Samuel Cabot, Inc., 246 Summer St., Boston, Mass. J. I. Case Co., 700 State St., Racine, Wis. Caterpillar Tractor Co.,

700 State St., Racine, Wis.
Caterpillar Tractor Co.,
Peoria, Ill.
Century Engineering Corp., 221-4th
Ave. S.E., Cedar Rapids, Iowa
Certain-teed Products Corp.,
Lea Bldg., Ambler, Pa.
Central Solvents & Chemicals Co.,
2540 W. Flournoy St., Chicago, Ill.
Cessna Aircraft Co., Wichita, Kans.
Champion Sprayer Co.,
6509 Heintz Ave., Detroit, Mich.
Chanderlin Seed Co., Chimney Rock
Rd., Bound Brook, N.J.
R. E. Chapin Mfg. Works, Inc.,
29 Liberty St., Batavia, N.Y.
Charleston Rubber Co., 321 Stark
Industrial Pk., Charleston, S.C.
Chemagro Corp., Commerce Tower,
Kansas City, Mo.
Chemley Products Co.,
5744 N. Western Ave., Chicago, Ill.
Chevron Chemical Co., Ortho Div.,
200 Bush St., San Francisco, Calif.
Chipman Chemical Co., Inc., 1801
Murchison Dr., Burlingame, Calif.
Cloro-Spray Corp.,
2215-25 N. American St., Phila., Pa.
Colloidal Products Corp.,
P.O. Box 667, Sausalito, Calif.
Columbia Nitrogen Corp.,
P.O. Box 1483, Augusta, Ga.
Commercial Solvents Corp.,
260 Madison Ave., New York, N.Y.

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

Contree Sales, P.O. Box 129, Columbus, Wis. Cranco Co.,

7 Clermont Ave., Trenton, N.J. Cushman Motors, 900 N. 21st St., Lincoln, Nebr. Custom Spray Equipment Corp., R.D. #2, Binghamton, N.Y. The Cyclone Seeder Co., Inc., Urbana, Ind.

Dairymens Fertilizer Co-op, Inc., P.O. Box 998, Artesia, Calif. Danuser Machine Works, 1500 Industrial Blvd., Claremore, Okla. Davison Chemical Div., W. R. Grace & Co., 101 N. Charles St., Baltimore, Md.

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

Delavan Manufacturing Co., 811-4th St., W. Des Moines, Iowa Devere-Locke Div., Locke Mfg. Co., 1220 Washington Ave., Racine, Wis.

1220 Washington Ave., Racine, Wis DeVilbiss Co., 300 Phillips Ave., Toledo, Ohio Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland, Ohio The C. B. Dolge Co., Ferry Lane, Westport, Conn. The Dow Chemical Co., P.O. Box 512, Midland, Mich. E. I. duPont de Nemours & Co., Inc., Industrial & Biochemical Div., Wilmington. Del.

Wilmington, Del.

Eagle-Picher Industries, Inc., American Bldg., Cincinnati, Ohio Eastman Chemical Products, Inc., Kingsport, Tenn. Elanco Products Co., 740 S. Alabama St., Indianapolis, Ind.

Emery Industries, Inc., Organic Chemicals Div., 8733 S. Dice Rd., Santa Fe Springs, Calif. Engineering Products Co., 1005-HF Anoka St., Waukesha, Wis. Erickson Corp., 211 St. Anthony Blvd., Minneapolis, Minn. Excel Industries, Inc. Excel Industries, Inc., Box 385, Hesston, Kans.

Faesy & Besthoff, Inc., 143 River Rd., Edgewater, N.J. 143 River Rd., Edgewater, N.J.
Fairmont Hydraulics, Div. of
Fairmont Railway Motors, Inc.,
415 N. Main St., Fairmont, Minn.
The Fanno Saw Works,
224 W. 8th Ave., Chico, Calif.
Farmrite Sprayer, Inc.,
644 E. Lake St., Lake Mills, Wis.
Farris Chemical Co., 7213 Kingston
Pike, Knoxville, Tenn.
Finland Turf Cut Div., Finneyfrock's,
Olney, Md.
Finn Equipment Co., 2525 Duck Finn Equipment Co., 2525 Duck Creek Rd., Cincinnati, Ohio Fitchburg Engineering Corp., Chipper Div., Cleghorn St., Fitchburg, Mass.

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

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

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

Gandy, Co.,

10 Gandrud Rd., Owatonna, Minn.

Garber Seeders, Inc.,
St. Paris, Ohio

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

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

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

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

Gotcher Engineering & Mfg. Co.,
P.O. Box 721, Clarksdale, Miss.
John H. Graham & Co., Inc.,
105 Duane St., New York, N.Y.

Gravely Tractor, Div. Studebaker
Corp., 1 Gravely Lane,
Dunbar, W. Va.

Great Lakes Chemical Div., 19523
S. Susana Rd., Compton, Calif.

S. Susana Rd., Compton, Calif.

Green Lawn Laboratories, Inc.,
4844 Main St., Skokie, Ill.
The Gregg Co.,
P.O. Box 149, Riverton, N.J.
Grumman Aircraft Corp., S. Oyster
Bay Rd., Bethpage, L.I., N.Y.
Gulf Oil Co.,
Gulf Bldg, Pittsburgh, Pa

Gulf Bldg., Pittsburgh, Pa. Gyrodyne Co. of America, Flowerfield Rd., St. James, L.I., N.Y.

Halline Utility Equipment Co., 5525 S.E. 28th St., Portland, Oreg. Clifford B. Hannay & Son, Inc., 422 Maple St., Westerlo, N.Y. Hanson Equipment Co., P.O. Box 270, Beloit, Wis. Hardie Sprayers, 4200 Wissahickon Ave., Philadelphia, Pa. Hayes Spray Gun Co., 98 N. San Gabriel Blvd., Pasadena, Calif. Heckendorn Mfg. Co., Inc., Cedar Point, Kans. Henderson Mfg. Co..

