrey,
England, Haslemere 4061
FUNGICIDES — Fensan, Milcurb, Norbesan
HERBICIDES — Agroxone, Diquat, MCPA, MCPP
(Potassium Salt), Methoxone, Parquat, Rexone
INSECTICIDES — Albolineum, Fosferno 50, Premicid

International Minerals & Chemical Corp., IMC Plaza, Libertyville, IL 60048
MISCELLANEOUS — Bentonite

I.P.C.I., Industria Prodotti Chimici SpA, Via F. Beltrami, 11,
20026 Novate Milanesi, Italy
HERBICIDES — Diuron, Princex
INSECTICIDES — Dimethoate, Endosulfan, Kelthane, Tedion V-18

MISCELLANEOUS — Diatomaceous Earth

Kalo Laboratories, 9233 Ward Parkway, Kansas City, MO 64114
MISCELLANEOUS — Buffer-X, Fomex, Hydro-Wet

Kemira Oy, Box 330, 00101 Helsinki 10, Finland
HERBICIDES — Hormotuhu

Los Angeles Chemical Co., 4545 Ardine Street, South Gate, CA 90028
HERBICIDES — Calcium Arsenate
INSECTICIDES — Calcium Arsenate

Lowe’s Inc., N. Edward Street, Cassopolis, MI 49031
MISCELLANEOUS — Bentonite

Makhteshim-Agan (Israel), Koor Chemicals Crop Protection Div., P.O. Box 60, Beer-Sheva, Israel
HERBICIDES — Phaltan
HERBICIDES — Amitrol, Di-On, Diuron, Neburex, Neburon, Sinamex, Weedsaxol-T
INSECTICIDES — Azodrin, Carbaryl, Crotton-Methyl, Diazol, Endosulfan, Guthion, Kelthane, Monocron, Thionax

Mallinckrodt, Inc., P.O. Box 5439, St. Louis, MO 63147
FUNGICIDES — Cadminate, Calo-Clor, Calo-Gran, Calomel, Fungo 50, Kromad, Thiramad
HERBICIDES — Pre-San, Trex-San-Bent
GROWTH RETARDANTS — Po-San

A. H. Marks & Co. Ltd., Wyke Lane, Bradford BD12 9EJ,
West Yorkshire, England
HERBICIDES — Dichlorprop, MCPA, MCPP, Silvex

May & Baker Ltd., Dagenham, Essex, England RM 10 7XS
FUNGICIDES — Crotothane
HERBICIDES — Bromoxynil, Compitox, Premalin, Seritox 50

Merck & Co., Inc., Merck Chemical Division, 126 Lincoln
Avenue, P.O. Box M, Rahway, NJ 07065
INSECTICIDES — Agritol, Bacillus Thuringiensis

Miller Chemical & Fertilizer Corp., P.O. Box 333, Hanover,
PA 17331
FUNGICIDES — Miller 531
INSECTICIDES — Micofume

Mirfield Agricultural Chemicals Ltd., P.O. Box 1, Mirfield,
Yorkshire, England
HERBICIDES — Silvex

Mobil Chemical Co., Phosphorus Division, P.O. Box 26683,
Richmond, VA 23261
INSECTICIDES — MobilLawn, Mocap
GROWTH REGULATORS — Phosfon

Monsanto Agricultural Products, 800 N. Lindbergh, St. Louis,
MO 63166
HERBICIDES — Randox, Roundup, Vegadex
INSECTICIDES — Niran, Parathion
<table>
<thead>
<tr>
<th>Company Name</th>
<th>Address</th>
<th>Insecticides</th>
<th>Herbicides</th>
<th>Fungicides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montedison Dipa</td>
<td>Piazza Della Republica 14/16, 20100 Milano, Italy</td>
<td>Demes L40, Dimethoate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murphy Chemicals, Ltd.</td>
<td>Wheathampstead Nr., St. Albans, Hertsfordshire, U.K., England</td>
<td>Chlorimephos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nihon Nohyaku Co., Ltd.</td>
<td>2-5 Nihonbash 1-chome Chuo-ku, Tokyo, Japan</td>
<td>Thiophanate, Thiophanate-Methyl, Topsis Wettatable Powder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nissan Chemical Industries, Ltd.</td>
<td>Kowa-Hitotsubashi Bldg., 71-, 3-Chome, Kanda-Nishiki-Cho, Chiyoda-Ku, Tokyo, Japan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NL Industries, Inc.</td>
<td>P.O. Box 700, Newburgh, NY 12550</td>
<td>Maleic Hydrazide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nippon Soda Co., Ltd.</td>
<td>Shin-Ohtemachi Bldg., No. 2-2-1 Ohtemachi, Chiyoda-ku Tokyo, Japan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occidental Chemical Co.</td>
<td>P.O. Box 198, Lathrop, CA 95330.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBI-Gordon Corp.</td>
<td>300 S. 3rd Street, Kansas City, KS 66118</td>
<td>MCPA, Silvex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pennwalt Corp.</td>
<td>1630 E. Shaw Ave., Suite 179, Fresno, CA 93710</td>
<td>Thiophanate-Methyl, Topsis M, Topsis Wettatable Powder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPG Industries, Inc.</td>
<td>One Gateway Center, Pittsburgh, PA 15222</td>
<td>Azide, Endothall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prentiss Drug &amp; Chemical Co.</td>
<td>363 Seventh Ave., New York, NY 10001</td>
<td>Methoxychlor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proctor &amp; Gamble Co.</td>
<td>P.O. Box 599, Cincinnati, OH 45201</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quimica Estrella S.A.C.I. e I.</td>
<td>Av. De Los Constituyentes 2995, Buenos Aires, Argentina</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhodia, Inc.</td>
<td>P.O. Box 125, Monmouth Junction, NJ 08852</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stull Chemical Co.</td>
<td>1006 Paulson, San Antonio, TX 78219</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stuhld Chemical Co.</td>
<td>480 Camino Del Rio South, Suite 204, San Diego, CA 92108</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shell Chemical Co., Agricultural Chemicals</td>
<td>2401 Crow Canyon Road, San Ramon, CA 94583</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shell Chemicals U.K. Limited, Agricultural Division</td>
<td>39/41 St. Mary's Street, Ely, Cambridgeshire, CB74HG, England</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shell International Chemical Co. Ltd.</td>
<td>Shell Centre, London, SE 1 7PG, England</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Sherwin Williams Co.</td>
<td>Chemicals Div., P.O. Box 6520, Cleveland, OH 44101</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transvaal, Inc.</td>
<td>P.O. Box 69, Marshall Road, Jacksonville, AR 72076</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenneco Chemicals Inc.</td>
<td>P.O. Box 365, Piscataway, NJ 08854</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thompson-Hayward Chemical Co.</td>
<td>5200 Speaker Rd., Kansas City, KS 66110</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transvaal, Inc.</td>
<td>P.O. Box 69, Marshall Road, Jacksonville, AR 72076</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TURO, Division of the Upjohn Co.</td>
<td>9510-190-1, 7000 Portage Road, Kalamazoo, MI 49001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenneco Chemicals Inc.</td>
<td>P.O. Box 365, Piscataway, NJ 08854</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thompson-Hayward Chemical Co.</td>
<td>5200 Speaker Rd., Kansas City, KS 66110</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transvaal, Inc.</td>
<td>P.O. Box 69, Marshall Road, Jacksonville, AR 72076</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TURO, Division of the Upjohn Co.</td>
<td>9510-190-1, 7000 Portage Road, Kalamazoo, MI 49001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company</td>
<td>Address</td>
<td>Products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Union Carbide Corp.            | Agricultural Products, P.O. Box 1906, Salinas, CA 93901 | **FUNGICIDES** — Crag Fruit Fungicide 341, Crag Turf  
                            |                                                                          | **HERBICIDES** — UC 22463  
                            |                                                                          | **INSECTICIDES** — Carbaryl, Crag Fungicide 974, Crag Nemacine |
| Uniroyal Chemical, Div. of Uniroyal, Inc. | Ernie Bldg., Naugatuck, CT 06770 | **GROWTH RETARDANTS** — Maleic Hydrazide  |
| United States Borax & Chemical Corp. | 3075 Wilshire Blvd., Los Angeles, CA 90010 | **HERBICIDES** — Polyborchlorate  
                            |                                                                          | **GROWTH RETARDANTS** — Maintain CF 125 |
| Universal Crop Protection Ltd. | Nicholson House, Maidenhead, Berkshire, SL6 1LJ, England | **HERBICIDES** — Dichlorprop, Diuron, MCPA  |
| The Upjohn Co.                | 7171 Portage Rd., Kalamazoo, MI 49001            | **HERBICIDES** — Enid  |
| Velsicol Chemical Corp.       | 341 E. Ohio Street, Chicago, IL 60611             | **HERBICIDES** — Banvel, Ravage, Weedmaster  
                            |                                                                          | **INSECTICIDES** — Endosulfan, Tiovel |
| Vineland Chemical Co., Inc.   | West Wheat Road, P.O. Box 745, Vineland, NJ 08360 | **FUNGICIDES** — Cadmium Chloride, Thiram  
                            |                                                                          | **HERBICIDES** — Amine Methanearsonates, Ammonium Methanearsonate, Calcium Acid Methanearsonate, Crab-E-Rad, DSMA MCPP (Potassium Salt), MSMA Rad-E-Cate 25, Rad-E-Cate 35, Sodium Cacodylate, ViPar, Weed-E-Rad |
| Witco Chemical Corp.          | Organics Div., 3230 Brookfield, Houston, TX 77045, or 277 Park Avenue, New York, NY 10017 | **MISCELLANEOUS** — Adsee, Diatomaceous Earth |
| Woolfolk Chemical Works, Ltd. | P.O. Box 938, Fort Valley, GA 31030               | **HERBICIDES** — Calcium Arsenate  
                            |                                                                          | **INSECTICIDES** — Calcium Arsenate |
## Chemical Manufacturers by Item

