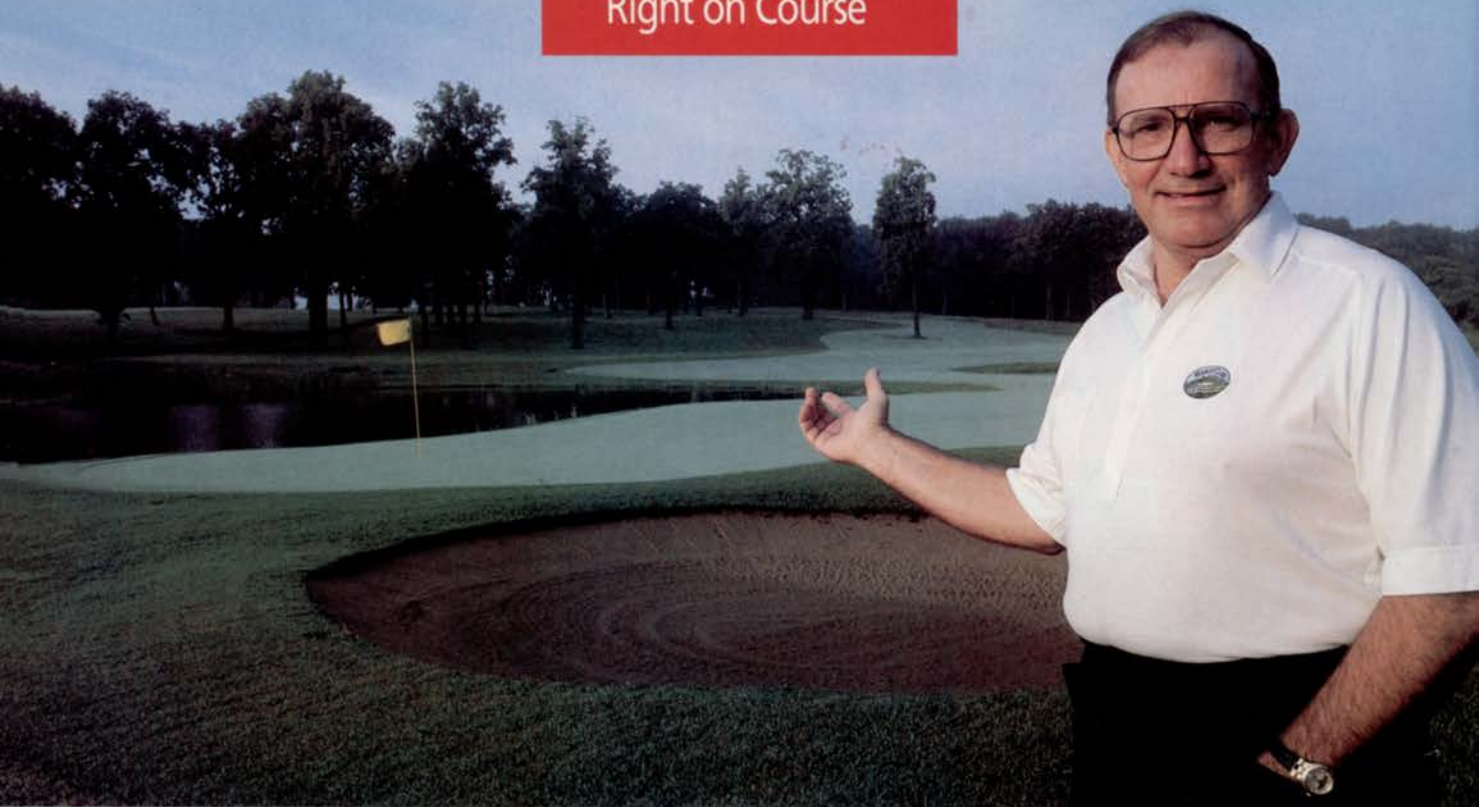


The Penn Pals:
Right on Course



Oscar Miles, CGCS, overlooks the 6th hole at the Merit Club, Libertyville, Illinois.

PennLinks Greens. Penneagle Fairways. Penncross Tees. The 'Penn Pals' Are Picture Perfect At The Merit Club.

Superintendent Oscar Miles, with Club President Ed Oldfield's affirmation, specified all the grassing of this Robert M. Lohmann designed club. With a clean canvas and open palette, Oscar began with PennLinks greens, Penneagle fairways and Penncross tees, framing them with bluegrass/fine fescue/wildflower and prairiegrass roughs. You couldn't paint a more attractive picture.