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

Hercules Inc., 910 Market St., Wilmington, Del.

910 Market St., Wilmington, Del.
H & G Tool Co.,
22474 Sherwood, Warren, Mich.
Highway Equipment Co., 616 D.
Ave. N.W., Cedar Rapids, Iowa
Hiller Aircraft Corp., 1350 Willow
Rd., Palo Alto, Calif.
Hoffco, Inc., 25 Washington Ave.,
Richmond, Ind.
Homelite Div., Textron, Inc.,
Riverdale Ave., Port Chester, N.Y.
Hooker Chemical Corp., 65 Iroquois
St., Niagara Falls, N.Y.
Houston Chemical Corp.,
200 Madison Ave., New York, N.Y.
Howard Rotavator Co., Inc.,
P.O. Box 100, Harvard, Ill.
H. D. Hudson Mfg. Co.,
589 E. Illinois St., Chicago, Ill.
Humble Oil & Refining Co.,

Humble Oil & Refining Co., Houston, Texas

Hunt-Pierce Corp.,
230 Old Gate Rd., Milford, Conn.
Hydroponic Chemical Co., Inc.,
P.O. Box 97-C, Copley, Ohio
Hypro, Inc., 700 39th Ave. N.E.,

Minneapolis, Minn.

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

J-K-L

Jacobsen Mfg. Co., 1721 Packard Ave., Racine, Wis. Jari Corp., 2940 Pillsbury Ave., Minneapolis, Minn. Johns-Manville Corp., 22 E. 40th St., New York, N.Y.

22 E. 40th St., New York, N.Y.
Kalium Chemicals, Ltd.,
200 Park Ave., New York, N.Y.
Kel Instruments Co., Inc.,
P.O. Box 466, New Brunswick, N.J.
Kemp Mfg. Co.,
1027 E. 20th St., Erie, Pa.
Lakes Supply Co., Inc.,
P.O. Box 101, Dundee, Ill.
LaMotte Chemical Products Co.,
Chestertown, Md. Chestertown, Md.

Chestertown, Md.
Larson Machine, Inc., 1017 N.
Santa Fe St., Princeville, Ill.
O. E. Linck Div., Walco-Linck Corp.,
1234 State Highway 46, Clifton, N.J.
Lindig Manufacturing, Inc., 1875 W.
County Rd. "C", St. Paul, Minn.

Loamite Corp., One Bush St., San Francisco, Calif.

Mallinckrodt Chemical Works, 3600 N. Second St., St. Louis, Mo. Marlow Pumps Div., ITT Bell & Gossett, Inc., P.O. Box 200, Midland Park, N.J. Martin Tire & Supply Inc., 154 N. Emporia, Wichita, Kans. Martindale Electric Co.,

1375 Hird Ave., Cleveland, Ohio Massey-Ferguson Inc., 1901 Bell Ave., Des Moines, Iowa

McCulloch Corp., 6101 W. Century Blvd., Los Angeles, Calif. McLaughlin Gormley King Co., 1715 5th St. S.E., Minneapolis, Minn.

The Ben Meadows Co., 533 Amsterdam Ave., Atlanta, Ga. Melnor Industries, Inc.,

Melnor Industries, Inc.,

1 Carol Place, Moonachie, N.J.
Melroe Mfg. Co., Gwinner, N. Dak.
Metosol Products, Merck & Co.,

200 Wagaraw Rd., Hawthorne, N.J.
Michigan Chemical Corp.,

500 N. Bankson St., St. Louis, Mo.
Miller Chemical & Fertilizer Corp.,

3006 W. Cold Spring Lane,
Baltimore, Md.

Baltimore, Md.

Miller-Robinson Co., 7007 Avalon Blvd., Los Angeles, Calif.

Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa. Minerals & Chemicals Philipp Corp., Menlo Park, N.J.

Minnesota Wanner Co., 5145 Eden Ave. S., Minneapolis, Minn.

400 Orange St., Ashland, Ohio

500 Shawmut Ave., LaGrange, Ill.

Morton Chemical Co., 110 N. Wacker Dr., Chicago, Ill.

Mott Corp.,

F. E. Myers & Bro. Co.

Mitts & Merrill, Inc.,

109 McCoskry St., Saginaw, Mich.
Mobile Aerial Towers, Inc.,

2314 Bowser Ave., Ft. Wayne, Ind.
Mobil Chemical Co., Industrial
Chemicals Div., 401 East Main
St., Richmond, Va.
Mock Seed Co., 13th & Smallman,
Pittsburgh, Pa.
Monarch Mfg. Works, Inc., 2501 E.
Ontario St., Philadelphia, Pa.
Montrose Chemical Co.,

104-12 Lister Ave., Newark, N.J.
Morton Chemical Co.,

Nalco Chemical Co., 180 N. Michigan Ave., Chicago, Ill. 180 N. Michigan Ave., Chicago, Ill.
Naugatuck Chemical, Div. U.S.
Rubber, Naugatuck, Conn.
New World Products Co., Inc.,
11126 Rush St., El Monte, Calif.
Niagara Chemical Div., FMC Corp.,
100 Niagara St., Middleport, N.Y.
Northrup, King & Co., 1500 Jackson
St. N.E., Minneapolis, Minn.

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Oakes Mfg. Co., FMC Corp., Oakes Mfg. Co., FMC Corp., 516 Dearborn St., Tipton, Ind. Oberdorfer Pump Div., Thompson Rd., Syracuse, N.Y. Oil-Dri Corp. of America, 520 N. Michigan Ave., Chicago, Ill. Olin Mathieson Chemical Corp., Chemicals Div., Baltimore, Md. Oliver Corp., 400 W. Madison St., Chicago, Ill. Omark Industries, Inc., 9701 S.E. McLaughlin Blvd., Portland, Oreg.