### FUNGICIDES

<table>
<thead>
<tr>
<th>Product</th>
<th>Manufacturer/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acti-dione</td>
<td>TUCO, Div. of The Upjohn Co.</td>
</tr>
<tr>
<td>Actispray</td>
<td>FMC Corp.</td>
</tr>
<tr>
<td>Afugan</td>
<td>Hoechst AG (West Germany)</td>
</tr>
<tr>
<td>Arasan</td>
<td>E. I. duPont de Nemours &amp; Co.</td>
</tr>
<tr>
<td>Azide</td>
<td>PPG Industries, Inc.</td>
</tr>
<tr>
<td>Brave</td>
<td>Diamond Shamrock</td>
</tr>
<tr>
<td>Cadmium</td>
<td>Mallinckrodt, Inc.</td>
</tr>
<tr>
<td>Calo-Clor</td>
<td>Mallinckrodt, Inc.</td>
</tr>
<tr>
<td>Calo-Gran</td>
<td>Mallinckrodt, Inc.</td>
</tr>
<tr>
<td>Calomel</td>
<td>Mallinckrodt, Inc.</td>
</tr>
<tr>
<td>Carbendazim</td>
<td>BASF Aktiengesellschaft Hoechst AG</td>
</tr>
<tr>
<td>Chipco Spot Kleen</td>
<td>Rhodia, Inc., Agricultural Div.</td>
</tr>
<tr>
<td>Cadminate</td>
<td>Mallinckrodt, Inc.</td>
</tr>
<tr>
<td>Crag Fruit Fungicide 341</td>
<td>Union Carbide Co.</td>
</tr>
<tr>
<td>Crag Turf Fungicide 531</td>
<td>Union Carbide Co.</td>
</tr>
<tr>
<td>Crotothane</td>
<td>May &amp; Baker Ltd.</td>
</tr>
<tr>
<td>Dexon</td>
<td>Bayer AG</td>
</tr>
<tr>
<td>Dithianon</td>
<td>Celamerck GmbH &amp; Co., KG</td>
</tr>
<tr>
<td>Dodemorph</td>
<td>BASF Aktiengesellschaft</td>
</tr>
<tr>
<td>Dyrene</td>
<td>Chemagro Agricultural Div., Mobay Chemical Co.</td>
</tr>
<tr>
<td>Eradex</td>
<td>Bayer AG (West Germany)</td>
</tr>
<tr>
<td>Euparen M</td>
<td>Bayer AG (West Germany)</td>
</tr>
<tr>
<td>Fernasan</td>
<td>ICI Plant Protection Division</td>
</tr>
<tr>
<td>Fore</td>
<td>Rohm and Haas Co.</td>
</tr>
<tr>
<td>Fungo 50</td>
<td>Mallinckrodt, Inc.</td>
</tr>
<tr>
<td>Glyodin</td>
<td>Agway, Inc.</td>
</tr>
<tr>
<td>Hydroxymercurichlorophenols</td>
<td>E. I. duPont de Nemours &amp; Co.</td>
</tr>
<tr>
<td>Karathane</td>
<td>Rohm and Haas Co.</td>
</tr>
<tr>
<td>Kromad</td>
<td>Mallinckrodt, Inc.</td>
</tr>
<tr>
<td>Milcurb</td>
<td>ICI Plant Protection Division</td>
</tr>
<tr>
<td>Miller 531</td>
<td>Miller Chemical &amp; Fertilizer Corp.</td>
</tr>
<tr>
<td>Nomersan</td>
<td>ICI Plant Protection Division</td>
</tr>
<tr>
<td>Pipron</td>
<td>Elanco Products Co., Div. of Eli Lilly &amp; Co.</td>
</tr>
<tr>
<td>Polyran-Ultra</td>
<td>BASF Aktiengesellschaft</td>
</tr>
<tr>
<td>Pomarsol forte</td>
<td>Bayer AG</td>
</tr>
<tr>
<td>Puraturf forte</td>
<td>Guard Chemical Co.</td>
</tr>
<tr>
<td>Sarpol</td>
<td>Shell Chemical, U.K. Ltd.</td>
</tr>
<tr>
<td>Tersan</td>
<td>E. I. duPont de Nemours &amp; Co.</td>
</tr>
<tr>
<td>Thimer</td>
<td>W. A. Cleary Corp.</td>
</tr>
<tr>
<td>Thiophanate</td>
<td>Nippon Soda Co. Ltd., Fine Chemical</td>
</tr>
<tr>
<td>Thiophanate-Methyl</td>
<td>Nippon Soda Co., Ltd., Fine Chemical Pennwalt Corp.</td>
</tr>
<tr>
<td>Thiram</td>
<td>Bayer AG (West Germany)</td>
</tr>
<tr>
<td>Thiranban</td>
<td>W. A. Cleary Corp.</td>
</tr>
<tr>
<td>Topsin M</td>
<td>Pennwalt Corp.</td>
</tr>
<tr>
<td>Triforine</td>
<td>Celamerck GmbH &amp; Co. KG</td>
</tr>
<tr>
<td>Trilormol</td>
<td>Vondelingenplant</td>
</tr>
</tbody>
</table>

### HERBICIDES

<table>
<thead>
<tr>
<th>Product</th>
<th>Manufacturer/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agroxone</td>
<td>ICI Plant Protection Division</td>
</tr>
<tr>
<td>Algaecide</td>
<td>Ciba Geigy Corp.</td>
</tr>
<tr>
<td>Alipur</td>
<td>BASF Aktiengesellschaft</td>
</tr>
<tr>
<td>Amdom</td>
<td>Amchem Products Inc.</td>
</tr>
<tr>
<td>Amine Methanearsonates</td>
<td>Vineland Chemical Co.</td>
</tr>
<tr>
<td>Amitrol</td>
<td>Amchem Products Inc.</td>
</tr>
<tr>
<td>Amizone</td>
<td>Amchem Products Inc.</td>
</tr>
<tr>
<td>Amizol</td>
<td>Amchem Products Inc.</td>
</tr>
<tr>
<td>Ammonium Methanearsonate</td>
<td>Vineland Chemical Co.</td>
</tr>
<tr>
<td>Ansar</td>
<td>The Ansol Co.</td>
</tr>
<tr>
<td>Aqua-Vex</td>
<td>Pennwalt Corp.</td>
</tr>
<tr>
<td>Aquazine</td>
<td>Ciba Geigy Corp.</td>
</tr>
<tr>
<td>Aresin</td>
<td>Hoechst AG (West Germany)</td>
</tr>
<tr>
<td>A &amp; V-70 Algaecide</td>
<td>A &amp; V Inc.</td>
</tr>
<tr>
<td>Azide</td>
<td>PPG Industries, Inc.</td>
</tr>
<tr>
<td>Banvel</td>
<td>Velsicol Chemical Corp.</td>
</tr>
<tr>
<td>Betasan</td>
<td>Stauffer Chemical Co.</td>
</tr>
<tr>
<td>Benzac</td>
<td>Amchem Products Inc.</td>
</tr>
<tr>
<td>Borea</td>
<td>Rhodia, Inc.</td>
</tr>
<tr>
<td>Brominal</td>
<td>Amchem Products Inc.</td>
</tr>
<tr>
<td>Bromoxynil</td>
<td>Amchem Products Inc.</td>
</tr>
<tr>
<td>Buctril</td>
<td>Rhodia Inc., Agricultural Div.</td>
</tr>
<tr>
<td>Buctril</td>
<td>Rhodia Inc., Agricultural Div.</td>
</tr>
<tr>
<td>Buctril</td>
<td>Rhodia Inc., Agricultural Div.</td>
</tr>
</tbody>
</table>
HERBICIDES—Cont.

Calcium Acid Methanearsonate
Vineland Chemical Co.

Calcium Arsenate
Agricola Chemical Ltd.
Commercial Chemical Co.
Los Angeles Chemical Co.
Woolfolk Chemical Works, Ltd.

Casoron 133
Philips-Duphar B.V. (Netherlands)
Thompson-Hayward Chemical Co.

Chipco-Crab-Killer
Rhodia Inc., Agricultural Div.

Chipco Turf Herbicide
Rhodia Inc., Agricultural Div.

Chiptox
Rhodia Inc., Agricultural Div.

Chlorea
Rhodia Inc., Agricultural Div.

Compitox
May & Baker Ltd.

Crab-E-Rad
Vineland Chemical Co.

Cytrole Amitrole-T
American Cyanamid Co.

Daconate
Diamond Shamrock

Dacthal
Diamond Shamrock

Ded-Weed
Thompson-Hayward Chemical Co.

Dichlorprop
BASF Aktiengesellschaft
The Boots Co., Ltd.
Burts & Harvey Ltd.
A. H. Marks Co., Ltd.
Rhodia Inc., Agricultural Div.
Universal Crop Protection Ltd.

Di-On
Makhteshim-Agan

Dipnenamid
Refer to Dymid, Enid

Diquat
Chevron Chemical Co., Ortho Div.
ICI Plant Protection Division

Diuron
Fabriek van Chemische Producten Vodelingenplaats B. V.
I. Pi. Ci. S. P. A.
Makhteshim-Agan
Universal Crop Protection Ltd.
Crystal Chemical Co.
Crystal Chemical de Costa Rica
Crystal Chemical Interamerica

DSMA
The Ansol Co.
W. A. Cleary Corp.
Crystal Chemical Co.
Crystal Chemical de Costa Rica
Crystal Chemical Interamerica
Diamond Shamrock
Rhodia Inc., Agricultural Div.
Vineland Chemical Co.
Willow Creek Co.

Du-Sprex
Philips-Duphar B.V.

Dymid
Eli Lilly & Co.

Dynex
Crystal Chemical Co.

Endothall
Pennwalt Corp.

Enid
The Upjohn Co.

Fenac
Amchem Products Inc.
Tenneco Chemical Inc.

GCC-711
Hysan Products Co.

Gesatop
Ciba-Geigy Corp., Agricultural Div.

Hedonal
Bayer AG (West Germany)

Herbezole
Fairmount Chemical Co.

Hormotaho
Kemira Oy, Finland

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

Kerb
Rohm and Haas Co.

Klofen
E. I. duPont de Nemours & Co., Inc.
Biochemicals Dept.

Komeen
Sandoz, Inc.

Kuron
The Dow Chemical Co.

MCPA
Atanor* Sociedad Anonima Mixta
BASF Aktiengesellschaft
Burts & Harvey Ltd.
Fisons Ltd., Agrochemical Div.
ICI Australia Limited
ICI Plant Protection Div.
A. H. Marks & Co., Ltd.
Nissan Chemical Industries Ltd.
Rhodia Inc., Agricultural Div.
Universal Crop Protection Ltd.
Willow Creek Co.

MCPP
BASF Aktiengesellschaft
Bayer AG (West Germany)
The Boots Company Ltd.
Burts & Harvey Ltd.
W. A. Cleary Corp.
A. H. Marks & Co., Ltd.
Rhodia Inc., Agricultural Div.
Universal Crop Protection Ltd.

MCPP (Potassium Salt)
ICI Plant Protection Division
Vineland Chemical Co.

Mesamate
Crystal Chemical Co.

Methar
W. A. Cleary Corp.

Methoxone
ICI Plant Protection Div.

MSMA
The Ansol Co.

Crystal Chemical Co.
Crystal Chemical de Costa Rica
Crystal Chemical Interamerica
Diamond Shamrock
Vineland Chemical Co.
Willow Creek Co.

Namate
Crystal Chemical Co.

Neburex
Makhteshim-Agan

Neburon
Makhteshim-Agan

Nortron
Fisons Ltd., Agricultural Chemical Division

Paraquat
Chevron Chemical Co., Ortho Div.
ICI Plant Protection Division

Phenoxyline-Plus
Fisons Ltd., Agrochemical Div.

Polybichlororate
United States Borax & Chemical Corp.

Prefix
Shell International Chemical Co.

Premalin
Fisons Ltd., Agrochemical Div.
May & Baker Ltd.

Pre-San
Mallinckrodt, Inc.

Primatol
Ciba-Geigy Corp.

Princep
Ciba-Geigy Corp., Agricultural Div.

Rad-E-Cate 25
Vineland Chemical Co.

Rad-E-Cate 35
Vineland Chemical Co.

Randox
Monsanto Agricultural Products Co.

Ravage
Velsicol Chemical Corp.

Rexone
ICI Plant Protection Division

Rhomene
Rhodia Inc., Agricultural Div.

Rhoneox
Rhodia Inc., Agricultural Div.

Ronstar
Rhodia Inc., Agricultural Div.
Rhone Poulenc

Roundup
Monsanto Agricultural Products Co.

RP 17623
Rhone Poulenc

Ryzelan
Eli Lilly & Co.

Seritox 50
May & Baker Ltd.

Siduron
E. I. duPont de Nemours & Co.

Silvi-Rhap
Transvaal, Inc.
Wow. Now you can "Weed and Announcing an important new turf renovation program for Roundup® herbicide.

Turf renovation has to be one of the most inconvenient and unpopular projects for a grounds superintendent.

