10 Week Winter Turfgrass Course, Cook College Campus, New Brunswick, New Jersey, Jan. 6-Mar. 13

Maryland Turfgrass Council, Landscape Maintenance Workshop, Interstate Inn, College Park, Md., Jan. 15.


Chemicals for Turfgrass Usage Seminar, Purdue University, West Lafayette, Indiana, Jan. 19-23.


Michigan State University Turfgrass Conference, Kellogg Center, East Lansing, Michigan, Jan. 21-22.

Ohio Chapter, International Society of Arboriculture and Ohio Nursery Association Short Course and Trade Show, Sheraton-Columbus Hotel, Columbus, Ohio, Jan. 25-29.

Southern Weed Science Society, 29th annual meeting, Statler Hilton, Dallas, Texas, Jan. 26-29.

One Week Winter Short Course, Turfgrass Management, West Tennessee Experiment Station, Jackson, Tenn., Jan. 26-30.

Associated Landscape Contractors of America, annual meeting and trade exhibit, Jan. 26-31.

Virginia Turfgrass Conference, Sheraton Motor Inn, Fredericksburg, Virginia, Jan. 28-29.


Connecticut Tree Protective Association, annual meeting, New Haven Plaza Hotel, Jan. 29.

Turf and Landscape Conference, annual meeting, Tappan Zee Inn, Nyack, N.Y., Feb. 4.


Golf Course Superintendent's Association of America, 47th international conference and show, Auditorium and Convention Hall, Minneapolis, Minn. Feb. 8-13.

Midwestern Chapter, International Society of Arboriculture, Sheraton-O'Hare Motor Hotel, Rosemont-Chicago, Ill., Feb. 10-12.


American Society of Consulting Arborists, 10th annual meeting, Vacation Village, San Diego, California, Feb. 12-14.

Canada Chapter, International Society of Arboriculture, Chateau Frontenac Hotel, Quebec City, Quebec, Feb. 12-14.


Wisconsin Arborist Association, annual convention, Midway Motor Lodge, LaCrosse, Wisconsin, Feb. 18-19.


Southern Chapter, International Society of Arboriculture, Myrtle Beach Hilton, Myrtle Beach, S. Carolina, Feb. 22-25.

Shade Tree Short Course, 19th annual, Schuman Continuing Education Center, Iowa State University, Ames, Iowa, Feb. 25-27.

Professional Turf and Plant Conference, eighth annual, Saisbury Club, Eisenhower Park, East Meadow, L.I., N.Y., Mar. 2.

Professional Turf and Landscape Conference, sixth annual, Ramada Inn, North Haven, Conn., Mar. 3.

Canadian Golf Superintendents Association, 27th Annual turfgrass show, Inn-on-the-Park, Toronto, Ontario, Mar. 8-10.

Northeastern Forest Pest Council, winter meeting, Copley Plaza Hotel, Boston, Mass., Mar. 10-11.

Pennsylvania Parks and Recreation Society, 29th annual meeting, Seven Springs Mountain Resort, Champion, Pa., Mar. 14-17.

Western Society of Weed Science, annual meeting, Sheraton-Portland Hotel, Portland, Oregon, Mar. 16-18.

American Society of Golf Course Architects, 30th annual meeting, Del Monte Lodge, Monterey, California, Mar. 21-26.

Arizona Turfgrass Council, 2nd annual Turfgrass Materials and Equipment Show, Veterans Memorial Coliseum, Phoenix, Arizona, April 14.

Southern California Turf and Landscape Institute, annual meeting, Royal Inn, Anaheim, California, Apr. 28-29.

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Toro Says Earnings Fell, But Market Share Boosted

Although Toro Co., earnings for the fourth quarter and fiscal 1975 fell short of fiscal 1974's records, the recession has helped the company boost its market share and it expects higher profit in fiscal 1976.

For all fiscal 1975, sales of the Minneapolis company were up about 15 percent from fiscal 1974's record $125 million, David T. McLaughlin, president, said. He added, however, that the gain was entirely due to inflation. In fiscal 1974, Toro's earnings rose 15 percent to $5.3 million, or $2.15 a share, on an 18 percent sales gain.

Study Shows $7,244 A Year Is Average Golf Hole Cost

It cost $467 more last year to maintain a golf hole than it did the year before, according to a national study just completed by Harris, Kerr, Forster & Co. The company surveyed maintenance costs at 100 clubs across the United States.

In a breakdown of the $7,244 that each green cost, the survey showed payroll and related costs amounted to $4,398 and all other expenses $2,306. This amounts to an overall cost of $130,392 for an 18-hole facility. For 1973, a similar study showed per hole costs of $6,777.

International Turf Report Published With 70 Papers

The second research conference of the International Turfgrass Society held in 1973 featured more than 80 presentations concerned with turfgrass culture and use throughout the world.