Meadow Lane, Hattiesburg, Miss.
Parker Sweeper Co.,
91 Bechtle Ave., Springfield, Ohio
S. B. Penick & Co.,
100 Church St., New York, N.Y.
Pennington Mfg. Co.,
136 Commercial Rd. Addison III Panama Pump Co.

136 Commercial Rd., Addison, Ill.

Pennsalt Chemicals Corp., 2901 Taylor Way, Tacoma, Wash. Robert B. Peters Co., Inc., 2833 Pennsylvania St., Allentown, Pa.

Phelps Dodge Refining Corp., 300 Park Ave., New York, N.Y. Phillips Petroleum Co.,

Bartlesville, Okla.
Pioneer Saws, Ltd., 910 Monaghan
Rd., Peterborough, Ontario Piper Aircraft Corp.,

Bald Eagle St., Lock Haven, Pa. Pitman Mfg. Co., P.O. Box 605, Grandview, Mo. Pittsburgh Plate Glass Co., Chemical

Pittsburgh Plate Glass Co., Chemical Div., One Gateway Center, Pittsburgh, Pa.
Plant Marvel Laboratories, 624 W. 119 St., Chicago, Ill.
H. K. Porter, Inc., 74 Foley St., Somerville, Mass.
B. G. Pratt Co., 204 21st St., Paterson, N.J.
Premier Peat Moss Corp., 25 W. 45 St., New York, N.Y.
Prentiss Drug & Chemical Co., Inc., 101 W. 31 St., New York, N.Y.
Pulmosan Safety Equipment Corp., 30-48 Linden Pl., Flushing, N.Y.
Quick Manufacturing, Inc., Quick Manufacturing, Inc.

256 Linden Ave., Springfield, Ohio

Literature you'll want

Here are the latest government, university, and industrial publications of interest to the readers of Weeds Trees and Turf. Some can be obtained free of charge, while others are nominally priced. When ordering, include title and catalog number, if any. Sources follow booklet titles.

- Pest Control Guide for California Greenhouse Plants and Flowers. Leaflet 134, Agricultural Publications, 207 University Hall, University California, Berkeley, Calif. 94720.
- A Technical Study of Insects Affecting the Oak Tree in Southern California. Booklet 810, Agricultural Publica-tions, 207 University Hall, University of California, Berkeley, Calif. 94720.
- A Technical Study of Insects Affecting the Sycamore Tree in Southern Cali-fornia. Booklet 818, Agricultural Publications, 207 University Hall, University of California, Berkeley, Calif. 94720.
- Wild Garlic, Its Characteristics and Con-trol. Catalog No. A 1.76:289, 1965, 23 pp. il., 15¢, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20420.
- Plant Hardiness Zone Map. Catalog No. A 1.38: 814/2, Rev. 1965. 22x30 in., 20¢, Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20420.
- How To Control Insect Pests of the Flower Garden. Pub. E-70, Feb, 1966, Purdue University, Cooperative Extension Service, Department of Entomology, West Lafayette, Ind.
- The Effects of Soils and Fertilizers on the Nutritional Quality of Plants. Catalog No. A 1.75:299, 1965, 24 pp. il., 15¢, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.
- Turfgrass Varieties for Oklahoma. Fact Sheet 2650, Agricultural Mailing

- Room, Oklahoma State University, Stillwater, Okla.
- Increase Water Penetration in Soil. Fact Sheet 2904, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Managing Turf on Football Fields. Fact Sheet 2651, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Post Oak-blackjack Control on Native **Grass.** Fact Sheet 2850, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Vetch for Soil Improvement. Extension Circular 472, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Know Your Soil. Extension Circular 509, Agricultural Mailing Room, Olahoma State University, Stillwater, Okla.
- Fertilizer and Lime Recommendations for Oklahoma. Extension Circular 729, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Fertilizing with Anhydrous Ammonia. Extension Circular 759, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Pests of Ornamental Trees and Shrubs. Fact Sheet 7310, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Pruning Ornamental Shrubs and Trees. Fact Sheet 6492, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Winter Protection for Landscape Plants. Fact Sheet 6404, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Dwarf Greenspike, A New Arborvitae for Landscape Plantings. Bulletin 575, Agricultural Mailing Room, Oklahoma State University, Stillwater, Okla.
- Zimmerman Pine Moth. Mimeo E-40, August, 1965, Purdue University, Cooperative Extension Service, Department of Entomology, Lafayette, Ind.

Rain Bird Sprinkler, 7045 N. Grand, Glendora, Calif. Rain-O-Mat Sprinklers, 11701 E. Washington Blvd., Whittier, Calif. Ra-Pid-Grow Corp., 88 Ossian, Dansville, N.Y.

88 Ossian, Dansville, N.Y.
Rear's Mfg. Co.,
P.O. Box 3347, Eugene, Oreg.
Reichhold Chemicals, Inc., 525 N.
Broadway, White Plains, N.Y.
B. G. Reilly Co.,
P.O. Box 231, N. Scituate, R.I.
Remington Arms Co., Inc., 25000 S.
Western Ave., Park Forest, Ill.
Rental Equipment Mfg. Co.,
2778 S. Tejon, Englewood, Colo.
Republic Aviation Corp., Helicopter
Div., Farmingdale, L.I., N.Y.
Revnolds Metals Co.,

Div., Farmingdale, L.I., N.Y.
Reynolds Metals Co.,
6601 W. Broad St., Richmond, Va.
Robeco Chemicals, Inc.,
51 Madison Ave., New York, N.Y.
Roberts Chemicals, Inc.,
P.O. Box 546, Nitro, W. Va.
Rogers Mfg. Co., Inc.,
220 N. Mahaffie St., Olathe, Kans.
Rohm and Haas Co., Independence
Mall West, Philadelphia, Pa.
Rolatape, Inc., 1301 Olympic Blvd.,
Santa Monica, Calif. Santa Monica, Calif.