Now there's a painless way to renovate a weedy fairway, sod farm or other grassy area—without heavy tillage.

"Translocation" is the key.

Roundup is applied to the weed foliage, absorbed through the leaf surface, and "translocated" throughout the entire plant. In this way, Roundup effectively controls most weeds—right down to the roots and rhizomes.

Roundup has no residual soil activity.

That's why you can go in seven days later and re-plant. And Roundup won't wash or leach from the treated area to injure desirable vegetation. Naturally, normal precautions should be observed to avoid spray drift.

© Copyright Monsanto Co. 1977. Always read and carefully follow the label directions for Roundup herbicide.
"Re-seed" in a matter of days.

It's with a turf renovation program involving Roundup® herbicide by Monsanto. Roundup will control many annual and perennial grasses and broadleaf weeds. Yet, as soon as seven days after treatment (to allow time for translocation), you can proceed with your tillage and planting operations.

Roundup. The herbicide that gets to the root of the problem.

To learn about a turf renovation program suited to your needs, write: "Turf Renovation," Monsanto Agricultural Products Company, C3NF, 800 North Lindbergh Boulevard, St. Louis, Mo. 63166.

Roundup controls many emerged annual and perennial grasses and weeds. Including bluegrass, bermudagrass, quackgrass, bindweed, johnsongrass, fescues, and vaseygrass.

There's never been a herbicide like this before.

Circle 118 on free information card

Monsanto
INSECTICIDES

AC 18682
American Cyanamid Co.

Agritol
Merck & Co., Inc.

Akton
Shell Chemical Co.

Abolinum
ICI Plant Protection Div.

Aspon
Stauffer Chemical Co.

Azide
PPG Industries Inc.

Azodrin
Ciba-Geigy Limited (Switzerland)
Makhteshim-Agan

Quimica Estrella
Shell Chemical Co.

Shell Internationao Chemical Co.

Baam
The Boots Co. Ltd.
TUCO Div. of The Upjohn Co.

Bacillus Thuringiensis
Abbott Laboratories, Agricultural and Veterinary Products Div.

Merck & Co., Inc.

Nutritile Products, Inc.

Rhoe-Pouleuc
Sandoz, Inc.

Basamid
BASF AG

Baygon
Bayer AG

Chemagro Agricultural Div.,

Mobay Chemical Corp.

Biotrol
Nutritile Products, Inc.

Brom-O-Sol
Great Lakes Chemical Corp.

C1414
Ciba-Geigy Ltd.

Calcium Arsenate
Agricola Chemicals Ltd.

Commercial Chemical Co.

Los Angeles Chemical Co.

Woolfolk Chemical Works, Ltd.

Carbaryl
BASF Aktiengesellschaft
Makhteshim-Agan

Union Carbide Corp.

Chip-Cal
Rhodia, Inc.

Chloromethos
Murphy Chemical Ltd.

Cotton-Methyl
Makhteshim-Agan

Crag Fungicide 974
Union Carbide Corp.

Crag Nemacine
Union Carbide Corp.

Crysthion 2L
Crystal Chemical Co.

Dazomet
BASF Aktiengesellschaft
Stauffer Chemical Co.

De-Fend
Thompson-Hayward Chemical Co.

Demes L40
Montedison

Diazinon
Ciba-Geigy Corp., Agricultural Div.

Diazol
Makhteshim-Agan

Didigam S
Societe pour la Protection de l'agriculture (SOPRA)

Dimethoate
American Cyanamid Co.

BASF Aktiengesellschaft

BASF Wyandotte Corp.

Bayer AG

Celamerck GmbH & Co., KG

Cheminova

I.Pi. Cl.S.p.A.

Montedison S.p.A.

Rallis India Limited

Sumitomo Chemical Co., Ltd.

Crystal Chemical Co.

Crystal Chemical de Costa Rica

Crystal Chemica Interamerica

Dimilin
Philips-Duphor B.V.

Thompson-Hayward Chemical Co.

Dimple
Sherwin Williams Co.

Dipel
Abbott Laboratories, Agricultural and Veterinary Products Div.

Endosulfan
FMC Corp., Agricultural Chemical Div

Hoechst AG

Makhteshim-Agan

Velsicol Chemical Corp.

Eradex
Bayer AG

Fac-Super
Societe pour le Protection de l'agriculture (SOPRA)

Folidol E605
Bayer AG

Fosferno 50
ICI Plant Protection Division

Gardona
Shell International Chemical Co.

Gusathion M
Bayer AG

Guthion
Bayer AG

Chemagro Agricultural Div.,

Mobay Chemical Corp.

Makhteshim-Agan

Velsicol Chemical Corp.

Hostaquick
Hoechst AG

Keltthane
I.Pi. Cl. S.p. A.

Makhteshim-Agan

Rohm and Haas Co.

Komeen
Sandoz Inc.

Lannate
E. I. duPont de Nemours & Co.

Silvex
The Dow Chemical Co.

A. H. Marks & Co., Ltd.

Mirfield Agricultural Chemical Ltd.,

Agrochemical Div.

Nissan Chemical Industries, Ltd.

Thompson-Hayware Chemical Co.

Transvaal, Inc.

Willow Creek Co.

Simanex
Makhteshim-Agan

Sodium Cacodylate
The Ansell Co.

Vineland Chemical Co.

Surflan
Elanco Products Co., Div.

of Eli Lilly & Co.

Tandex
FMC Corp, Agricultural Chemical Div.

Tetralex-Plus
Shell Chemicals — U.K. Ltd.

THIT
Thompson-Hayward Chemical Corp.

Tordon
The Dow Chemical Co.

Trex-San-Bent
Mallinkrodt, Inc.

Trichlorobenzoic Acid
E. I. duPont de Nemours & Co.

Tenneco Chemical Inc., Organics & Polymers Div.

Trimex
PBI-Gordon Corp.

Trysken
E. I. duPont de Nemours & Co.

U-46
BASF Aktiengesellschaft

UC 22463
Union Carbide Corp.

Ureabor
Occidental Chemical Co.

Ureabor 8D
Occidental Chemical Co.

Vegevate 1
Stull Chemical Co.

Vegadex
Monsanto Agricultural Products Co.

Vi-Par
Vineland Chemical Co.

Vonduron
Vondelingenplaat

Weedazol
Achem Products Inc.

Weedazol-T
Makhteshim-Agan

Weed-B-Gon
Chevron Chemical Co.

Weed-Broom
Rhodia Inc., Agricultural Div.

Weed-E-Rad
Vineland Chemical Co.

Weedmaster
Velsicol Chemical Co.

Weedtrine D
Applied Biochemists Inc.
Double-edged knives staggered around the large 16-in. diameter solid steel rotor provide smooth, efficient cutting without an external flywheel. Easily accessible.

Telescoping discharge chute rotates to give maximum flexibility to fill dump boxes. An adjustable bonnet at end of the chute controls direction of discharge.

Feed chute folds to enclose the cutter chamber during storage or transportation. It is side hinged so it may be swung away for easy access to cutter chamber.

More than 120 years of manufacturing experience goes into every Mitts & Merrill Brush Chipper

For 30 years Mitts & Merrill Brush Chippers have been considered the standard of the industry by many buyers. That's because, over 120 years of engineering and manufacturing experience goes into each unit. This reputation for excellence has won for our Brush Chippers international recognition . . . has helped us maintain and build our market position.

And, over the years, we have modified and improved our chippers. Some of our design features and available options are given below.

For further information on the various models of M&M Brush Chippers, write: Mitts & Merrill, Inc., 109 McCoskry, Saginaw, MI 48601 or Phone 517-752-6191.

Other standard features . . .

- Safety-lock pin helps prevent the accidental throw-out of knives not properly tightened.
- All steel rotor made in segments from steel plate and supported by ball bearings.
- Double-edged knives provide twice the cutting time between sharpenings.
- Easy loading is provided by the wide-angle feed chute which is free of obstructions.
- Tubular steel frame and torsion spring axle assure excellent roadability . . . rigidly.
- Integral rotor blower forces chips through discharge chute.

Optional features . . .

"Sound Conditioning"* to reduce noise level • Torque converter reduces shock loads on engine • Engine tachometer to determine optimum rpm • Engine hour meter for positive maintenance schedules • Electric wheel brakes for towing at highway speeds • Flasher warning lights for increased visibility • Engine side panels • Fuel gauge • Ignition cut-off switch from feed chute • Solinoid idle control at feed chute

*© Copyright Mitts & Merrill, Inc. 1976
All rights reserved.

©Copyright Mitts & Merrill, Inc. 1976
All rights reserved.
Metasystox-R
Bayer AG
Chemagro Agricultural Div.,
Mobay Chemical Corp.

Methomyl
E. I. duPont de Nemours & Co., Inc.
Biochemicals Dept.
Shell Chemical Co.

Methoxychlor
Chemical Formulators, Inc.
E. I. duPont de Nemours & Co., Inc.
Biochemicals Dept.
Prentiss Drug & Chemical Co.
Willow Creek Co.

Metoate
Miller Chemical & Fertilizer Corp.

MobilLawn
Mobil Chemical Co., Phosphorus Div.

Mocap
Mobil Chemical Co., Phosphorus Div.

Monocron
Makhteshim-Agan

Nemacur
Bayer AG
Chemagro Agricultural Div.,
Mobay Chemical Corp.

Nexion
Celamerck GmbH & Co. KG
NIA 5488
FMC Corp.

Niran
Monsanto Agricultural Products Co.

Nudrin
Shell Chemical Co.

Nuvacron
Ciba-Geigy Ltd.

Oxamyl
E. I. duPont de Nemours & Co.

Parathion
Bayer AG
Cheminova
Monsanto Agricultural Products Co.

Pencal
Pennwalt Corp.

Perfekthion
BASF AG

PH 60-40
Philips-Duphor B.V.

Premicid
ICI Plant Protection Division

Rebelate
BASF Aktiengesellschaft

SD 9129
Shell Chemical Co.

Systox
Bayer AG
Chemagro Agricultural Div.,
Mobay Chemical Corp.

Tedion V-18
Philips-Duphar B.V.

Thiodan
Hoechst AG

Thionax
Makhteshim-Agan

Thippbos
American Cyanamid Co.

Thuricideq
Sandoz, Inc.

Timpate
3MCo.

Tiovel
Velsicol Chemical Corp.

Triabactur
Vondelingenplaats

U36059
TUCO, Div. of the Upjohn Co.

Unden
Bayer AG

Vendex
Shell Chemical Co.

Shell International Chemical Co.

GROWTH RETARDANTS

De-Cut
Fairmount Chemical Co., Inc.

Maintain CF 125
Celamerck Gmb H & Co. KG
United States Borax & Chemical Corp.

Maleic Hydrazide
The Anslul Co.

Burts & Harvey Ltd.

Chemical Formulators, Inc.

Fairmount Chemical Co., Inc.

Nihon Nohyaku Co., Ltd.

Uniroyal Chemical, Uniroyal, Inc.

Pro-San
Mallinckrodt, Inc.

Regulox
Burts & Harvey Ltd.

GROWTH REGULATORS

EMBARK
3M Co.

Krenite Brush Control Agent
E. I. duPont de Nemours & Co., Inc.

Biochemicals Dept.

Phosfon
Mobil Chemical Co.,
Phosphorus Div.

MISCELLANEOUS

Adsee, (Series of Adjuvants)
Witco Chemical Corp., Inorganic Specialties Div.

Enstar, (Insect Growth Regulator)
Zoecon Corp.

Exhalt 4-10 (Anti-Transpirant)
Kali-Fries Chemical Inc.,
Crop Protection Div.