Study shows $7,244 a year is average golf hole cost.
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JANUARY 1976
Dr. Carl M. Berntsen, appointed director of Timber Management Research for the Forest Service, U. S. Department of Agriculture. Berntsen was formerly deputy director of the North Central Forest Experiment station, with headquarters at St. Paul, Minn. He succeeds Dr. Warren T. Doolittle, who was recently appointed Associate Deputy Chief for Research.

Margaret Herbst, named executive secretary for the New York State Nurserymen's Association. Herbst is also executive secretary for the New York State Arborist Assoc., New York State Association of Cemeteries, and the Long Island Nurserymen's Assoc.

Ralph W. Spaulding, elected president of the Lawn & Garden Distributors Association for 1975-76. The association is composed of 175 distributors and manufacturers of seeds, chemicals, fertilizer, soil and accessories for the lawn and garden market nationwide.


Edmond S. Bauer, elected an executive vice president and a member of the board of directors of Monsanto Company. Bauer will have responsibility for Monsanto Agricultural Products Company and Monsanto Commercial Products Company.

David G. Percy, appointed advertising manager of agricultural and outdoor power products for International Harvester. This new assignment combines all of the company's Agricultural Equipment Division's products in a single advertising group. Also, Raul N. Gutierrez, named media and traffic manager.

Harvey F. Polster, named manager of product planning for the Simplicity Manufacturing Co. Division, Allis-Chalmers Corp. Paul A. Brow, named manager of Lawn and Garden Equipment for the Agricultural Sales and Marketing Division. In related moves, James Retert, appointed the manager of merchandising Lawn and Garden Equipment. Also, Jacques F. Trevillyan, appointed president, Simplicity Manufacturing Company.
A new natural team, Glade Kentucky bluegrass and trees! Glade performs well in moderate shade, especially when mixed with fine fescues. A selection from Rutgers University (tested as P-29), Glade is an improved, low-growing, medium to dark green grass with fine leaf texture and thick, rapid-growing rhizome and root system. Glade has good resistance to important turfgrass diseases including powdery mildew.

Like boys and trees, Glade and shade go together. Mixed with other elite bluegrasses and fine fescues in moderate shade, Glade is a natural.

Get new Glade at local wholesale seed distributors.
New Products

LIGHT: Here's a new portable industrial light "made by mechanics for mechanics" says Rimco Industries. According to the manufacturer, the unit features: infinite light position adjustment; three grounded 110-volt outlets on the stand to reduce the need for multiple extension cords; outlet box can be adjusted vertically on the stand and contains a switch controlling the light fixture. Constructed of heavy materials throughout, the unit uses UL approved components. These include a molded ground plug and a 25 ft. SJTW-A orange cord. A 150-watt heavy duty water resistant and protected incandescent fixture if standard, with fluorescent or other type lighting on request. Standard model specifications are: height: 60 in.; reach: 60 in.; weight: 27 lbs.; Cord: 25 ft.

Circle 702 on free information card.

FLEXIBLE: Fuerst Brothers, Inc., says this new 3-point mounted frame fits either their Hercules or Peerless model harrows. It is also said to permit operation at higher speeds, provide better control and increase ease of transport. The harrow is attached to the frame so that full flexibility is retained and frame cannot ride on the ground.

Circle 701 on free information card.

HIGH WHEELS: Sarlo Power Mowers, Inc., new high wheelers lower the resistance of the turf compared to small wheels. High wheels roll over holes small wheels fall into, says the manufacturer. Also they permit larger engine sizes without reduction of maneuverability.

Circle 703 on free information card.

CLAY SPADE: This unit adapts to any tractor, portable hydraulic power source or other mobile equipment, claims Robinson Industries. Using optional tools, the unit becomes a light duty breaker, ground rod driver, a tamper and a chipper.

Circle 704 on free information card.
It cuts grass with fishing line.™

"The WEED EATER saves the university close to $14,000 a year."
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MASK: This respirator mask from Mine Safety Appliances Co., features a Comfo II facepiece with a soft inturned lip construction for an efficient face seal, the company claims. Twin disposable combination chemical cartridges and particulate filters located on each side of the facepiece purify air breathed by the user. The pesticide mask is listed by the U.S. Department of Agriculture for protection against pesticides.

Circle 712 on free information card.

POWER PLANT: Allis-Chalmers has four new revolving field alternators, producing power in a stationary element which is conducted to outlets through solid connections. These units are used to provide electricity at the jobsite.

Circle 713 on free information card.

TRACTOR: This is Gravely's new Model 524, 8 HP, 4-speed, manual start tractor. The unit is powered by a Kohler K181, air cooled engine. The engine is designed to operate efficiently under all conditions and to deliver full-rated horsepower. All models feature Gravely all-gear and steel shaft drive from the engine to the attachment.

Circle 710 on free information card.