Root-Lowell Corp., Lowell, Mich. Rosco Manufacturing Co., 3118 Snelling Ave., Minneapolis, Minn. Roseman Mower Corp.,

Roseman Mower Corp.,
2300 W. Lake Ave., Glenview, Ill.
Roussel Corp.,
155 E. 44 St., New York, N.Y.
Rowco Mfg. Co., Inc.,
48 Emerald St., Keene, N.H.
Roxy-Bonner, Inc., 2000 Pioneer
Rd., Huntingdon Valley, Pa.
Royer Foundry & Machine Co.,
158 Pringle St., Kingston, Pa.
Ryan Equipment Co., 2055 White
Bear Ave., St. Paul, Minn.

Bear Ave., St. Paul, Minn.

Safety Test & Equipment Co., Inc., P.O. Box 898, Shelby, N.C. Schneider Metal Mfg. Co., 1805 S. 55 Ave., Chicago, Ill. Scott Aviation Corp., 255 Erie St., Lancaster, N.Y. The O. M. Scott & Sons Co., 160 Main St., Marysville, Ohio Sewerage Commission of Milwaukee, Sewerage Commission of Milwaukee, P.O. Box 2079, Milwaukee, Wis. Shell Chemical Co., Agricultural Chem. Div., 100 W. 51 St., New York, N.Y. Shepard Chemical Industries, Inc., 595 Madison Ave., New York, N.Y. The Sherwin-Williams Co., 101 Prospect Ave., Cleveland, Ohio Side-O-Matic Unloader Corp., P.O. Box 429, York, Pa. Signal Oil & Gas Co., Houston Div., P.O. Box 5008, Houston, Texas Sikorsky Aviation Div., United Aircraft Corp., Stratford, Conn.

Aircraft Corp., Stratford, Conn. Silver Creek Precision Corp., 282 Central Ave., Silver Creek, N.Y. Simplicity Mfg. Co., Inc., Spring St., Port Washington, Wis.

Spring St., Port Washington, Was Skil Corp., 5033 Elston Ave., Chicago, Ill. Skyworker Div., Transair Co., Inc., P.O. Box 360, Delaware, Ohio D. B. Smith & Co., 414 Main St., Utica, N.Y. Seymour Smith & Son, Inc.

Oakville, Conn. Smith-Douglass Div., Borden Chemical Co., 5100 E. Virginia Beach Blvd., Norfolk, Va.

Suppliers Listed in **Boldface Type** Have Advertisements in This Issue

Snow Aeronautical Corp., P.O. Box 516, Olney, Texas Sodmaster, 3456 N. Washington Ave., Minneapolis, Minn. Sohio Chemical Co., P.O. Box 628, Lima, Ohio P.O. Box 628, Lima, Ohio
Solo Industries, Inc., 5100 Chestnut
Ave., Newport News, Va.
Southwest Potash Div., American
Metal Climax, Inc., 1270 Ave. of
the Americas, New York, N.Y.
Speedex Tractor Co.,
367 N. Freedom St., Ravenna, Ohio
Spraying Systems Co. Spraying Systems Co., 3201 Randolph St., Bellwood, Ill. Stanford Seed Co., P.O. Box 230, Plymouth Meeting, Pa. Stauffer Chemical Co., Fertilizer Div., 636 California St., San Francisco, Calif. Stauffer Chemical Co., Stauffer Chemical Co.,
Agricultural Chemical Div.,
380 Madison Ave., New York, N.Y.
Wm. Steinen Mfg. Co.,
29 E. Halsey Rd., Parsippany, N.J.
Stepan Chemical Co.,
Edens & Winnetka, Northfield, Ill.
Stihl American, Inc., 194 Greenwood
Ave., Midland Park, N.J.
Sudbury Laboratory. Sudbury Laboratory Sudbury Laboratory,
Dutton Rd., S. Sudbury, Mass.
Summers Fertilizers, Inc., Kapco
Div., P.O. Box 487, Somerset, Pa.
Sun Industry, Inc., 12418 W.
Rosemary, New Berlin, Wis.
The Sun-Mastr Corp.,
603 S. Kansas Ave., Olathe, Kansas
Sunnyhill Research & Mfg. Co.,
Imperial, Pa.

Tarrant Mfg. Co., 27-29 Jumel Pl., Saratoga Springs, N.Y. Telsco Industries P.O. Box 18205, Dallas, Tex. Tenneco Oil Co., P.O. Box 18, Houston, Tex. Tennessee Corp., Ind. Chemicals Div.,
44 Broad St. N.W., Atlanta, Ga.
Thompson Equipment Co., N.
Washington St., Starksville, Miss.
Thompson-Hayward Chemical Co.,
P.O. Box 2383, Kansas City, Kans. The Thompson Manufacturing Co., 2251 E. 7 St., Los Angeles, Calif. Ther Power Tool Co., 175 N. State St., Aurora, Ill. Thuron Industries, Inc., 12200 Denton Dr., Dallas, Tex. 12200 Denton Dr., Dallas, Tex.
Toro Manufacturing Corp.,
8111 Lyndale Ave. S.,
Minneapolis, Minn.
Tote Systems Div.,
Hoover Ball and Bearing Co.,
656 S. 7th, Beatrice, Nebr.
Tradewinds, Inc.,
P.O. Box 1191, Tacoma, Wash.
Trailevator Div., Magline Inc.,
Mercer St., Pinconning, Mich.
Tree-Ject Co.. Tree-Ject Co., 1309 Grove Ave., Waycross, Ga. Triumph Machinery Co., Willow Grove St., Haskettstown, N.J. Troy Blanket Mills, 132 W. 34 St., New York, N.Y.
Tryco Mfg. Co., Inc.,
P.O. Box 1277, Decatur, Ill.
TUCO Products Co., Div. of Upjohn
Co., 7171 Portage Rd.,

Kalamazoo, Mich.