Exhalt 800, (Sticker-Extender)
Kali-Fries Chemical Inc.,
Crop Protection Div.

Fomex, (Spray Adjuvants)
Kali Laboratories, Inc.

Hydro-Wet, (Wetting Agent)
Kali Laboratories, Inc.

K-Lox, (Algicide)
Sandoz, Inc.

Off-Shoot-O, (Induces Branching)
Proctor and Gamble Co.

Terr-O-Gel, (Soil Fumigant)
Great Lakes Chemical Co.
"They cut down a lot on labor costs."
Tony Kimball, Superintendent, Deerwood Country Club, Jacksonville, Florida

"We put Jobe’s Spikes out in no time at all. We bought the first cases on an experimental basis, and we’re really pleased with them. We'll continue with the Spikes. "We can afford to feed a lot more trees now because we can do it in a lot less time."

It makes dollars and sense to feed trees with Jobe’s.

You can expand your tree feeding business and take better care of the trees you're now responsible for with Jobe’s® Tree and Shrub Spikes. A 5' tree needs 5 Spikes, and it takes just about 5 minutes to get the job done. How long would it take to feed that 5" tree by drilling? About 30 minutes? With the cost of labor these days, you can see it makes dollars and sense to feed trees with Jobe’s.

5" trunk diameter, 5 Spikes.
"We use one for each inch of diameter. Figuring, say, a 5" tree, that's $1.50 a tree. If we weren't using Jobe's Spikes, we would probably be using a slow-release, high-nitrogen fertilizer. Compared to that, the cost is drastically cut by using Jobe’s Spikes."

Now Jobe's offers Evergreen and Fruit Tree Spikes, too.
You can meet most feeding situations with Jobe’s Tree and Shrub Spikes 16-8-8, Evergreen Spikes 12-6-8 or Fruit Tree Spikes 5-15-15.

They're as effective as drilled fertilizer because rainwater carries the fertilizer down to the root zone. (University leaching studies have proved it.) Jobe's Spikes are better than surface-applied fertilizer because there's no danger of burning turf or excessive leaching.

In every type of climate and every kind of soil from sand to heavy clay, Jobe’s Spikes have proved their effectiveness.

A hammer is all the equipment you need.
Jobe’s Spikes use a patented binder so the fertilizer forms easy-to-drive spikes. A plastic cap is included to make driving the Spikes easier and to protect the Spike while you drive it.

You can forget about moving bulky drills from job to job. Forget equipment breakage... maintenance bills... costly replacements.

"You don’t have to worry about anybody going out there and messing up."
"You can’t mess up with Jobe’s Spikes. Until now we fertilized trees by drilling or by spreading fertilizer on the surface. With Jobe’s you don’t have to worry about burning. You don’t have to worry about the bag splitting.

"Very handy and easy to install around trees. They cut down a lot on labor costs."
Tony Kimball is saving time and making money with Jobe’s.

How about you?
Jobe’s Evergreen Spikes 12-6-8 and Fruit Tree Spikes 5-15-15 are now available in bulk. They can be combined for shipping with Tree and Shrub Spikes.

Call your local Jobe’s distributor or order direct. $30 per case (105 Spikes) prepaid, 5 case minimum. 15 or more cases, $25 per case. 36 or more cases, $22.50 per case.

Jobe’s
TREE & SHRUB SPIKES
The easy method for professional tree care.
International Spike, Inc., 462 East High St. Lexington, Kentucky 40508.

Circle 147 on free information card
John Deere Loaders...

Everything you need to get a move on

If your job requires hustle and versatility, you can look to John Deere Loaders for fast, efficient work. You have a choice of detachable or integral loaders in 43-, 50-, or 62-net-hp sizes.

For clean conversion to utility tractor configuration, even the hydraulic controls and hoses come off with the 2500-pound-capacity detachable loader. The loader unbolts easily from two mounting plates.

Integral loaders with 3/4- or 1-cubic yard buckets have a standard hydraulic direction reverser for faster cycling.

Ask your John Deere dealer about other loader features such as wet-disk brakes, efficient 3-point hitch system, power steering, and more. He's listed in the Yellow Pages. John Deere, Moline, Illinois 61265.

JOHN DEERE on the move

Single-lever control on integral loaders helps make handling easier.
ASPA convention draws record crowd

A record 425 people viewed over 40 exhibits and demonstrations at the American Sod Producer Association’s 11th annual summer convention and field day in July. Guests from Australia, England and Sweden and a group from the Nursery Sod Growers Association of Ontario attended.

Booth exhibits were educational, as many suppliers to the sod industry were there to answer specific questions about their lines.

Several types of irrigation equipment and sprayers were demonstrated at the Green-Glo Turf Farms Thursday afternoon. At the Glenn Rehbein maintenance shop many innovative features, including a mini-computer for farm/sod operations, were demonstrated and discussed.

New officers and board members were introduced. Glenn Rehbein, Glenn Rehbein Farms, is now the president of ASPA. E. John Hope, Manderley Turf Farms, took over as vice president, replacing Charles Lain of Pine Island Turf Nursery who has been appointed to fill an unexpired term on the board of directors, created by the resignation of Rober Hummer. Paul Unruh, Unruh’s Turf Farm, is now secretary and Chris Beasley, Tuckahoe Turf Farms, is the new treasurer.


Friday was spent at Harley’s Sod Farm watching demonstrations of actual sod farm operations, including mowing, harvest, loading, and the equipment involved.
Meeting Dates


Lawn & Garden Distributors Association Annual Convention, Hershey Motor Lodge and Convention Center, Hershey, Penn., Sept. 13-17.


Northwest Turfgrass Conference, Salishan Lodge, Gleneden Beach, Ore., Oct. 5-6.

ALCA Management Information Systems Executive Management Seminar, Sheraton Airport Hotel, Atlanta, Ga., Oct. 6-7.

Florida Nursery and Allied Trades Show, Curtis Hixon Convention Center, Tampa, Fla., Oct. 7-9.


Continued on page 32

TOUGH RUGGED HARDWARE for TOUGH RUGGED HARDWOOD

Durability in hardware and confidence in tested products are top priorities for you and the linemen you equip.

Safety Test, Inc., manufacturers and distributors of tree trimming and lineman’s equipment, has the tools and accessories that your men have confidence in... safety tested products of proven durability. Tough tools! Sturdy, practical accessories! Everything they need for a good job done fast. In anybody’s book, that saves money!

WRITE OR CALL SAFETY TEST FOR YOUR FREE CATALOGUE.

SAFETY TEST, INC.

Manufacturers of Tree Trimming and Lineman’s Equipment Drawer 400, Shelby, N.C. 28150 704/432-7346
Controls weeds and controls costs for economical turf maintenance

PROVEL® herbicide is a new formulation of dicamba, +2,4D, proven effective against broadleaf weed pests like dandelions and plantain, plus more than two dozen other tough ones, including chickweed, knotweed, clover and English daisy (see label for complete listing). Cost savings are dramatic: you can provide broadleaf weed control for an average home lawn with less than 16¢ worth PROVEL® herbicide per 1,000 sq. ft. per application.

PROVEL® herbicide is packaged 6x1 gal. per case, 2x2½ gal. per case and 30 gal. drums.

Contact your Velsicol turf distributor or send coupon for product data and specimen label to Velsicol Chemical Corporation, 341 East Ohio Street, Chicago, IL 60611.

Before using any pesticide, read the label.
As a professional golfer I can say that I have never putted on any perennial ryegrass surface as smooth and more true than that of Dixie Green®. Jack Treece, Superintendent Onion Creek Country Club, Austin, Texas.

"Dixie Green® has given me a uniform, dense putting surface that has putted consistently true. The color has been outstanding... even though the temperature in January dropped to 11 degrees F. Bent greens went off color... but Dixie Green® came through like a champ." Ed O'Donnell, Superintendent Brook Valley Golf & Country Club, Greenville, North Carolina.

Dixie Green® overseeding mixture is a premier mix of Highlight Chewings-type red fescue which was judged World Champion at the 45th Annual Royal Agricultural Show in Toronto, and Derby turf-type perennial ryegrass. This fine mix has proven a winner for winter-seeding of greens, tees and aprons all over the South.

Dixie Green®—a great mixture for you and your members.

INTERNATIONAL SEEDS, INC.
Dept. D • P.O. Box 168 • Halsey, Oregon 97348
Telephone: A/C 503 369-2251 TWX 510/590-0765

Circle 123 on free information card

Only way to total lawn weed control!

Super D WEEDONE® applied by METER-MISER®

Dealers and Contractors. Need a METER-MISER? Contact your Distributor or Amchem.

AMCHEM PRODUCTS, INC. Ambler, Pennsylvania 19002

Circle 141 on free information card

Meeting Dates

Continued from page 30


Professional Grounds Management Society Annual Conference, Stouffer's Hotel, Greenway Plaza, Houston, Tex., Oct. 30-Nov. 3.

Texas Recreation and Park Society Annual State Conference, La Quinta Royale, Corpus Christi, Tex., Nov. 2-5.

ALCA Maintenance Symposium, Northlake Hilton Inn, Atlanta, Ga. Nov. 3-4.

Landscape Maintenance Contractors Symposium, Northlake Hilton Inn, Atlanta, Ga., Nov. 3-4.


Please correct your mailing label

For FASTEST service attach old mailing label in space below.

If mailing label is not available, print your old company name and address in this box Please allow 6 weeks for change to take effect.

Print your correct name, title, business address, and/or other corrections.

NAME ____________________________
TITLE ____________________________
COMPANY ____________________________
ADDRESS ____________________________
CITY _______ STATE _______ ZIP _______

CHECK HERE □ if you want to continue receiving WEEDS TREES & TURF Magazine.

IMPORTANT: You must sign below.

Signature _______________ Date _______________

Mail to: Circulation Manager
WEEDS, TREES & TURF
9800 Detroit Avenue
Cleveland, Ohio 44102

Circle 123 on free information card
Good things come in small packages.

Whether you purchase seedlings for permanent planting or prefer to grow your own stock for later transplanting, you'll be impressed with our wide variety of fir, pine and spruce seedlings. Northern-grown for hardiness, they've all been personally cared for by the owner to assure that you receive only the very best.

As a businessman, you'll appreciate our dependability almost as much as our reasonable prices.

Write, wire or call us today for complete details and pricing.

CANALE'S NURSERY
Department 08-09
Shelocat (Indiana County), Pennsylvania 15774
412/354-2801
Continued from page 32

**Meeting Dates**

ALCA Maintenance Contractors Symposium, Northlake Hilton Inn, Atlanta, Ga., Nov. 3-4.

Landscape Maintenance Contractors Symposium, Northlake Hilton Inn, Atlanta, Ga., Nov. 3-4.


Ohio Turfgrass Conference and Show, Dayton, Ohio, Dec. 6-8.

ALCA Design/Build Symposium, Sheraton-Dallas Hotel, Dallas, Tex., Dec. 7-8.

TURF GRASS '78, Maryland Turf Grass Council, Sheraton Lanham Inn, Lanham, Md., Jan. 8-12.

ALCA Annual Meeting and Trade Exhibit, Hyatt House, Orlando, Fla., Jan. 30-Feb. 3.

American Sod Producers Association Winter Conference, El San Juan Hotel, San Juan, Puerto Rico, Feb. 2-28.


Wisconsin Landscape Federation 1978 Conference, Concourse Hotel, Madison, Wis., Mar. 5-6.