Oscar chose PennLinks greens for its rapid establishment, marvelous root system, a crown and stolons that take topdressing, upright, grainless qualities and good, consistent color ... the best putting surface available.

He selected Penncross for tees because they recover from divot scars more quickly.

And the Penneagle fairways? Oscar chose Penneagle for its upright growth, reduced thatch development, low nitrogen requirement and good drought and dollar spot resistance. He seeded at 80 lbs. per acre for immediate turf development and

erosion control. The fairways were playable in 8 weeks. Oscar's crew usually mows fairways in the evening and leaves the clippings; recycling nutrients while reducing removal and fertilizer costs.

Oscar articulates it best: "The unique coloring of the 'Penn Pals' contrasts beautifully with the grassing around them, defining the target areas. And with the dew on the bents early in the morning, they're a marvelous work of art."

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Oscar L. Miles

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SEPTEMBER 1993 VOL. 32, NO. 9

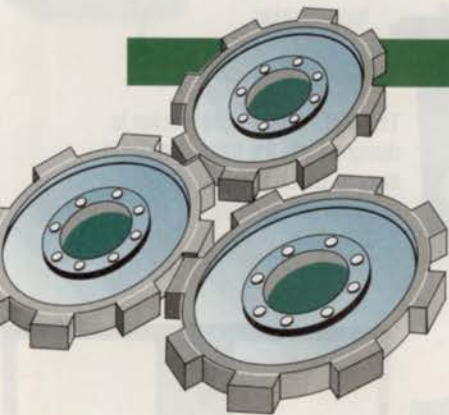
5 DESK COMPANION

A complete guide to the professionals you might have to contact for business purposes during the next 12 months, as well as key contacts at land grant universities across the country.



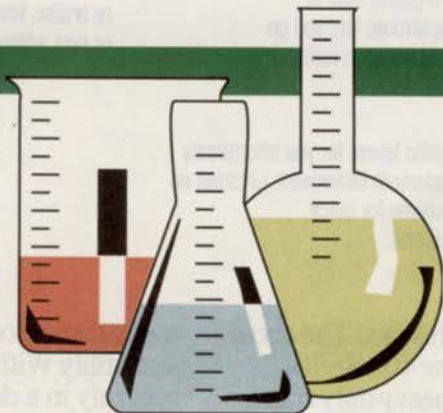
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American Society of Testing Materials, F-8 Committee, 1916 Race St., Philadelphia, PA 19103; (215) 299-5400.

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Sports Turf Research Institute, Bingley, West Yorkshire, ENGLAND BD16 1AU.

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Midwest Aquatic Plant Management Association, c/o Roy LeFevre, Dow Gardens, 1018 W. Main St., Midland, MI 48640; (517) 631-2677.

USDA Aquatic Weed Laboratory, University of California, Davis, CA 95616; (916) 752-0631.

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EPA, Office of Public Affairs, 401 M St. SW, Washington, D.C. 20460; (202) 382-4361.

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National Wildlife Federation, 1412 16th St. NW, Washington, D.C. 20036; (202) 797-6800.

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Lawn, Garden & Power Equipment Expo, 6100 Dutchman's Lane, 6th floor, Louisville, KY 40205; (800) 558-8767.

National Association of Wholesalers-Distributors, 1725 K St. NW, Suite 710, Washington, D.C. 20006; (202) 872-0885.

National Equipment Servicing Dealer's Association, P.O. Box 2116, Peoria, AZ 85380; (602) 566-0997.