Tyler Corp., E. Highway #12, Benson, Minn.

U.S. Borax & Chemical Corp., 3075 Wilshire Blvd., Los Angeles, Calif. U.S. Industrial Chemicals Co., U.S. Industrial Chemicals Co., 99 Park Ave., New York, N.Y. Union Carbide Corp., Agricultural Products, 270 Park Ave., New York, N.Y. Universal Metal Products Div., Leigh Products, Inc., 460 Main St., Saranac, Mich. Universal Motor Co., 1552 Harrison St., Oshkosh, Wis.

The Vandermolen Co., 378 Mountain Ave., N. Caldwell, N.J. Vaughan's Seed Co., Chimney Rock Rd., Bound Brook, N.J. Velsicol Chemical Corp., 341 E. Ohio St., Chicago, Ill. Vermeer Manufacturing Co., Vermeer Manufacturing Co.,
P.O. Box 190, Pella, Iowa
Viking Mfg. Co.,
P.O. Box 68, Manhattan, Kans.
Viking Pump Co., 4th & Shutte Sts.,
Cedar Falls, Iowa
Vineland Chemical Co.,
W. Wheat Rd. Vineland, N. I. W. Wheat Rd., Vineland, N.J. Vineland Laboratories, Inc., P.O. Box 70, Vineland, N.J.

W-X-Y-Z

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

TREES Article Index

An alphabetical reference to subjects and titles of all major feature articles, feature columns, news stories, letters published in Weeds Trees and Turf in 1966. A list of authors of this year's articles follows the Directory.

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(c) feature co.umn (ed) editorial (L) letter
(br) book review

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(2,4-D) Eurasian Watermillfoil Reduces Waterway Use (f) (2,4-D) How Minnesota Uses Invert Roadside Sprayer, by Bert J. Pinsonneault (f) (2,4-D) Turfgrass Tolerances Do Differ, by Lloyd M. Callahan (f) (2,4-D) Effect of Phenoxy Herbicides on Riparian Vegetation and Water Quality, by W. E. Sopper, I. C. Reigner, and R. R. Johnson (f) (2,4,5-T) How Georgia Power Developed Systemwide Brush Control, by Gill K. Brown (f) (2,4,5-T) How Minnesota Uses Invert Roadside Sprayer, by Bert J. Pinsonneault (f) Oct 8	To Protect Against It'
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(Urab) Results of TVA Tests with Helicopters to Spread Pellets for Rights-of-way Brush, by R. A. Mann (f)Jul 17 Vapam Uses Told (ns)	Olney, Vernon W., "Plants Need Minor Elements"May 18 Pinsonneault, Bert J., "How Minnesota Uses Invert
At Purdue's Midwest Turf Field Days (nf)Oct 24	Roadside Sprayer"Oct 8
(Visko-Rhap) How Minnesota Uses Invert Roadside Sprayer, by Bert J. Pinsonneault (f)	(Correction) Natural Gas Harmless To TreesJul 22
	Reigner, I. C., 'Effect of Phenoxy Herbicides on Riparian Vegetation and Water Quality''
W-X-Y-Z	Scheer, Charles F., Jr., "Why And How To Use
	Schery, Dr. Robert W., "Remarkable Kentucky Bluegrass" Oct 16
Water Affects Plant Life, How, by S. R. West (f)	for Ornamentals" Oct 12 Morrow, Dick, "How Cal-Turf Plants And Grows Bermuda Stolons" Feb 22 Neely, Dan., "Anthracnose Of Sycamore And How To Protect Against It" Aug 8 Nelson, Josephine B., "Faulty Construction Is Cause Of Problems In Athletic Turf Duich Tells Minn. Management Short Course" May 24 Newton, Michael, "New Injection System For Killing Or Curing Trees" May 18 Pinsonneault, Bert J., "How Minnesota Uses Invert Roadside Sprayer" Oct 8 Pirone, Dr. P. P., "How to Diagnose Tree Diseases" May 14 (Correction) Natural Gas Harmless To Trees Jul 22 Reigner, I. C., "Effect of Phenoxy Herbicides on Riparian Vegetation and Water Quality" Jan 8 Scheer, Charles F., Jr., "Why And How To Use Dormant Oils" Sep 16 Schery, Dr. Robert W., "Remarkable Kentucky Bluegrass" Oct 16 Silva, Dr. James A., "Liquid vs. Solid Fertilizers" Mar 8 Sopper, W. E., "Effect Of Phenoxy Herbicides On Riparian Vegetation and Water Quality" Jan 8 Tilford, Dr. Paul E., "Surfactants, Laborsaving Tools, Business Aids, Noted At Arborist's National Midwinter Meeting" Apr 32 Voss, Roylyn L., "Improving Soils For Different Turf Uses" Jun 22 Warren, Robert M., "What Good Is A
by Harold J. Elser (f)	Riparlan Vegetation and Water Quality"
Weed Control Advancing, Mullison Tells 19th Southern	Tools, Business Aids, Noted At Arborist's
Weed Control Costs, Florida Flood District	Voss, Roylyn L., "Improving Soils For Different
Weed Control, How To Calculate Parts Per Million In	Warren, Robert M., "What Good Is AJun 22
Pounds Or Gallons For Chemical Aquatic (c)Jul 32 Weed Meet Hears in New York Last Month. Expanding	Sod Growers Assn.?"
Overseas Market Competing for Chemicals,	With V-shaped Hoppers"Jul 13
Weed Control Costs, Florida Flood District Sees Growing (ns)	Voss, Roylyn L., "Improving Soils For Different Turf Uses"
(Weeds, Broadleaf) Turfgrass Tolerances Do Differ,	Wiltse, Dr. Mark G., "Tordon A New Vegetation
by Lloyd M. Callahan (f)Nov 6	Management Tool"Apr 18

Buy Quality Grass Seed for Sod Production

SELECTION and use of quality grass seed is basic to any sound, profitable sod production program. In fact, it is almost impossible to market a high quality sod without first starting with a good seed lot.