Association of Physical Plant Administrators of Universities and Colleges Convention, Radisson Hotel, Minneapolis, Minn., May 21-24.

---

**Mowers built on an American tradition: Quality**

Heckendorn industrial mowers may be an endangered species. It's hard to find machines that are built to last, to work hard, that are economical to run and repair, but Heckendorn mowers are built to those specifications.

Heckendorn mowers are built by craftsmen. Our people take pride in a name that's been around a long time and they want you to be impressed with the durability, maneuverability and the lasting cutting power of a Heckendorn mower.

There are 9 Heckendorn riding mowers designed to do the best job for you using standard parts for easy replacement. Heavy-duty construction includes a 3/16" steel deck. Full one year factory warranty.

For color literature and the dealer nearest you, please write:

HECKENDORN MANUFACTURING CO. INC.
CEDAR POINT, KANSAS 66932  316-274-3501

Industrial Mowers GSA No. GS-07S-01401

Circle 109 on free information card
Pre-mixing stops fall-out

Incompatibility of pesticides in a spray tank is a messy thing. Incompatibility can be manifested as 1) a semi-solid or jelly substance, 2) precipitates as a gummy sediment, or 3) incomplete dispersal of the pesticides.

Pre-mixing the pesticide proposed mixture in jars in appropriate use proportion is one method to determine if incompatibility might occur.

In addition to pre-mixing in jars, incompatibility can be minimized if the following procedure is used when mixing pesticides:

1. It is best to pre-mix the pesticides in small containers.
2. Make a slurry of wettable powders.
3. Pour the slurry into a nearly filled spray tank while agitating. If a pesticide is a water dispersible liquid (WDL), add WDL directly to the water in the spray tank.
4. Next add the liquid formulations while still agitating.
5. Lastly add any surfactant. This minimizes foaming.
6. Maintain moderate agitating to provide uniform mix during application.
7. Do not allow the agitation to stop (as for lunch) especially if wettable powders are used as these settle out of suspension and cannot be easily re-suspended.

Great Lakes Biochemical co., inc.
6120 West Douglas Avenue, Milwaukee, WI 53218

Use LIQUID ALGIMYCIN PLL-C for quick control of filamentous and other kinds of floating algae.

Use SLOW RELEASE ALGIMYCIN PLL-C PELLETS to control branched or attached algae — especially Chara and Nitella.

We also manufacture chemicals for swimming pools . . . to prevent algae, rust, and corrosion, to retard water evaporation and to clean metal, ceramic and fiberglass surfaces.

"Business must ensure the well-being of educational institutions upon which its own vitality depends."

It is interesting to conjecture where business would be today without our system of higher education. It provides the trained graduates, enlightened citizens, basic research, innovation and vigorous, free inquiry without which our business enterprises would inevitably languish.

But the ability of higher education to provide this leadership to business depends more and more on the amount and quality of financial support from business. Many colleges are in deep financial trouble. They’re dropping courses, firing professors, closing laboratories. They desperately need your help. They depend on corporate giving.

There are many ways your company can contribute to higher education. To find out how, write on your letterhead to Council for Financial Aid to Education, Inc., 680 Fifth Ave., New York, N.Y. 10019.

Make America smarter. Give to the college of your choice.

"If you’re really minding your own business, you’re giving more to higher education."
Sex life of fire ant may be one key to eventual control

A Texas scientist has discovered an oddity in the sex life of the fire ant that may be the very weakness needed for control of this fast-spreading pest.

Dr. Akey C. F. Hung, entomologist with the Texas Agricultural Experiment Station has found some naturally occurring sterile male fire ants. “These sterile males are associated with colonies which contain a large number of queens,” he says.

“This in itself is unusual since most colonies of fire ants have only one queen, which may live for years. “If we can identify the cause of this naturally-occurring male sterility, the production of sterile males could then be encouraged in natural populations, or they could be artificially produced for release. “Sterile males would be of real help in reducing reinestation of treated areas or halting the spread of the imported fire ant. A mature fire ant colony can release as many as 700 queens during mating flights, and a queen can fly as far as ten miles.

“After mating, the queen will in turn establish her own colony and produce more queens in a year or so. Since the queen only mates with one male, if that male was sterile, her eggs would be infertile and fail to hatch, thus she cannot establish a new colony,” Hung says. This potential control method is of major significance because of 1) growing concern about the development of resistance to insecticides in pest species, and 2) pollution of the environment with persistent toxic chemicals.

Sterile males of the red imported fire ant were first discovered by Hung in 1974 in three counties in East Texas. Since then he has sought the cause and its potential in fire ant control.

Like honeybee drones, normal male fire ants have only one set of chromosomes. However, Hung finds sterile males have two sets of chromosomes as do normal queen and worker ants.

His research has been complicated by the fact that the queen and male fire ants only mate in the air at an altitude of 200 to 500 feet.

By using a genetic marker, Hung has determined that queens of the red imported fire ant mate with only one male.

Since fire ant queens and males won’t mate in captivity, Hung has developed an artificial insemination technique for fire ants. He has used this method and other biochemical techniques to verify one case of natural crosses between the southern fire ant and the tropical fire ant.

This research is aimed at developing genetic control methods in the near future to supplement the large-scale insecticide-based control programs already in operation.

Hung is a member of an Experiment Station team, working on fire ant control, directed by Dr. Bradley Vinson. This group is working on a broad variety of different control methods that include 1) research to discover chemicals that won’t pollute the environment but will kill fire ants, 2) juvenile hormones to prevent normal development of young ants, 3) pheromones which are the chemical “smells” used for communication by insects, 4) attractants, which will help ants locate baits and increase usage and 5) environment which discourages or prohibits the spread of these ants.

Vinson stresses the importance of developing alternative methods of control since so many of the chemicals previously used are now unavailable.
Apply New ARBOR-GREEN once...
Feed your trees and shrubs for 2 full years.

Complete coupon and mail to: ARBOR-GREEN, Davey Tree Expert Company
117 South Water Street, Kent, Ohio 44240

☐ Call me about ARBOR-GREEN. My Phone: ____________________________

☐ SEND FREE SAMPLE and information kit.

Name ____________________________ Title ____________________________

Business Address ____________________________

City __________ State __________ Zip __________

SAVE TWO WAYS: (1) You realize 50% to 75% time saving over drill-hole method when you quickly inject Davey’s ARBOR-GREEN by hydraulic probe using standard spray equipment. (2) Fertilize less often, effective two-year residual provides efficient nitrogen throughout the growing seasons. And, you apply any time the ground is not frozen.

TRY A SAMPLE, FREE. Send coupon and get full details for direct purchase including introductory discount offers. For faster action, check your Yellow Pages for local Davey Representative or call ARBOR-GREEN, Davey Tree Expert Company at 216-673-9511.

Now! The first complete, organic tree food for fast liquid application with 2-year residual. From the pros in tree care — DAVEY.

ARBOR-GREEN® is so different it’s patented. Yet it costs no more to use... lasts lots longer. You apply it yourself... quickly, easily.

A complete 30-10-7 formulation of ureaform (NITROFORM®) and mono-potassium phosphate, ARBOR-GREEN is a fine powder that forms a suspension, not a solution, when mixed with water. It is a slow-release fertilizer with the lowest “burn potential” and lowest soluble “salt index” of any commercially available complete fertilizer.

* Registered trademark of Hercules, Incorporated.
ARS Beltsville news

These experiments are ongoing and results may change with time.

Bio-dethatch

Bio-dethatch was applied on June 11, 1975 at the rate of one lb/M to one-half of 10 x 10 ft. plots of seven Kentucky bluegrass cultivars, most of which had excessive thatch layers. Plots were not irrigated and no rain occurred for 15 days following the application. Thatch measurements were taken in November. There was no significant difference in thatch accumulation between the treated and untreated plots.

Treatments were repeated on May 6, 1976, and the plots were irrigated immediately following application. Thatch measurements were taken again in November of 1976. Bio-dethatch was not effective in reducing the thatch layer.

Tall fescue

An experiment to determine the effects of fertility levels, cultivation, and clipping removal on quality and thatch accumulation of tall fescue turf was initiated on October 13, 1974, on established tall fescue under turf management for several years. Turf quality was increased significantly by leaving clippings on plots. Aerification increased turf quality while verticutting decreased it when compared with no cultivation treatment. The greatest increase in turf quality from aerification was obtained where clippings were not removed and 10-10-10 was supplied at the rate of 1 lb N/M each year.

High quality turf was produced with three yearly applications of 10-10-10 at 5 lb/M where clippings were not removed and plots were aerified. This combination of treatments resulted in turf quality as good as three applications of 15 lb/M with clippings removed and not aerified. There has been no accumulation of thatch during the experiment.

Pennlawn red fescue

Performance of Pennlawn red fescue turf as affected by irrigation, mowing height, and nitrogen fertilization was studied beginning in the spring of 1975. All possible combinations of three rates of N (1/2, 1, and 1 1/2 lb N/M) applied in spring and fall and three mowing heights (1, 2 and 3 inches) were used. Four applications of the treatments were irrigated to promote summer growth.

Any beneficial effects from irrigation in preventing summer dormancy were offset by increased disease damage in 1975. Summer stress was not as severe in 1976 and three irrigations in July and August improved turf quality. However, the highest quality turf during spring and fall was on plots that were not irrigated. This is probably due to the greater use of nitrogen during the summer months on irrigated plots. On irrigated plots the 2-inch mowing height and 1 1/2 lb N/M were the best treatments. The 3-inch mowing height and one lb N/M treatments were best on plots not irrigated.
This is the machine that revolutionized the turf industry ... the machine that seeds or sprigs, fertilizes, waters, sprays, and mulches in one easy operation ... the Bowie Hydro-Mulcher. Its performance and reliability are unequaled. Its capabilities have created a whole new industry of lawn and turf, ground cover and erosion specialists. The Bowie Hydro-Mulcher is the daddy of them all ... the green machine.

EXCLUSIVE BOWIE HYDRO-MULCHER FEATURES:

- Only proven unit for both sprigging and seeding with cellulose fiber mulches.
- Can mulch, fertilize and seed or sprig half an acre in eight minutes.
- Has enclosed shredder bar for shredding full bales of cellulose fibers.
- Has centralized tower control with no hoses.
- Has triple agitators for faster mixing and eliminating sediment build-up.
- Uses pump only for spraying, so pump lasts longer.
- Slurry passes through pump only once, thus reducing seed damage and clogging.
- Has spray mist and other accessory nozzles for such uses as insect control, tree spraying and fire fighting.
- Six models — from 350 to 3,000 gallon capacity.

CALL OR WRITE FOR COMPLETE DETAILS:

HYDRO

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

The Rutgers Turfgrass Research Day, August 4, gave turf people the chance to view firsthand the research plots near New Brunswick, N.J., and results as they appear to date. Observations like these are very valuable because they give a visual impression that words sometimes do not create.

The current results of many extensive research projects were viewed. Dr. C. Reed Funk discussed Kentucky bluegrass plots. His work in turfgrass breeding is widely acclaimed. Bill Dixon, senior soils and plant technician, pointed out the possibilities Poa trivialis has in adapting to some turfgrass situations. Dr. R.W. Duell, who is doing with roadside turf species. Shadehouses, donated by the New Jersey Turfgrass Foundation, host of the field day, provide a unique method for analyzing the effect of varying degrees of shade on cultivars and species of fine turfgrasses. One house gives approximately an 80-82% light reduction while the other gives 97-98% reduction. The plots are also duplicated again under natural shade. Graduate assistant Steve Cosky explained his research underneath the roots.