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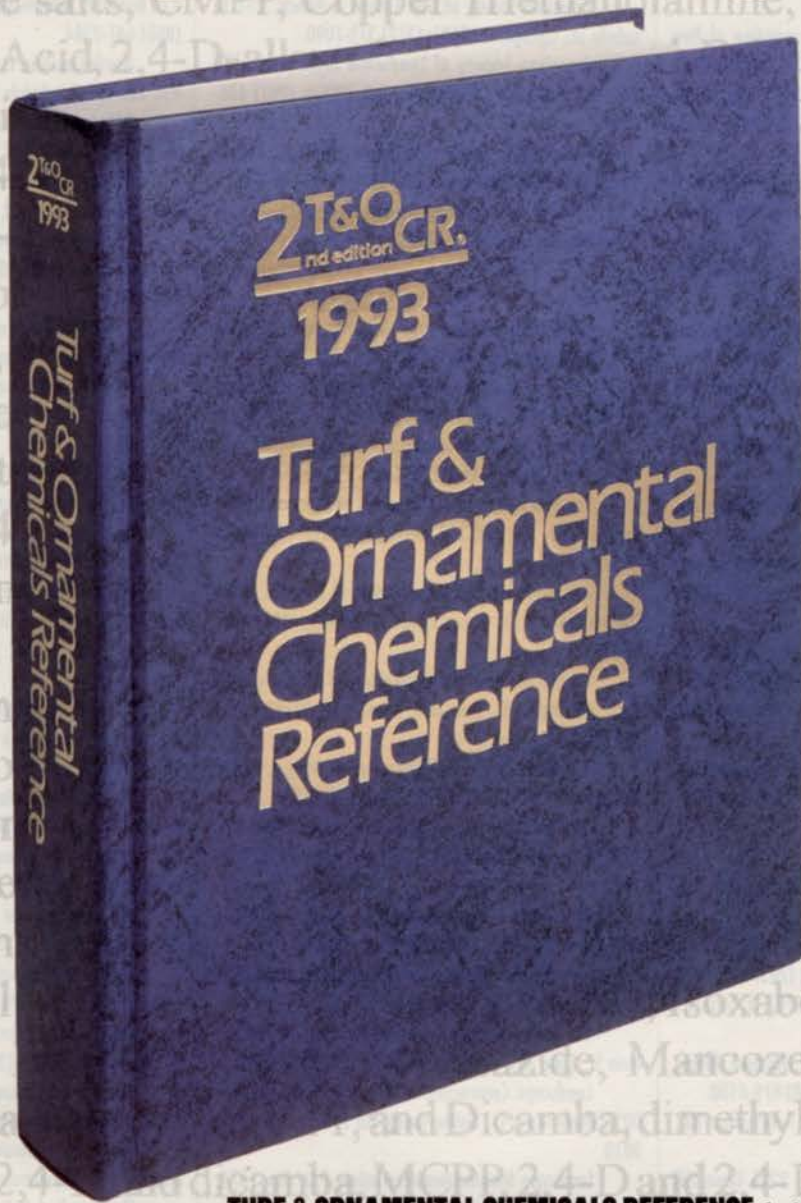
Carolinas Golf Course Superintendents Association, 1084 Frontage Rd., Clemson, SC 29631; (800) 476-4272.

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Public Golf Management Association, 8030 Cedar Ave., Suite 215, Minneapolis, MN 55425; (612) 854-7272.

USGA Green Section, Golf House, Far Hills, NJ 07931; (908) 234-2300.

West Texas Golf Course Superintendents Association, 6200 Estacado Lane, Amarillo, TX 79129; (806) 354-8447.

HORTICULTURE

American Horticultural Society, 7931 East Blvd. Dr., Alexandria, VA 22308; (800) 777-7931.

American Society for Horticultural Science, 113 S. West St., Suite 400, Alexandria, VA 22314; (703) 836-4606.

Kansas State Horticultural Society, 4707 W. Sixth St., Topeka, KS 66806; (913) 272-1487.

Ornamental Growers Association of Northern Illinois, 4 A East Wilson St., Batavia, IL 60510; (708) 879-0520.

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Professional Lawn Care Association of Ontario, 204 Bleams Rd., Kitchener, Ontario, CANADA N2C 2K6; (519) 748-5454.

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Minnesota Park Supervisors Association, 3400 Plymouth Blvd. Plymouth, MN 55447; (612) 550-7463.

Missouri Park & Recreation Association, 1203 Missouri Blvd., Jefferson City, MO 65101; (314) 636-3828.

National Institute on Parks & Grounds Management, P.O. Box 1936, Appleton, WI 54913; (414) 733-2301.

National Parks & Conservation Association, 1776 Massachusetts Ave. NW, #200, Washington, DC 20036; (202) 223-6722.

National Recreation & Park Association, 3101 Park Center Dr., Alexandria, VA 22302; (703) 820-4940.

Ontario Parks Association, 1220 Sheppard Ave. E., Toronto, Ontario, CANADA M2K 2X1; (416) 495-4088.

Southwest Park & Recreation Training Institute, Park Administration and Landscape Architecture Dept., P.O. Box 4219, Stop 3144, Texas Tech University, Lubbock, TX 79409; (806) 742-2860.