It doesn't seem logical or very businesslike to buy seed contaminated with weed seeds and then spend the next 18 to 24 months attempting to eradicate weeds, when the most economical control is to leave them at the market place. Don't buy trouble: avoid infested seed lots. The difference in cost between good and mediocre seed is much less than the cost of even the simplest weed control program.

What Is Quality Seed?

There is a great deal of disagreement as to what constitutes quality grass seed. I doubt seriously if any two sod producers would arrive at the same general standards or points to consider, much less explicit quality specifications.

I will not attempt to provide an ironclad, simple definition, but rather to list some specific points that in my opinion must be considered when one tries to define a quality seed lot.

Kind and variety of the seed is the first and most important point to be considered. The specific variety chosen must be able to produce the desired end product. Seed must be adapted to the area: it must be winter hardy, summer or heat hardy, resistant to common local diseases. If it is to be seeded as a mixture, it must be compatible with the other varieties used in the mixture. A poor choice here can make all other standards meaningless.

Author Day's recommendations were originally delivered to the Maryland Sod Conference, March 2, 1966, at the University of Maryland. While his comments are necessarily directed to sod producers in that state, they are relevant to other states as well

By M. H. DAY

Seed Specialist, Agronomy Department University of Maryland, College Park

The next several points to consider are mechanical, and concern what is actually in the bag. Almost every seed lot contains some other crop seeds, inert matter, and weed seeds. Seed is purchased mostly by weight, so that everything in the bag is paid for. But how much of this is pure seed of the grass variety desired, and how much fits into one of the other three categories?

Our Maryland seed inspection records indicate that some purchasers are buying as much as 31% inert matter, 7½% crop seed (orchardgrass, timothy, etc.), and over 2% weed seed (annual bluegrass). There is quite a wide range in purity available. The label tells the story, at least in part, and the buyer must determine from it whether the seed lot meets his standards.

Law Restricts Noxious Weeds

The labeled percentage by weight of weed seeds includes those of noxious weeds, if any are present. Taggers are required by Maryland law to list the rate of occurrence of all restricted noxious weed seeds, and are precluded from selling seed lots containing more than 16 such seeds per ounce.

A quality seed lot is free of all noxious weed seeds, and there is little excuse in this day and age for the sod grower to buy lots labeled to reflect their presence. There is plenty of good material available.

Some growers have, in the past, bought seed lots heavily infested with annual bluegrass (*Poa annua*), at rates up to and over 44,000 seeds per pound. Since July 1, 1966, however, lots containing over 16 *Poa annua*

seeds per ounce have been prohibited in Maryland. Lots containing any Poa annua must be labeled to reflect the rate of occurrence, and should be avoided by quality-conscious growers.

Consider Seed Germination

Once the purchaser knows what is in the container, it's important to ask how much of the pure seed will germinate. What percentage is capable of producing a normal, healthy seedling? In a quality lot, most will germinate. Many other lots produce very poor results. Selection depends on what germination rate the buyer will settle for: whether he expects 85%, 90%, 95% of seeds to germinate, or is satisfied with 60% or 70%.

Consider the date on the tag reflecting the germination test. Maryland law requires seed lots to be retested every nine months, but I suggest this is a long time to depend upon red fescues and some lots of bluegrasses. I would insist on a fairly recent test date.

Seed Buyer Beware

We have on the Maryland market, as in the states around us, all categories of seed offered for sale. It is a buyers-beware market. Without much effort, the buyer can obtain some of the unadapted, low-purity, low-germinating, high-weed-content seed lots that are generally available.

On the other hand, the buyer can obtain high quality grass seed by adopting a set of minimum standards and insisting upon that product. But, the standards adopted must be complete. It is unwise to base the decision on just a few of the quality factors. For example, one might insist on high purity and high germination and still obtain a seed lot full of *Poa annua*, chickweed, etc. Or, the seed lot could be free of weed

seed and still be infested with one or more of very undesirable crop seeds, such as orchardgrass, tall fescue, timothy, and bentgrass.

When buying bluegrass, one might end up with an excellent lot from the standpoint of mechanical purity, but it could be an undeclared variety, unsuited to local weather conditions. This problem is a big one today, and only emphasizes the care required to obtain quality seed.

It is interesting to note that the price is about the same for quality seed as it is for trash lots. Certainly, the price of seed cannot be used as a guideline when buying quality. Seedsmen attempting to market high-caliber seed find it very difficult to get a respectable profit margin, probably because too few of us know a quality lot when we see one.

Most of us are unwilling to pay for something we really don't understand or recognize. It is important to take the time to list the quality points sought in seed, and to purchase accordingly from a reliable dealer who handles a good line. Otherwise, one seed lot is like all others—just seed. Standards I would use if I were to buy seed for several grasses are given in Figure 1.

How To Use Specifications

Assuming the sod grower has developed a set of practical specifications he will be satisfied with, it remains to use them. They will not help in the file drawer. To be effective, they must become a part of the purchasing contract, and should appear on each purchase order, letter, or agreement for seed. I further suggest that a statement be included to the effect that "all seed lots failing to meet the above specifications will be unacceptable."