Fertilizer treatments and responses, preemergent crabgrass controls, breeding and strain improvement plots, and disease control experiments were presented as they have developed under the guidance of scientists at Rutgers. Dr. H. W. Indyk, Extension Specialist in Turfgrass Management, got the field day off to a fast start and kept the groups moving to see many experiments.
Weeds Trees & Turf  FREE INFORMATION

Want free information on products and services advertised and featured in this issue? Use this card. Circle the numbers on which you want information and mail today.

Do you want to receive Weeds Trees & Turf?  □ YES  □ NO

Are you interested in receiving or continuing to receive WEEDS TREES & TURF? If you are, complete all the information on this card and mail today.

Please check the one item which best describes your primary type of business:

1. Rights-of-Way Maintenance
   a. Highway
   b. Utility
   c. Railroad
2. Chemical Applications (vegetation and structural)
   a. Commercial/Industrial ground applicators
   b. Aerial Applicators
3. Extension Services; Forestry; Federal and State Regulatory Agencies
4. Parks and Grounds Maintenance — Federal, State, Municipal (does not include Forestry)
5. Golf Courses
6. Cemeteries
7. Industrial Parks
8. Shopping Centers
9. Hospitals, Nursing Homes, Schools, Colleges and Universities (Grounds maintenance personnel only)
10. Athletic Fields
11. Race Tracks
12. □ Airports
13. □ Military Installations
14. □ Grounds or Landscape personnel in businesses not specified above.
15. □ Mine Field Reclamation
16. □ Chemical lawn care companies
17. □ Landscape contractors
18. □ Landscape architects
19. □ Sod Growers
20. □ Seed Growers
21. □ Tree Service Companies/Arborists
22. □ Wholesale nurseries/Tree Farms
23. □ Irrigation and Water Drilling Contractors/Consultants
24. □ Chemical Dealers/Distributors
25. □ Equipment Dealers/Distributors
26. □ Other (Specify)
First Class Permit
No. 665
Duluth, Minn.

BUSINESS REPLY MAIL
No Postage Stamp Necessary if Mailed in United States

Postage will be paid by

Weeds Trees & Turf
Box 6049
Duluth, Minnesota 55806
Above, Dr. R. W. Engel discusses bluegrass fertilization plots. Below, Dr. P. M. Halisky explains disease control on bentgrass.

Above, shadehouses allow experiments under controlled shade. Below, C. W. Bussey evaluates preemergent crabgrass controls.

We demonstrate. You calculate.

The Diggin’ Dutchman is giving away free calculators* ... just for the opportunity to demonstrate his labor-saving Vermeer Tree Spades. Frankly, it’s a good deal for both of us. It gives you a chance to compare Vermeer with older, costlier transplanting and tree-balling methods ... and it lets Vermeer demonstrate any one of seven all-hydraulic Tree Spades that dig, ball, transport and transplant any tree up to 6” in diameter — in minutes. It’s a proven, patented labor-saver, used by nurseries, landscapers, tree farms, developers, municipalities, golf courses and parks everywhere.

Interested? Ask your Vermeer dealer for a demonstration on Vermeer Tree Spades, Stump Cutters, Log Splitters, Trenchers or any Vermeer equipment. He’ll be happy to show you the machine best-suited for your operation ... and give you a free calculator to help you formulate your own answers.

Find out why Vermeer Tree Spades transplant more trees and bushes than all other machines combined. Write —

Vermeer

6109 NEW SHARON RD • PELLA, IOWA 50219 • (515) 628-3141

*Offer limited to one free calculator per customer upon completion of demonstration on customer property or job site. Offer expires at discretion of Vermeer Manufacturing Company.
Reely rugged!... and economical!

Since 1919 National has built completely functional, easily maintainable reel mowers. We skimp on styling in order to lower initial cost. National mowers are ruggedly built for extra years of service.

NATIONAL REEL MOWERS FEATURE:
- Maneuverability and superb performance on banks and hillsides
- Automotive-type transmissions
- Heavy-duty, tubular steel frames
- Upturned bed bar lips for extra wear
- Power-driven, free-floating reels that follow ground contour without skip or scalp.

Power Quint:
Five powered reels cut an 11½ foot swath

84-Inch Triplex
Width of cut—7 feet.
Mows up to 5 MPH.
Transport speed—12 MPH.

68-Inch Triplex
Cuts 68" swath.
Forward and reverse speeds up to 4 MPH.

There are many businessmen who'll tell you that exporting has often helped turn a bad year good. Something that's been reflected in their annual reports. And that's something their shareholders could appreciate. One reason they've profited from overseas markets is the help they've received from the U.S. Department of Commerce — examples of which you'll find included in this brief but businesslike book. We think you'll be surprised at the programs and facilities we're ready to put at your disposal. Get started now on fleshing out those figures. Write for your free copy to The Secretary of Commerce, U.S. Department of Commerce, BIC 7B, Washington, D.C. 20230.

Circle 158 on free information card

It could make a world of difference on your bottom line.
Nurserymen meet in Seattle

The American Association of Nurserymen held its 102nd annual meeting, July 16-20, in Seattle, Washington. Headquartered in Washington, D.C., the association serves over 2,700 member nursery firms representing garden center operators, wholesale growers, landscape firms, mail order nurserymen and allied suppliers.

Avery H. Steinmetz, president of Stark Street Properties, was inducted into the AAN’s Nurserymen’s Hall of Fame, the highest honor the nursery industry may bestow. The Hall of Fame Award was conceived to recognize truly outstanding nursery businessmen whose acts and deeds in business, home, community, and country serve as a guide and challenge for all other members of the nursery industry.

The Norman Jay Colman Award, the nursery industry’s highest award for horticulture research, was presented to Dr. Haruyuki Kamemoto, renowned orchid cytologist and professor at the University of Hawaii.

The award, named after the first Secretary of Agriculture of the U.S. and a two-term president of the AAN, is granted each year to stimulate research work in the land grant universities, colleges and other research institutions.

Dr. Howard C. Brown, Dean of Agriculture and Natural Resources at Cal Poly University, received the second L. C. Chadwick Award from the AAN. The award was established last year by the Education Committee of the AAN to honor those classroom horticulture teachers who have made their mark where it counts most — among their students. Dr. L. C. Chadwick was the first recipient.

Ed Hume received the Garden Communicator’s Award. In presenting the award, immediate past president Hilscher praised Hume for his outstanding contributions towards increasing public awareness of environmental plants and landscape beautification. Hume writes regular garden columns for the “Seattle Times” and “Vancouver Columbian.” He broadcasts on Seattle’s KBIQ-FM and conducts the “Gardening with Ed Hume” show, aired on KING-TV in Seattle and KGW-TV in Portland each Sunday.

A Crimson King Maple, donated by the Julius Rosso Wholesale Nursery, Seattle, was presented as a gift to the people of Seattle for their gracious hospitality to the AAN. It was planted in a downtown park to be enjoyed by all citizens.

Itsuo Uenaka, president of Cupertino Nursery in Cupertino, California, was elected president of the AAN. He succeeds L. J. Hilscher.
**Heals wounds; prevents decay**

Cabot’s Tree Healing Paint is a carefully prepared bituminous paint for protecting live wood and preventing decay. Leading arborists and foresters have been using it for almost half a century. Here are the reasons why:

- ideal for trees, shrubbery, etc.; seals, heals wounds, cuts, broken limbs, pruning abrasions.
- stimulates growth of new bark
- apply with brush or spray; produces a black, tough, elastic, quick-drying coating.
- excludes moisture; stops rot; prevents evaporation of sap
- may be used in any season

**Samuel Cabot Inc.**
Dept. 958, One Union St.
Boston, Mass. 02108

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit Price</th>
<th>Case Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>pint</td>
<td>$1.35</td>
<td>$15.60</td>
</tr>
<tr>
<td>quart</td>
<td>$2.30</td>
<td>$27.60</td>
</tr>
<tr>
<td>Gallon</td>
<td>$7.10</td>
<td>$85.20</td>
</tr>
<tr>
<td>4 oz. Jar</td>
<td>95¢</td>
<td></td>
</tr>
</tbody>
</table>

Prices f.o.b. Boston less normal trade discounts

**Nurserymen**

*Continued from page 43*

Hilscher, Hilscher Nursery & Garden Center in Texas, who remains as current Director-at-Large. Uenaka, along with other officers, will direct the national efforts of the AAN in all areas including legislation and environmental improvement.

Ernest A. Tosovsky, Jr., vice president of Home Nursery Greenhouses, Edwardsville, Ill., was elected vice president. Tosovsky also serves as treasurer and director of Region III of the AAN.

John B. Wight, Jr., president and chairman of the board of Wight Nurseries, Cairo, Ga., has been re-elected to the board of directors. He serves as director of Region II, which represents over 50 member nursery firms in southern states.

Hugh Steavenson, president and owner of Forrest Keeling Nursery, Elsberry, Mo., was re-elected director of Region IV, representing over 350 member nursery firms.

R. Jerry Rosso, secretary and treasurer of Julius Rosso Wholesale Nursery Company, Seattle, Wash., succeeds Itsuo Uenaka as director of Region VI, representing over 350 member nursery firms. Rosso served as convention chairman for this year’s meeting.

Kent Langlinais, Kent’s Nursery, La., is director of Region VII, and Henry A. Weller is the director of Region I.

Cecil Shirar (left) receives Wholesale Nursery Landscape Award from Hubert Nicholson, president of Wholesale Nursery Growers of America. The Award is presented for outstanding efforts in landscape beautification of Shirar’s firm’s grounds.

L.J. Hilscher (right) turns over the President’s Gavel to Itsuo Uenaka.

New AAN officers: bottom l-r, Ernest A. Tosovsky, L. J. Hilscher, Itsuo Uenaka, Hugh Steavenson; top l-r, Kent Langlinais, Jerry Rosso, John Wight, Jr., and Henry Weller.
CIL Sulphur Coated Urea
The Number One Controlled Release Nitrogen Fertilizer

Efficient
- Release of nitrogen is controlled by moisture. Temperature and bacterial activity are not important factors. Excess moisture however, does not markedly speed up the release of the nitrogen.
- Soil pH does not alter pattern of release.

Effective
- Tested on grass plots under scientifically controlled conditions, CIL Sulphur Coated Urea outperformed all conventional slow release nitrogen fertilizers tested, in both the appearance and growth of grass obtained.
- CIL Sulphur Coated Urea releases nutrients as soon as it is applied and continues to do so evenly over 4 to 5 months. Result is more complete utilization of nitrogen applied, and no build up of nitrates in the soil.

Economical
- High WIN; low cost per unit of nitrogen compared to other WIN sources.
- Available in bulk or in 44 lb plastic bags.

Background photo: CIL Sulphur Coated Urea prills actual size.

1975 research plots at the University of Guelph, Canada, where Sulphur Coated Urea was tested against other nitrogen fertilizers, including two commonly recognized as slow release nitrogen fertilizers. CIL Sulphur Coated Urea treated grass in foreground.

Net contents 44 lb/20 kg

A dependable source of supply of quality products, in commercial quantities, from Canada's largest chemical company

Please send me more information about CIL Sulphur Coated Urea.

Name ........................................ Company ........................................
Address .................................................. Mail to: A. M. (Gus) Peesker, Marketing Manager
City ........................................ Zip ........................................
State ........................................