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Forestry/Rights-of-Way/Turf Coalition (Wis.), 2317 International Lane, Suite 109, Madison, WI 53704; (608) 249-2323.

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Ohio Pesticide Applicators for Responsible Regulation, 1215 Terminal Tower, Cleveland, OH 44113; (216) 781-1212.

Professional Pesticide Users of Connecticut, 88 Palmer Dr., South Windsor, CT 06074; (203) 644-4447.

Responsible Industry for a Sound Environment, 1155 15th St., NW, Suite 900, Washington, DC 20005; (202) 872-3860.

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American Seed Trade Association, 601 13th St., NW, Suite 570-South, Washington, D.C. 20005; (202) 638-3128.

American Sod Producers Association, 1855-A Hicks Rd., Rolling Meadows, IL 60008; (708) 705-9898.

Atlantic Seedmen's Association, 298 E. McCormack Ave., State College, PA 16801; (814) 237-0330.

Cultivated Sod Association of New Jersey, Soils & Crops Dept., P.O. Box 231, Cook College, Rutgers University, New Brunswick, NJ 08903; (201) 932-9453.

Manhattan Ryegrass Growers Association, P.O. Box 250, Hubbard, OR 97032; (503) 651-2130.

Oregon Chewings Fescue & Creeping Red Fescue Commission, (Oregon Fine Fescue Commission), 866 Lancaster Dr. SE, Salem, OR 97301; (503) 585-1157.

Oregon Highland Bentgrass Commission, P.O. Box 3366, Salem, OR 97302; (503) 364-3346.

Oregon Ryegrass Growers Seed Commission, P.O. Box 3366, Salem, OR 97302; (503) 364-3346.

Oregon Tall Fescue Commission, 866 Lancaster Dr. SE, Salem, OR 97301; (503) 585-1157.

Penncross Bentgrass Growers Association, P.O. Box 250, Hubbard, OR 97032; (503) 651-2130

Sod Growers Association of Michigan, 41339 Bemis

Rd., Belleville, MI 48111-9101; (313) 699-4678.

Sod Growers Association of Mid-America, 101 W. Lincoln, Peotone, IL 60468; (312) 258-6636.

TREES

American Forestry Association, P.O. Box 2000, 1516 P St. NW, Washington, DC 20013; (202) 667-3300.

American Society of Consulting Arborists, 3895 Upham St., Suite 12, Wheat Ridge, CO 80033; (303) 420-9554

Council of Tree & Landscape Appraisers, 1250 I Street NW, Suite 504, Washington, DC 20005; (202) 789-2592.

International Society of Arboriculture, P.O. Box GG, Savoy, IL 61874; (217) 355-9411.

International Society of Arboriculture/Western Chapter, 3610 N. 44th St., #240, Phoenix, AZ 85018; (602) 957-3434.

National Arbor Day Foundation, 211 N. 12th St., Lincoln, NE 68508; (402) 474-5655

National Arborist Association, The Meeting Place Mall, Rt. 101, P.O. Box 1094, Amherst, NH 03031; (603) 673-3311.

New York State Arborists Association, P.O. Box 58, Latham, NY 12110; (518) 783-1322.

Secret Arboretum, Ohio Agricultural Research & Development Center, Ohio State University, Wooster, OH 44691; (216) 263-3761.

TURFGRASS

Arkansas Turfgrass Association, Penthouse Suite, University Tower Bldg., 1123 S. University, Little Rock, AR 72204; (501) 663-8810.

Delaware Turfgrass Association, 331 Merrill Way, Smyrna, DE 19977; (302) 653-1021.

Florida Turfgrass Association, 302 S. Graham Ave., Orlando, FL 32803; (407) 898-6721.

Georgia Green Industry Association, P.O. Box 369, Epworth, GA 30541; (706) 492-4664.

Georgia Turfgrass Association, 5198 Ross Rd., Acworth, GA 30102; (404) 975-4123.

Georgia Turfgrass Foundation, 4565 S. Berkeley Lake Rd., Norcross, GA 30071; (404) 447-4985.

Green Industry Council of Missouri, 16100 Chesterfield Parkway South, Suite 140, Chesterfield, MO 63017; (314) 537-1360.

Hawaii Turfgrass Association, P.O. Box 31003, Honolulu, HI 96820; (808) 841-3305.

Illinois Turfgrass Foundation, Inc., 230 N. Michigan Ave., Chicago, IL 60601; (312) 372-9800.