Here are several guidelines that can help to determine whether the desired quality product has been obtained:

1. Purchase from a reliable seed house and use a contract incorporating specifications.

2. Depend upon the label and hope it is accurate.

3. To be sure of seed

Figure 1. Sample Seed Specifications for Quality Bluegrass and Fescue

Type of Seed to Buy: Kind and Variety	Without Quality Control Program	With Quality Control Program		
Merion Kentucky bluegrass	Buy Certified Seed	Buy seed of North Dakota, Iowa, Missouri,		
Kentucky bluegrass	Buy Certified Seed	or Kentucky origin, or common Kentucky blue grass seed of North- west origin*		
Pennlawn red fescue	Buy Certified Seed	X		
Kentucky 31 tall fescue	Buy Certified Seed	X		

Purity	and	Germination	Standards:
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Seed	Minimum Purity	Maximum Crop Seed	Maximum Weed Seed	Noxious Weeds	Minimum Germ.
Bluegrass (N. central origin)	90.00	0.10	0.25	free	85.00
Bluegrass (N. west origin)	98.00	0.10	0.25	free	85.00
Bluegrass (Certified)	98.50	0.00	0.10	free	85.00
Red fescue	98.00	0.25	0.10	free	85.00
Red fescue (Certified)	98.50	0.10	0.05	free	85.00
Tall fescue	98.50	0.10	0.10	free	85.00
Tall fescue (Certified)	98.50	0.00	0.05	free	85.00

Additional Purity Specifications:

- Bluegrass to be free of bentgrass and redtop, chickweed, Poa trivialis, Poa annua.
- 2. Red fescue to be free of tall fescue, orchardgrass, bentgrass.
- 3. Tall fescue to be free of orchardgrass, chess, cheat, dock.

(If ryegrass or redtop is added to a mix, minimum standards should be established for it, also, since either may carry objectionable crop and weed seeds).

Purchase Agreement to Include:

Acceptance of seed will be based on actual test results by a reputable seed laboratory. Payment to be made on all acceptable lots. Seed lots that fail to meet above minimum specifications will be returned to supplier without payment. Supplier to replace promptly any lot failing to meet these standards. (Many other specifications used by some consumers, such as size of container, delivery date, treatment, etc., may be included).

In Maryland: All seed containers to be completely and accurately labeled in accordance with provisions of the Maryland Seed Law.

quality, initiate a quality control program and have samples of the product tested by a reputable seed laboratory.

A good seedsman offering a high-caliber product will welcome a quality control program. Others stand to lose when their product is analyzed.

Some may consider a seedbuying program that involves specifications a bit cumbersome, involved, and time consuming. The alternative is to call a dealer, order the amount needed, and when it arrives, plant it. Under these conditions, the grower must be prepared to accept the resulting sod without complaint. There's not much to be done about it except try another dealer.

When using specifications and a quality control program, the buyer can be assured of getting what he wants or returning it prior to paying the bill. And he will save many of the problems related to poor stands, weed control costs, and low quality turf. Perhaps the sod producer can afford to abuse some management practices, but he can't afford to abuse seed buying practices.

Common Kentucky bluegrass of broad genetic base, not to include improved varieties, which are frequently marketed as common Kentucky bluegrass.



Dr. Granville C. Horn, Associate Turf Technologist at the University of Florida leads conference participants in tours and discussions of turf research at the University.

Inez Fails to Dampen Interest at 14th Florida Turfgrass Conference

Paying little heed to Hurricane Inez slapping at Florida's southeastern coast, Florida turf professionals gathered, Oct. 4 to 6, in Gainesville for the 14th Annual University of Florida Turfgrass Management Conference. Though attendance was somewhat lower than anticipated due to the hurricane, 400 registrants were at the opening session which concentrated on turf fertilizers and soils.

"Application of soluble fertilizers in irrigation water is an acceptable practice provided that the irrigation system is such that it gives uniform distribution," Dr. G. M. Volk, of the University of Florida, told the group while he discussed the great increase in the use of liquid fertilizers. "However," he cautioned, "this is usually the exception in practical watering systems."

Volk listed widely used types of liquid fertilizers in order of their popularity, potential value to turf: ammonium nitrate, ammonium nitrate-urea, complete solutions from common materials, ammonium polyphosphates, liquid clay suspensions, anhydrous ammonia, aqua ammonia, and urea formaldehyde solutions. "The usage of fertilizers in solution is entirely practical, and will give results equivalent to dry materials if certain practices are followed," Volk summarized. He included mowing of grass prior to application, and irrigation immediately afterwards, among the necessary steps to be taken.

Within the next five years, all professionals supervising large turf areas "will go almost entirely to bulk fertilizer deliveries," Leroy Fortner, of Superior Fertilizer Co., predicted. This will result in lower labor cost, less storage problem, and less time required for distribution, Fortner said in his talk on "Bag vs. Bulk Fertilizers."

Basic information needed by Florida turf professionals on soils and soil-fertilizer relationships was stressed at this session which also included a close look at the contents of a fertilizer bag. William Heflin, Armour Agricultural Chemical Co., outlined methods of preparing mixed and straight fertilizers, and the meaning of formulations in terms of plant growth.

Golf Workshop Evaluates Tifdwarf

Second day of the meet saw four professional management workshops conducted concurrently. One of the workshop highlights occurred in the golf course section where a panel of Florida superintendents discussed their evaluations of the recently released Tifdwarf bermudagrass. "It will become the most popular greens grass in Florida," Paul L. Frank, of the Hole-In-The-Wall Golf Course, Naples, forecast.

Frank, who has worked with Tifdwarf for seven months and has planted nine holes with the grass, evaluated it as excellent for tees and greens, with a putting quality much superior to that of 328 bermudagrass. He pointed out that Tifdwarf shows a more rapid recovery from verticutting (20% to 30% faster than 328), but added that he would like to give more study to fairway plantings before confirming an opinion that the lack of vertical growth is a detriment from the golfer's viewpoint.