Professional Turf Products
Canadian Industries Limited
P.O. Box 5201 London, Ontario, Canada N6A 4L6 Telephone: (519) 672-9220

Canadian Industries Limited
Desert saltbush species released

"Corto" Australian saltbush, Atriplex semibaccata, R.Br., has been released by the USDA and the Arizona Agricultural Experiment Station, for use as a ground cover for erosion control and beautification of highway rights-of-way, construction sites, and similar disturbed areas in the desert Southwest.

Australian saltbush is semiherbaceous plant that was introduced into California in the 1880's and various ecotypes have become naturalized in southern California, Arizona and New Mexico since.

"Corto" is a semiprostrate perennial plant, eight to 10 inches tall and spreads to a diameter of six feet. Stems become somewhat woody, but the plant is primarily herbaceous. Leaves are numerous and grey-green in color. The flowers are monocious and inconspicuous. Male florets are located on the end of the stems. Female florets are located in the upper leaf axils. Fruits are fleshy and turn red at maturity. The fruit is subtended by two fruiting bracts that turn red with fruit maturity and exhibit fall colors from October through December.

"Corto" plants provide good cover with an annual precipitation of 10 to 12 inches. Hardiness limits have been established at about 3,500 feet in elevation. Older plants at Tucson, Ariz. are killed back to the crown by temperatures below 25°F. Young plants have withstood 17°F. temperatures at Tucson and recovered in the spring. It is probable that plants would be permanently damaged at temperatures less than 10°F. Plants are shortlived, but stands are reestablished from seed.

"Corto" is best adapted to light and medium textured soils. It is well adapted to saline-alkali sites. Tests conducted on mine tailings, overburden, and mixed tailings-overburden showed good plant vigor with pH readings of 7.8 to 8.2 and total soluble salts of 2,870 ppm, approximately four tons of soluble salts per acre.

No grazing studies have been done specifically with "Corto" Australian saltbush, but grazing studies in California reported Australian saltbush as a good forage plant for horses, cattle and sheep. Results of forage analysis show that the amount of digestible nutrients compares well with that of alfalfa.

"Corto" has approximately 246,000 seeds per pound. Seeding rates of seven pounds per acre pure live seed have resulted in adequate stands on critical areas. Late fall or early spring planting provide the cool season best for seedling establishment. Drilling the seed less than one-fourth inch into a firm, clean seedbed and compacting the soil around the seed results in good germination.

Breeder and Foundation seed will be maintained at the SCS Tucson Plant Materials Center, Tucson, Ariz. Foundation seed is available to growers through the Arizona Crop Improvement Association and Natural Resource Conservation Districts.
Healthy little beauty likes shade!

What a beauty little Glade Kentucky bluegrass has turned out to be! A fine, healthy specimen, Glade has a higher level of resistance to powdery mildew, and performs better than many other Kentucky bluegrasses in up to 60% shade as well as open sun. Glade, a Rutgers selection (nationally tested as P-29), has improved resistance to stripe smut and leaf rust. Midwestern and Northeastern university tests indicate that Glade has better than average resistance to Fusarium blight.

Glade is one of the fastest germinating bluegrasses, quickly forming a thick rhizome and root system. A dense, low-growing, leafy turf, Glade has an attractive medium to dark green color.

Glade Kentucky bluegrass is your guarantee of physically pure and genetically true seed. You won’t be seeding annual bluegrass (*Poa annua*), short-awned foxtail or bentgrass when you plant Glade. Specify this healthy little beauty in your next lawn seed mix. It blends beautifully with fine fescues and other elite bluegrasses, persists in shade when many others weaken. Glade Kentucky bluegrass is available at your local wholesale seed distributor. Insist on Glade in your mix.

Another fine, quality-controlled product of Jacklin Seed Company.

KENTUCKY BLUEGRASS

U.S. Plant Patent 3151
A recent survey by the National Landscape Association revealed that guarantees of plants and labor are offered by a majority of landscape firms. Ninety-seven percent of the firms responding to the survey indicated some type of warranty was provided.

The results also showed that plant material guarantees are more common than labor guarantees. No preference was revealed for full versus limited warranties, although the time period covered varied widely.

The customer was assured of satisfactory plants in 92 percent of the landscape firms' guarantees. The warranty usually stipulated that the customer assume the responsibility for the care and maintenance of the newly-installed plants. Regional differences in the percentage of firms that guaranteed plants appeared:

Northeast ........................................ 98%
Southern ....................................... 97%
Great Lakes ..................................... 88%
Western Plains .................................. 88%
Southwestern, Pacific and other .......... 92%

It is interesting to note that the percentage guaranteed decreases in the Great Lakes and Western Plains regions by about ten percent. Moreover, many firms stated a time period of "one growing season" in both these regions. These differences may be attributable to the severity of winters. Note that the percentage rose again in the Far West regions.

Another significant finding was the lower percentage of firms offering guarantees of labor. Labor coverage is definitely lower than plant coverage — only 62 percent of labor is guaranteed nationwide. Companies seem to generally guarantee the labor performance 100 percent, 50 percent, or not at all — very few percentages in between.

Again, there were regional differences:

Northeast ........................................ 74%
Southern ....................................... 52%
Great Lakes ..................................... 72%
Western Plains .................................. 48%
Southwestern, Pacific, and other .......... 58%

The percentages in the Southern and Western Plains areas are significantly lower than the Northeast and Great Lakes areas. In both of these areas firms generally guarantee their labor 100 percent or not at all.

The landscape guarantee survey also questioned the type of guarantee/warranty provided, specifying that a full guarantee requires replacement or repair of a product (that is defective or fails) within a reasonable...
time at no cost: anything else is a limited guarantee. No preference for a full rather than a limited guarantee appeared, however; respondents split almost evenly nationwide: 73 offered full guarantees, while 71 offered limited.

The final question on the NLA survey concerned the time period covered by the guarantee of plants and/or labor. The respondents chose between “one calendar year,” “months,” and “other.” Most landscape firms (53 percent of the survey respondents) base their guarantees on one calendar year:

Northeast .................. 26 (of 36 respondents)
Southern .......................... 12 (of 20)
Great Lakes .......................... 12 (of 20)
Western Plains .......................... 26 (of 37)
Southwestern, Pacific and other .......... 10 (of 16)

These 38 firms, however, differed widely in the number of months specified — from one to nine months after installation. The average number of months nationwide was 4.4. Regionally, the Northeast and the Western Plains were high (5.1 and 5.5 respectively); the Great Lakes and the Southwestern, Pacific and other regions specified an average of 4.5 and 4.3 months respectively; and the Southern region guaranteed their plants for 3.5 months.

Other time periods specified included “one year from installation,” “one growing season,” or until a certain date after installation such as August 1 or November 1. (Due to possible consumer misunderstanding, NLA recommends that precise time guarantees be used in lieu of “one growing season.”) One firm dealing entirely with industrial landscaping, replaced and replanted until the customer was satisfied.

The NLA survey demonstrated that guarantees/warranties are common among landscape firms, especially for plant coverage. Labor is guaranteed by fewer firms. The respondents split in preference for full or limited guarantees, and most seemed to base their guarantees on a one-year period. The Northeast and Great Lakes regions showed similarities in almost all categories (e.g. high percentage coverage of plants and labor, preference for full guarantees, and one calendar year coverage.) In contrast, the Southern and Western Plains states revealed similarities in low incidence of labor guarantees, preference for limited guarantees, and coverage for specified time periods. The Southwestern Pacific and other regions were middle-of-the-road.

There is one sure way to keep a consistent moisture level on your tees, fairways and greens.

Install a PURR-Wick water management system using ...

By building your tees, fairways and greens over Tu-Tuf barrier liners, you will have total control of the moisture content. Water will be contained during dry weather and will soak through and be drained out during heavy storms.

You will save water, fertilizer, labor and cut maintenance costs significantly. Construction costs are about 1/2 that of traditional designs.

Why is Tu-Tuf so important?
Tu-Tuf is cross laminated adding strength, flexibility and durability over standard poly sheeting.

Tu-Tuf ...
• has up to 10 times the water-vapor transmission rate
• will not crack in folds and creases
• is pin-hole free
• has superior resistance to snags and punctures
• is weather stabilized, will not rot or disintegrate
• is made to specifications while standard poly has length and width limitations.

STO-COTE PRODUCTS, INC.
Richmond, Illinois 60071 • Call Toll Free 800/435-2621 • In Illinois 815/675-2358

Circle 149 on free information card
Toro has developed a new sprinkler head with a combination of features designed to reduce water usage as well as installation and maintenance costs of automatic underground irrigation systems.

The Rain Pro permits spacing up to 53 feet and features clog-resistant nozzles, corrosion-resistant construction and a removable basket screen that can be serviced easily from the surface. It has four rotating nozzles that deliver water slowly and uniformly to minimize puddling and run-off.

Circle 701 on free information card

Heckendorn Manufacturing has introduced a low cost 8 hp stump remover available with its own trailer for easy transportation or mounting on a Heckendorn mower, pickup truck bumper, garden tractor or other unit.

Rain Bird has introduced Model 1300, a new bubbler nozzle, designed for a variety of landscape irrigation applications.

The unit is constructed of molded plastic to minimize field problems and maintain peak operating efficiency and can be easily installed on existing ½-inch irrigation systems.

Flow control is regulated by an adjustable screw on the bubbler's head. Operating pressure ranges from 10 to 60 psi with a corresponding performance range from 1.0 to 2.7 gpm.

Circle 705 on free information card

“Understanding Soil Compaction”, a 22-page booklet has been published as a helpful guide by Davis Manufacturing Division of J I Case.

The booklet outlines the reasons soil compaction is needed and discusses soil types, properties and moisture content. It explains compaction methods and machine characteristics to consider for selection of the most effective combination in various job applications. The guide also explains the most widely used soil compaction tests, their functions and purpose.

Circle 704 on free information card

A battery-operated electronic Soil Moisture Meter which measures and displays the amount of moisture in the soil instantly, has been introduced by Agtronics Manufacturing. The probe measures conductance in the soil.

Circle 706 on free information card
Reach-All Manufacturing and Engineering has recently introduced Model OC5048 aerial basket with 40' side reach, 48' bottom-of-basket height and a 1-man, 300 lb. or 2-man 600 lb. capacity. This model features a concept new to non-overcenter basket design — the lower boom travels overcenter (133° articulation) — thus extending effective side reach to 40 feet. While achieving side reaches comparable to overcenter devices, this design is available at lower costs.

The OC5048 is equipped with Reach-All’s standard safety and operational features, including double cylinders at both lower and upper boom, automatic hydraulic-cylinder basket leveling, continuous, unlimited rotation, a fiberglass insert in the lower boom, a 345 KVAC potential dielectric certification and an end-mounted basket for a 3-sided working area.

Circle 707 on free information card

The new “A Series” rotary field electric generators are available from Ag-Tronic. Powered by industrial-type Briggs & Stratton engines, the generators feature rotary field design to provide greater motor starting capacity, superior performance and longer life. A protective cradle of one-inch steel tubing surrounds each unit to protect against damage. Rubber feet on the cradle also dampen vibration and minimize crawling.

The “A” Series” is full load continuous duty rated to deliver rated capacity. Outlets are protected by circuit breakers which can be reset immediately. A variety of NEMA receptacles, duplex and twist lock, allow operation of several tools at once. The generators are available with capacities of 1250, 2000, 3000, 4500 and 6000 continuous duty watts.

Circle 708 on free information card

A series of detachable loaders is described in a new brochure from the Allis-Chalmers Corp. One of the loaders, the Model 470, matches the high performance of the over 100 hp, 7000 series tractors from the company. Among its features are a quick, easy attachment and detachment that is hydraulically assisted; a wrap-around frame that evenly distributes loads to the front and rear axles; and an assortment of eleven utility attachments.