Kansas Turfgrass Foundation, 226 Waters Hall, Kansas State University, Manhattan, KS 66506; (913) 532-6170.

Kentucky Turfgrass Council, c/o Dr. Dwight Barkley, Eastern Kentucky Univ., Richmond, KY 40475; (606) 622-2228.

The Lawn Institute, 1509 Johnson Ferry Rd. NE, Suite 190, Marietta, GA 30062; (404) 977-5492.

Louisiana Turfgrass Association, P.O. Box 25100, Baton Rouge, LA 70894; (504) 388-4141.

Maryland Turfgrass Council, Inc., Box 223, White Marsh, MD 21162; (410) 335-3700.

Massachusetts Turf & Lawn Grass Council, P.O. Box 489, Hadley, MA 01035; (413) 549-5295.

Michigan Turfgrass Foundation, Michigan State

University, Crop & Soil Sciences, P.O. Box 80071, Lansing, MI 48909; (517) 355-0266.

Midwest Regional Turf Foundation, Dept. of Agronomy, Purdue University, West Lafayette, IN 47907; (317) 494-9737.

Mississippi Turfgrass Association, P.O. Box 5426, Mississippi State, MS 39762; (601) 325-2311.

Musser International Turfgrass Foundation, P.O. Box 124, Sharon Center, OH 44274; (216) 239-2383.

National Turfgrass Evaluation Program, BARC-West, Bldg. 001, Room 333, Beltsville, MD 20705; (301) 344-2125.

Nebraska Turfgrass Foundation, P.O. Box 2118, Hastings, NE 68902; (402) 463-5418.

New Jersey Turfgrass Association, Soils & Crops Dept., P.O. Box 340, Milltown, NJ 08850; (908) 821-7134.

New York State Turfgrass Association, P.O. Box 612, Latham, NY 12110; (800) 873-8873.

New York Turf & Landscape Association, Inc., P.O. Box 307, Scarsdale, NY 10583; (914) 636-2875.

North Central Turfgrass Association, P.O. Box 10444, Fargo, ND 58106; (701) 232-0215.

Northern California Turf & Landscape Council, 3723 Jersey Rd., Fremont, CA 94538; (510) 490-6282.

Northwest Turfgrass Association, P.O. Box 1367 Olympia, WA 98507; (206) 754-0825.

Ohio Turfgrass Foundation, 2021 Coffey Rd., Columbus, OH 43210; (614) 292-2601.

Pennsylvania Turfgrass Council, P.O. Box 1078, Lemont, PA 16851-1078; (814) 863-3475.

Rocky Mountain Regional Turfgrass Association, P.O. Box 29, Franktown, CO 80116; (303) 688-3440.

South Carolina Lawn & Turfgrass Association, Clemson University, P.O. Box 325, Clemson, SC 29633.

Southern California Turfgrass Council; 26442 Vera Cruz, Mission Viejo, CA 92691; (714) 951-8547.

Southern Turfgrass Association, 1003 Howe, College Station, TX 77845; (409) 693-1656.

Southwest Turfgrass Association, Crop & Soils Dept., New Mexico State University, Las Cruces, NM 88003; (505) 646-3028.

Tennessee Turfgrass Association, c/o Mid-East Power Equipment Co., 533 Hagan St., Nashville, TN 37203; (615) 242-4600.

Texas Turfgrass Association, 1003 Howe, College Station, TX 77845; (409) 693-1656.

Turf & Landscape Council, P.O. Box 7506, Ventura, CA 93006; (805) 495-2770.

Turfgrass Council of North Carolina, P.O. Box 289, Southern Pines, NC 28388; (919) 695-1333.

Virginia Turfgrass Association, 2646 Greenland Ave. NW, Roanoke, VA 24012; (703) 362-4781.

Virginia Turfgrass Council, P.O. Box 9548, Virginia Beach, VA 23450; (804) 340-3473.

Wisconsin Turfgrass Association, Bishops Woods, Suite 104, Brookfield, WI 53005; (414) 274-6311.

WILDFLOWERS

National Wildflower Research Center, 2600 FM 973 North, Austin, TX 78725-4201; (512) 929-3600.

In the South, where weeds are a problem most of the year, you don't get much of a break from using herbi-



cidicides. So Southern turf stays strong and healthy.