Stanley E. Clarke, of LaGorce Country Club, Miami, agreed that Tifdwarf has shown superior qualities. After a year and a half's experience with the grass, he concluded that it has less grain, requires less verticutting, and has less weed infestation due to its close growth. Clarke endorsed the new variety by noting that, if he owned a golf course, he would not hesitate to plant it on his own greens.

Held at the same time were workshops for horticultural spraymen and lawn service agencies; retail dealers and garden suppliers; and turf managers working with industrial sites, athletic fields, parks, cemeteries,

and sod growers.

Rudy Tomasello, a member of the Florida Pest Control Commission, from West Palm Beach, challenged participants in the spraymen's workshop to become more familiar, not only with chemicals, insects, and plant life, but also with ways of becoming better businessmen. Pointing to the keen competition developing in the ornamental spray industry, he stressed the immediate need for an operational analysis of industry methods. Tomasello also outlined requirements and techniques for "Costing a Job" in the spray business.

1967 Officers Named

Named as officers of the Florida Turfgrass Association for second year terms were James L. Blackledge, Rainy Sprinkler Sales, Lake Worth, president; L. N. Clark, Director of Parks, Jacksonville Beach, vice president and president-elect; and James E. Ousley, Sr., Ousley Sod Co., Pompano Beach, secretarytreasurer.

Directors, chosen in contested elections for the first time in the association's 14 years, will be: J. Leroy Fortner, Superior Fertilizer Co., Sarasota; William Colburn, Bay Hill Club, Orlando; Carl Dilsaver, Miami Shores Golf Club, Miami; Robert A. Lagasse, agronomist, Patrick Air Force Base; Charles L. Quandt, Seminole Lake Country Club, St. Petersburg; Ronald W. Collins, Collins Spray Service, Satellite Beach; Harold E. Jenkins, Jenkins Landscape Co., Hobe Sound; and Robert L. Johnson, Johnson and Faris Garden Supply, Gainesville.

Other activities of the threeday meet included tours of research projects underway at the University of Florida's horticultural unit, a suppliers' party and reception, and the 14th annual FT-GA banquet, which was attended by several hundred members and University of Florida guests. Dr. Granville C. Horn, Associate Turf Technologist at the University of Florida, was honored at the banquet for his "outstanding research contributions to the Florida turfgrass industry."

Also honored for his years of service to the industry was former FT-GA director, Wayne A. Hibbs, Sarasota garden supply dealer. David M. Filipek, Gainesville, was named at the banquet as winner of the association's Scholarship and Research Foundation 1966 scholarship of \$500. Filipek, a senior in turf management, plans to become a golf course superintendent. Seventythree firms, individuals, and affiliated associations were cited for their contributions to the Foundation during its first year, just ended.

The Florida Turfgrass Management Conference is co-sponsored by the Florida Turfgrass Association and the University of Florida's Institute of Food and Agricultural Sciences. Coordinators for the conference were Dr. Granville C. Horn, University of Florida, and Walter D. Anderson, executive secretary of the turfgrass association.

Ornamentals Open House Set

"Escalating Ornamentals" is theme for the '67 Ornamentals Open House sponsored by the Crops Research Division, Agricultural Research Service, USDA. There will be a program for florists on Jan. 12, and another for nurserymen on Feb. 1. Both will take place at the National Arboretum, Washington, D.C., and each will feature presentations on culture and control, as well as research greenhouse tours.



Members of the Florida TGA crowded back to revote in the first contested election the association has held, reelecting officers and naming eight directors.

Meeting



Connecticut Nurserymen's Assn., Annual Meeting, Hotel Park-Plaza, New Haven, Dec. 28.

North Carolina Association of Nurserymen, Short Course and Trade Fair North Carolina State University, Raleigh, Jan. 1-3, 1967.

Northeastern Weed Control Conference, Commodore Hotel, New York, N.Y., Jan. 4-6.

Indiana Arborist Assn., Annual Meeting, Claypool Hotel, Indianapolis, Jan. 4-6.

Pennsylvania-Delaware Chapter, International Shade Tree Conference, Annual Meeting, Nittany Lion Inn, University Park, Pa., Jan. 10-12.

Illinois Nurserymen's Assn., Annual Convention and Trade Show, Hotel LaSalle, Chicago, Jan. 15-17.

Virginia Nurserymen's Assn., Annual Convention, Williamsburg Lodge, Williamsburg, Jan. 15-17.

New York State Arborist's Assn., The Concord Hotel, Kiamesha Lake, N. Y., Jan. 15-

Rutgers Lawn and Utility Turf Course, Rutgers University, New Brunswick, N.J., Jan. 16-17.

Maryland Nurserymen's Assn., Annual Meeting, Washington Country Club, Gaithersburg, Jan. 17-18.

Rutgers Golf and Fine Turf Course, Rutgers University, New Brunswick, N.J., Jan. 18-20.

Ohio Chapter, ISTC, Annual Meeting; Ohio Nurserymen's Assn., Winter Meeting; and Ohio State University Short Course for Arborists, Turf Managers, Landscape Contractors, and Nurserymen, Sheraton Hotel, Columbus, Jan. 23-26.

Virginia Turfgrass Council, Hotel John Marshall, Richmond, Jan. 24-25.

California Weed Conference, Hilton Inn, San Diego, Jan. 24-

Southern Weed Conference, Jung Hotel, New Orleans, La., Jan. 24-26.

Illinois Custom Spray Operator's Training School, University of Illinois, Urbana, Jan. 25-26.

Associated Landscape Contractors of America Annual Convention, Sheraton Dallas Hotel, Dallas, Tex., Feb. 1-4.

International Turfgrass Conference and Show, Washington Hilton Hotel, Washington, D.C., Feb. 5-10.