Also described is the new Model 400 loader compatible with the Allis-Chalmers 40 and 50 hp tractors and the Model 500 loader for mid-sized tractors.

Circle 709 on free information card

Jacobsen has made available a water cooled engine as an option for the 72-inch Out Front Commercial riding rotary mower. The heavy duty engine option was added for users who require longer than usual operating intervals between engine maintenance. It has a comparatively low operation temperature (180°F) which extends the life of valves, rings and other internal working parts, a characteristic of water cooled power.

Circle 710 on free information card
USED EQUIPMENT

2 — 50' AERIAL BASKETS — 65' Aerial basket, 2 Asplundh brush chippers. 1 Vermeer tree mover, 1 Vermeer stump cutter. Small hydraulic crane, 2 John Bean sprayers, ten ton tri-axle trailer, 1 Prentice log loader, tractor with front end loader and Bobcat loader, Parkway Tree Service, 120626 W. Cherry, Wauwatosa, Wis. 414 257-1555.


SEVERAL 50 FOOT SERVI-lifts mounted on GMC trucks. Call 401 725-2250.


FOR SALE: Ford 5000 diesel with less than 300 hours operating time. Selecto-O-Speed transmission, power steering, wide flotation tires, equipped with Mo-Trim Telescopic 31' reach side arm mower for rotary or sickle bar. Suitable for farm or industrial use. Excellent condition. Marianna Telephone Co., P.O. Box 308, Marianna, Pa. 412 267-3333.

VERMEER 671 LOG CHIPPER with GMC 4-53 diesel engine. Like new with only 74 total hours on tach. $18,500 (new price is $38,000). 100 foot Arlo crane mounted on Mach truck. Brand new auxiliary generator to run crane, and has optional bucket for crane. $10,500. Vermeer no. 10 stumper, completely reconditioned. $3,100.00. ESSCO, 5620 Sunrise Hwy., Massapequa, N.Y. 11758. 516 799-7619.

FMC BEAN SPRAYER, all purpose, model 1010 TRP. 200 gallon Epoxy lined tank. Like new! $1,295.00. Toro Rak-O-Vac, PTO driven, flextrip reel, 5" cubic yard hopper, used one season. $2,300.00. Richard McFetters, 205 Atwell Ave., Greensboro, N.C. 27406. 919 272-6419.


FOR SALE: Several 40 to 50-foot Skyworkers. One 32-foot working height Sky-jacker and truck. Phone: Aerial Lift Repair, Inc. 203 878-0695.


FOR SALE: Bean Rotomist model 901, $2,- 500.00. 303 774-1061.


FIRETRUCK — 1950 American LaFrance, 550 gallon pumper, low mileage, excellent condition. Will make good water or spraying truck. $2,500.00. 412 774-7469.

IRRIGATION PUMP Pressure Pump, 5" intake, 3" outlet, $2,200.00. Telephone 312 244-3976.

WORTHINGTON 5-gang mow, $2,000.00. Telephone 312 244-3976.

EASY FLOW FERTILIZER spreader, $200.00. Telephone 312 244-3976.

INSECT SPREADER, $750.00. Telephone 312 244-3976.

SEEDS

SOD QUALITY Seeds Merion, Fylking, Delta, Park, Newport, Nugget, Adelphi, Cheri, Glade and Barber bluegrasses also fine fescues, Manhattan ryegrass. Custom mixing available. Michigan State Seed Co., Grand Ledge, Michigan 48837. Phone 517 627-2164.

REAL ESTATE

NORTHERN COLORADO: Turf Farm and Sprinkler Installation Company. Approx. 120 acres of established turf; complete solid set sprinkling system. Includes extensive list of equipment and large number of already signed future contracts. Shows good profit. Priced at $1,150,000.00 — some terms available. Call Ken Aylor at 303-572-5031 (Denver), 303-493-7000 (Ft. Collins), 303-568-7776 (residence) or R. Ray Dixon at 303-493-7000 (Ft. Collins), 303-484-7247 (residence). Van Schaack & Co. Farm & Ranch Division.

FOR SALE

RAILROAD TIES

12,000 No. 1 landscaping ties bonded in stacks of 25. Excellent condition, not split or rotted. We make immediate delivery in minimum loads of 250 anywhere in U.S. Inquiries welcomed 7:00 A.M. to 7:00 P.M. Monday thru Saturday.

MIDWEST TRACK SALVAGE

Rt. 1, Box 198
Westfield, Indiana
Phone 317 896-3333
if no answer call 317 846-3457

FOR SALE complete tree service company on West Coast. Grosses over $350,000.00 per year. Good potential for expansion. 26 pieces of equipment, plus office equipment and miscellaneous tools and equipment. Box 164, Weeds, Trees & Turf, P.O. Box 6951, Cleveland, Ohio 44101.

BUSINESS OPPORTUNITIES

A.A.A. Tree Service has a business opportunity for you in Florida. Call or write Henry Hardy, Jr., P.O. Box 6173, Orlando, Fla. 32802. Phone 339-5242.


NURSERY STOCK
COLORADO BLUE SPRUCE, 6-8", well sheared, Vermeer dug-in wire baskets. Mostly shiners with excellent color, $35.00. Dana Ginter, R3, Friendship, Wisconsin 53934. 608 339-7341.

WANTED TO BUY
WANTED: 44' tree spade, cash, must be priced right, no junk. 503 679-6312.

HELP WANTED
WANTED: LAWN SPRINKLER DESIGNER and estimator. We are a 50 year old company specializing in lawn sprinkler system installations. This position would involve design, estimating, engineering and material purchasing. Company is well known in the mid-west and does some work out of state. Persons qualifying for this position must have previous experience minimum 3 years. Non-experienced persons need not apply. Strong mathematical and mechanical aptitudes will be an advantage. Salary commensurate with background and experience. Call or send resume to: Muellermi Irrigation Company, P.O. Box 478, Maywood, Illinois 60153. Phone 312 344-8680.

GROUNDSD TECHNICIAN: Expansion finds us looking for individuals with experience in tree and/or lawn care, wanted for a growth-oriented company. Presently with offices in St. Louis, Kansas City, and Denver. Degree preferred. Salary open based on qualifications. Send resume to Box 177, Weeds, Trees & Turf, Box 6951, Cleveland, Ohio 44101.


YOUR PICKUP'S WAITING for the New

a product of
ALLEN-CLARK EQUIPMENT INC.
121 Bester Street, Hagerstown, MD 21740
(301) 791-0112

ACE DUMPET
the insertable removable dumping accessory that can • SAVE COSTLY MANHOURS • CONSERVE ENERGY TO REDUCE FUEL COSTS • CUT CAPITAL EXPENDITURES • PROTECT YOUR PICKUP INVESTMENT.

So look into a new ACE DUMPET today—it's what your pickup is waiting for.

Write today to: Tuflex Manufacturing Co., specialists in pest control fiberglass spray tanks. Economical prices with high quality handcrafted workmanship.

Many other tank sizes available from stock.

The Tuflex manufacturing process allows a five year warranty on all tanks.

CONTROL PESTS... WEED... FERTILIZE

WITH FIBERGLASS SPRAY TANKS

THE LARGEST FIBERGLASS "PEST CONTROL" SPRAY TANK MANUFACTURER IN THE SOUTHEAST

Write today to: Tuflex Manufacturing Co., P.O. Box 13143, Port Everglades, Florida 33316 or Call 305-525-8815

Circle 150 on free information card

Circle 135 on free information card

SEPTEMBER 1977/WEEDS TREES & TURF 53
When your job is grounds maintenance year around, you need a mower for all seasons.

With one VERSATILE Mott mower, you can mow fine lawns, shred high grass and weeds, mulch leaves and renovate.

Flail type mowers have a reputation for being SAFER than rotary type mowers. Mott mowers...with their lightweight knives...are the safest of the flails.

Mott mowers also offer COST EFFECTIVE PERFORMANCE because they last longer and are more reliable to operate.

Write or call for information about YOUR MOWING REQUIREMENTS. This season and every season, mow Flail Safe...with Mott mowers.

"Tell me more about FLAIL SAFE mowing."

NAME
ADDRESS
CITY STATE ZIP

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

Circle 136 on free information card
Debris never had it so bad.

Beer cans, cigarette butts, twigs, bottles, matted grass clippings and rocks look pretty ugly on a beautiful turf.

But picking them up hasn't been all that easy. (Ever try to get hold of wet leaves in wet grass?) Then along came Jacobsen's unique rubber finger pick-up system. You'll find it used on all six of our Sweeper models. They pick up just about everything that you'd call debris, including branches up to 3" in diameter.

Patented rubber pick-up fingers are the worst thing that can happen to turf debris.

Even wet leaves in wet turf. Besides having incredible rubber fingers, our big 700 Series models sweep a 5-foot swath, and have hoppers with a hefty 5-cubic-yard capacity.

Our models 720 and 730HL are PTO driven. The 730HL has a hydraulic dumping system that saves labor and time by dumping directly into a truck instead of on the ground.

Our models 720E and 720E-HL come with 12 HP or optional 14 HP engines, and can be pulled by any vehicle. The 720E-HL also has a hydraulic dumping system.

Then, our smaller 154 Riding Sweeper and 154T Towed Sweeper both sweep a 48" swath, and dump manually.

Five sweepers have the optional Curb Broom that cleans up parking lots fast. And all models offer the Thatcher Thinner attachment that lets you thatch and thin turf while sweeping. Plus other options you might want.

To find out about the most complete line of Turf Sweepers being made by anyone, ask your Jacobsen distributor for details. What he has to say is bad for debris. And that's good for you.

Jacobsen Manufacturing Company, Racine, Wisconsin 53403

JACOBSEN
An Allegheny Ludlum Industries Company

Take a look at leadership.
"Tough K.C. Chiefs need tough grass!
That's why I picked Baron Kentucky Bluegrass.

George Toma, Director of Field and Landscaping Operations, Kansas City Chiefs and Royals, and consultant for all Super Bowl games.

"I need a grass that will withstand the wear and tear of forty big football players on it five days a week from August to December. With the toughness of Baron there are darn few worn out spots."

George Toma explains to Peter Loft: "I overseed this practice field with 50 lbs. of Baron as early as February and the field is ready in April. We'll have good grass all the way through the season."

"With the field in use so much of the time, I need a grass that doesn't need much care. In the 3 years this field has been in, I've never used a fungicide, insecticide or herbicide. That's a plus for me. I can only water maybe once a week and you can see how green this field is."

"We fertilize well around Thanksgiving. With the lower fertilization requirements of Baron, we don't have to worry about tender grass. Baron stays tough."

"We mow whenever the grass needs it. That may be once, twice or even three times a week. We only remove ¼ of the growth and usually cut it to ¼" up until June 1. After that we keep it at 2"."

"The players love this field. They even replace their own divots! And I think psychologically they practice better when they see a beautiful field like this."

Lofts/Pedigreed Seed, Inc.
Bound Brook, NJ 08805 / (201) 356-8700

Lofts/New England
Arlington, MA 02174
(617) 648-7550

Lofts/New York
Albany, NY 12206
(518) 456-0042

Loft Kellogg Seed Co.
Milwaukee, WI 53201
(414) 276-0373

Great Western Seed Co.
Albany, OR 97321
(503) 926-2636

(Canadian Baron Dist.)
Oseco Ltd.
Ontario, Canada
(416) 457-5080

Circle 101 on free information card