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University studies show crabgrass and goosegrass germinate when soil at 2" reaches the following temperatures for three consecutive days: loam 50-52°F, heavy wet clay 53-57°F, sand 49-51°F. Measuring soil temperature allows you to predict germination, and time your herbicide application for maximum control.



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Land Grant Universities: Key Contacts

Alabama: Dr. Coleman Y. Ward, 21 Extension Hall, Auburn University, Auburn, AL 36849; (205) 844-5479

Arizona: Dr. David M. Kopec, Dept. of Plant Science, Forbes Bldg. Room 303, University of Arizona, Tucson, AZ 85721; (602) 621-5323

***Arkansas:** Dr. John W. King, Agronomy Dept., University of Arkansas, Plant Science Bldg. 115, Fayetteville, AR 72701; (501) 575-2354

California: Dr. Victor A. Gibeault, 4146 Batchelor Hall, Plant Sciences Dept., University of California, Riverside, CA 92521; (714) 787-3575

Colorado: Dr. Kenneth Brink, Horticulture Dept., Colorado State University, Ft. Collins, CO 80523; (303) 491-7070

Connecticut: Dr. William M. Dest, Plant Science Dept., 1376 Storrs Rd., W.B. Young Bldg., Room 112, University of Connecticut, Storrs, CT 06269-4067; (203) 486-0189

Florida: Dr. T.L. Freeman, Dept. of Plant Pathology, 2553 Fifield Hall, University of Florida, Gainesville, FL 32611-0513; (904) 392-7231

Georgia: Dr. Gil W. Landry Jr., Extension Agronomy Dept. University of Georgia, Griffin, GA 30223-1797; (404) 228-7300

Hawaii: Dr. Charles L. Murdoch, Horticulture Dept., 3190 Maile Way, University of Hawaii, Honolulu, HI 96822; (808) 948-7958

Idaho: Dr. Ribert Tripepi, Plant & Soil Sciences Dept., University of Idaho, Moscow, ID 83843; (208) 885-6276

Illinois: Dr. Tom W. Fermanian, 1009 Plant Sciences Lab, 1201 S. Dornier Dr., University of Illinois, Urbana, IL 61801; (217) 244-5147

Indiana: Dr. Jeff Lefton, Dept. of Agronomy, Room 2, 446 Lilly Hall, Purdue University, West Lafayette, IN 47907; (317) 494-9737

Iowa: Dr. Michael L. Agnew, Extension Turfgrass Specialist, Horticulture Dept., Iowa State University, Ames, IA 50011; (515) 294-0027

Kansas: Prof. Larry D. Leuthold, Horticulture Dept., Waters Hall, Room 227, Kansas State University, Manhattan, KS 66506-4002; (913) 532-6173

Kentucky: Dr. A.J. Powell Jr., Agronomy Dept., N-122 Agri Science Bldg., University of Kentucky, Lexington, KY 40546-0091; (606) 257-5606

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Crop & Soil Sciences Dept., Soil Science Bldg., Michigan State University, East Lansing, MI 48824-1114; (517) 355-0262

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Mississippi: Dr. Jeff V. Krans, Dr. Michael Goatley, Agronomy Dept., P.O. Box 5248, Mississippi State University, Mississippi State, MS 39762; (601) 325-2311

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New Hampshire: Dr. John M. Roberts, Plant Biology Dept., University of New Hampshire, Durham, NH 03824; (603) 862-3202

New Jersey: Dr. C. Reed Funk, Crops Science Dept., Box 231, Rutgers University, Cook College, New Brunswick, NJ 08903; (201) 932-9771

New Mexico: (no specialist on staff) Crop & Soil Science Dept., Box 3Q, New Mexico State University, Las Cruces, NM 88003; (505) 646-3405

New York: Dr. Norman H. Hummel Jr., Dr. Martin Petrovic, Dr. Joseph Neal, Floriculture & Ornamental Hort Dept., 17 Plant Science Dept., Cornell University, Ithaca, NY 14853; (607) 256-1625

North Carolina: Dr. Arthur H. Bruneau, Crop Science Dept., P.O. Box 7620, North Carolina State University, Raleigh, NC 27695; (919) 737-5854

Ohio: Dr. John R. Street, Agronomy Dept., 2021 Coffey Rd., Ohio State University, Columbus, OH 43210; (614) 292-2047

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Oregon: Dr. Thomas W. Cook, Dept. of Horticulture, Cordley Hall Room 2042, Oregon State University, Corvallis, OR 97331; (503) 737-3695