TRENCHER: Vermeer Manufacturing Co. has a new heavy-duty, rubber-tired trencher. According to the company, the M-475 offers a choice of two engines — both liquid-cooled power in the 192 Ford gas or 254 Ford diesel engine. The unit retains all of the heavy-duty construction and handling features of the M-470, including 15,000 lb. capacity, full floating Rockwell axles, hydraulic four-wheel brakes, power articulated steering and a heavy-duty electrically welded frame, says the manufacturer.

Circle 711 on free information card.
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DistRICT MANAGERS for growth areas in Florida. Duties include supervising all aspects (training, sales production, quality control and administration) of our established turf and household pest control business in that district. This is an excellent opportunity for a man with training in entomology, horticulture or related fields and with a moderate-to-heavy business background. A successfully proven training program is available. We are a growth company with ambitious but realistic goals, presently grossing over $1,500,000 annually. Generous compensation and benefits for qualified man. Send resume to: Ronald W. Collins, President, R. W. Collins, Inc. P.O. Box 2477, Satellite Beach, Florida 32937.

SUPERINTENDENT — Large memorial park cemetery in north central states has need of a maintenance and development supervisor. Degree in related field, or good education and five years of practical experience will be considered. Salary range $15,000-$20,000. All inquiries strictly confidential. Send resume, include education, experience, references. Box 144, Weeds, Trees & Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

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WANTED, good tree spraying unit. Contact A. Leon Bush, 1517 East 3rd St., Pueblo, Colorado 81001.

January 1976

Chemical studies conducted at Wye College, London University, are leading researchers to discover many of nature's own defensive chemicals. The tests were conducted by scientists who felt that many plant disease micro-organisms are developing resistance to commercial fungicides. Resistance, scientists say, can be caused by genetic change in the fungal cell which originate as mutations. At the Agricultural Research Council's unit at Wye, researchers are working on the premise that although growing plants are always exposed to a wide range of fungi, they are completely resistant to most of them. Many times resistance can be related to morphological characteristics. There is, however, evidence that natural disease resistance may be associated with protective chemicals within the plant cells.

One development came from scientists asking a simple question: "Why should roots growing in the soil always remain healthy?" After all, a living root is surrounded by millions of bacteria and fungi that inhabit the soil yet it is not attacked by them. If, however, the root were killed by dipping it into boiling water and then put back into the soil, the micro-organisms would soon destroy it. This led to a simple experiment in which pea and bean seedlings were grown with their roots in water. When the roots were extracted and examined, the antibotics with antifungal properties were isolated and identified, indicating that the living root is able to survive in the hostile environment of the soil because it produces antibiotics to protect itself.

University of Delaware's Dr. William H. Mitchell, turf specialist, has one of the largest test plots we heard of — a nine hole three par playback course. The campus course looks like any conventional course, but beneath the neatly-trimmed turf, the ground is a maze of wires, pipes, tubes, drains, and soil types. Each green consists of eight separate soil mixtures, varying from sand and peat moss to the light sandy soils of lower Delaware and black soils high in organic matter.

Some of Mitchell's objectives are to test out materials which could lower the cost of golf course construction, study subsurface irrigation methods which require less water and are less disruptive to play, identify superior kinds of grasses which tolerate divot removal and resist compaction, and develop ways to reduce maintenance costs. His underground system of drains on this course makes it possible to find out which chemical materials are leaching and which soil types hold the herbicides and fungicides the best.

What will the golf course of the future look like? The American Society of Golf Course Architects predict generally shorter courses designed for versatile maintenance equipment and created for the average golfer. The long, monster courses which have been so prevalent will give way to shorter courses measuring anywhere from 5,000 to 6,600 yards. With less length to challenge brute strength, golfers will need to devote more concentration to accuracy and strategy. Land availability is an obvious factor in the anticipated reduction of course acreage. Yet, in an architects survey, the most frequently cited reason for shorter courses was the average golfers' ability. The soaring costs of building and maintaining a golf course further contribute to the shorter course outlook. Maintenance economy was cited by numerous architects.

Philadelphia Association of Golf Course Superintendents celebrated their 50th anniversary recently. The event took place at the site of the original meeting; Whitemarsh Country Club. Honored guest for the evening was the only surviving member of the five founding fathers, Herbert F. Jewson and his wife Mary. The Greenskeepers Association of the Philadelphia Section held their first meeting on September 14, 1925.

Hubert E. Buckley, (left). Irrigation Consultant from Gainesville, Florida and Doyle C. Jones, Landscape Construction Supervisor, Walt Disney World, Orlando, were elected president and vice president respectively of the Florida Turfgrass Association. Lou F. Oxnevard, Riviera Country Club, not pictured, was elected secretary-treasurer. Also elected to the Board of Directors were: H. Anthony Kimball, The Deerwood Club; Lewis C. Dolan, Cypress Creek Golf Club; Clifford L. Woodliff, Lehigh Acres Development; Robert H. Enochs, International Minerals and Chemical Corp.; and Stanley F. Cruse, Pursley Grass Co.