Pennsylvania: Dr. Pete Landschoot, Agronomy Dept., 116 ASI Bldg., Pennsylvania State University, University Park, PA 16802; (814) 863-1017

Rhode Island: Dr. C. Richard Skogley, Dr. Briget Ruettemele, Dr. Richard J. Hull, Dr. Michael Sullivan, Dr. Thomas Duff, Dr. Steven Alm, Dr. Richard Casagrande, Plant Science Dept., Woodward Hall, University of Rhode Island, Kingston, RI 02881; (401) 792-2791

South Carolina: Dr. Landon C. Miller, Horticulture Dept., 161 P & AS Bldg., Clemson University, Clemson, SC 29631; (803) 656-3403

Tennessee: Dr. Thomas Samples, Ornamental Hort & Land Design Dept., P.O. Box 1071, University of Tennessee, Knoxville, TN 37901-1071; (615) 974-7324

Texas: Dr. William E. Knoop, Texas Ag Extension Service, 17360 Coit Rd., Dallas, TX 75252-6599; (214) 231-5362 Dr. Richard L. Duble, Soil & Crop Sciences Dept., Texas A&M University, College Station, TX 77843; (409) 845-3041

Vermont: Dr. Norman Pellett, Plant & Soil Science Dept., University of Vermont, Burlington, VT 05405; (802) 656-2630

Virginia: Dr. David R. Chalmers, Dr. John R. Hall III, Dr. Richard Schmidt, Smyth Hall, Virginia Polytech & State University, Blacksburg, VA 24061; (703) 231-6305

Washington: Dr. William J. Johnston, Crop & Soil Sciences Dept., Washington State University, Pullman, WA 99164-6420; (509) 335-3475

Wisconsin: Dr. R.C. Newman, Horticulture Dept., University of Wisconsin, Madison, WI 53706; (608) 262-1490

Canada: Ms. Annette Anderson, Horticulture Science Dept., Ontario Ministry of Agriculture, University of Guelph, Guelph, Ontario, CANADA N1G 2W1; (519) 824-4120, ext. 2597

TABLES OF WEIGHTS AND MEASURES

Linear Measure

1 inch = 1,000 mils = 2.54 centimeters

12 inch = 1 foot = 0.3048 meter

3 feet = 1 yard = 0.9144 meter

5,280 feet = 1 mile = 1.6093 kilometers

Square Measure

1 square inch = 6.452 square centimeters

144 square inch = 1 square foot = 929.03 square centimeters

9 square feet = 1 sq. yard = 0.831 square meter

Cubic Measure

1 cubic inch = 16.387 cubic centimeters

1,728 cubic inches = 1 cubic foot = 0.0283 cubic meter

27 cubic feet = 1 cubic yard = 0.7646 cubic meter

16 cubic feet = 1 cord foot = 0.453 cubic meter

Dry Measure

1 pint = 33.60 cubic inches = 0.5506 liter

2 pints = 1 quart = 67.20 cubic inches = 1.1012 liters

8 quarts = 1 peck = 537.61 cubic inches = 8.8098 liters

4 pecks = 1 bushel = 2,150.42 cubic inches = 35.2390 liters

Liquid Measure

2 pints = 1 quart = 57.75 cubic inches = 0.9464 liter

4 quarts = 1 gallon = 231 cubic inches = 3.7854 liters

THE METRIC SYSTEM

Linear Measure

1 millimeter = 0.03937 inch

10 millimeters = 1 centimeter = 0.3937 inch

10 decimeters = 1 meter = 39.37 inches/3.2808 feet

10 meters = 1 decameter = 39.37 inches

10 decameters = 1 hectometer = 328.08 feet

Land Measure

1 square meter = 1 centiare = 1.549.9 yards

100 centiares = 1 are = 119.6 square yards

100 ares = 1 hectare = 2.471 acres

Capacity Measure

10 milliliters = 1 centiliter = 0.338 fluid ounce

10 centiliters = 1 deciliter = 3.38 fluid oz. or 0.1057 liquid quart

10 liters = 1 hectoliter = 26.418 gallons or 2.838 bushels

Weights

10 milligrams = 1 centigram = 0.1543 grain or 0.000353 ounce

10 centigrams = 1 decigram = 1.5432 grains

10 decagrams = 1 gram = 15.432 grains or 0.035274 ounce

10 hectograms = 1 kilogram = 2.2046 pounds

10 kilograms = 1 myriagram = 22.046 pounds