TURFAX™
of the
International Sports Turf Institute, Inc.

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TURFAX — The International Newsletter about Current Developments in Turfgrass

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This is the first edition of TURFAX, prepared by Dr. James B Beard of the International Sports Turf Institute, Inc. The goal of this newsletter is to provide international turf specialists with a network for current information about turf. It is FAXed to all Institute Affiliates that utilize the ISTI technical assistance services on an annual basis. Your comments, suggestions, and requests are welcome.

Suggestion Start a permanent file for your ISTI TURFAX issues.

NEWS RELEASE

The International Sports Turf Institute has been formed by Dr. James B. Beard, who recently retired as Professor of Turfgrass Science at Texas A&M University after 35 years in public service in turfgrass research and education. Dr. Beard will be devoting full time to development of the Institute as its Director and Chief Scientist. The Institute's goals are (a) to develop position papers and formal presentations addressing current issues affecting the turfgrass industry, (b) to provide technical assistance encompassing lectures, seminars, and site assessments on turfgrass establishment and culture of sports fields, golf courses, race courses, sod farms, lawns and roadsides, and (c) to develop and guide turfgrass research programs and product developments. The Institute currently has major contracts with turfgrass organizations and associations in five countries.

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JB VISITATIONS

October-Japan.

Presented two half-day seminars sponsored by Nichino Ryokka Co.. Visited Tokyo and Hakodate horse race tracks. Both were composed of *Zoysia japonica.* Observed mesh root-zone tests under 4 starting gate sites at Tokyo and a species/cultivar/mesh study at Hakodate. Initial mesh performance was good, but too early to draw final conclusions. Severe rust disease on susceptible cultivars at Hakodate.

Visited mesh + high-sand root zone tests (mesh treated versus untreated) on (1) a *Agrostis stolonifera* subsp. *stolonifera* (creeping bentgrass) putting green and (2) a *Poa pratensis* (Kentucky bluegrass) + *Lolium perenne* (perennial ryegrass) tee on a 36-hole golf course near Mt. Fuji. Comparative studies established properly and off to a good start, thanks to Hideaki Tonogi. Too early to draw conclusions. They also have completed reconstruction of 6 putting greens utilizing the Texas-USGA Method. The superintendent, a 30-year veteran, stated they were the easiest *Agrostis stolonifera* (creeping bentgrass) greens to maintain that he has ever experienced.

Visited a mountainous golf course near the sea. Had one of the most severe fog-low light problems for turf culture that I have seen.

October-Italy.

Visited golf course outside Roma. A rapidly developing, serious takeall patch (*Gaeumannomyces graminis* var. *avenae*) disease problem observed in July on *Agrostis stolonifera* (creeping bentgrass) greens was fully controlled via propiconazole.

Near Torino, evaluated the Italian Golf Federation sponsored research. Sixteen of the newer *Agrostis* (bentgrass) cultivars are being evaluated on a Texas-USGA high-sand constructed putting green in three replications. Research off to a very good start, possibly the best in Europe, thanks to Paolo Croce. Density counts made in September; plus turf quality assessments every 15 days. Putter plus several PSU experimentals showing very high shoot densities. Stay tuned for final conclusions in four years.

October-Minneapolis, Minnesota.

Participated in C-5 Turfgrass Division Technical Meetings of the American Society of Agronomy. There were 112 turfgrass research papers presented.

November-Stockholm, Sweden.

Presented 3-day Basic Turfgrass Seminar to greenkeepers sponsored by the Swedish Golf Association. Their SGA Green Section Agronomists were well represented and a very active group.

November-Melbourne, Australia.

Presented half-day seminars on high-sand root zones and mesh element research findings at Moonee Valley Racing Club. Also, visited the historic Melbourne Cricket Ground where they had just completed installation of a mesh element + high-sand root zone, with *Cynodon* (bermudagrass) washed-sod turfing. This is a two-sports facility, cricket and Australian rules football, that hosts very intense year-round play with 90 football games alone. First cricket event was scheduled 2 weeks after installation.

PUBLICATIONS AVAILABLE

U.S. TURFGRASS VARIETY LIST, 1992. NTEP No. 92-11. By C. Rose-Fricker, W.A. Meyer, and K.N. Morris. 61 pages. The most complete current summary of commercially available and near-release US turfgrass cultivars; plus the company or institution name, address, phone number and contact person for each. Published every two years. Available free by contacting Mr. Kevin N. Morris, National Director, National Turfgrass Evaluation Program, Beltsville Agricultural Research Center, Building 001, Room 328, BARC-West, Beltsville, Maryland, USA 20705.
FAX: (301) 504-5167

62ND ANNUAL MICHIGAN TURFGRASS CONFERENCE PROCEEDINGS.
Vol. 21, 235 pages (1992). Contains 34 articles, under 6 headings: MSU turfgrass research reports, environmental issues, golf turf management, lawn care, grounds, and athletic fields. Available free by contacting Dr. Paul E. Rieke, Department of Crop and Soil Sciences, Michigan State University, East Lansing, Michigan USA 48824.
FAX: (517) 353-5174

TEXAS TURFGRASS RESEARCH - 1992
Texas Agricultural Experiment Station Consolidated PR-4977-5010. 91 pages. Contains 33 turfgrass research reports, including 12 by J.B. Beard. Available free by contacting Mr. Tom Sneed, Agricultural Communications Department, Texas A&M University, College Station, Texas USA 77843.
FAX: (409) 845-2414

1992 RESEARCH REPORT-GUELPH TURFGRASS INSTITUTE.
150 pages. Contains 29 turfgrass research reports. Available free by contacting Ms. Ursula Rodrigues, Office of Continuing Education, Guelph Turfgrass Institute, University of Guelph, Guelph, Ontario, Canada N1G 2W1
FAX: (519) 767-0758

1992 CONFERENCE PROCEEDING-63RD INTERNATIONAL GOLF COURSE CONFERENCE AND SHOW.
82 pages. Two-page abstracts of 39 papers presented. Contact Education Department, Golf Course Superintendents Association of America, 1421 Research Park Drive, Lawrence, Kansas USA 66049-3859.
Fax: (913) 841-2407

UPCOMING EVENTS

July 18-24, 1993. 7th International Turfgrass Research Conference. Palm Beach, Florida, USA. The Breakers Hotel. Over 200 turfgrass research and technical papers are scheduled, 75% as oral presentations and 25% as posters.
Contact Dr. J.R. Hall, Dept. of Crop and Soil Environmental Sciences, Virginia Tech University, Blacksburg, Virginia, USA 24061-0403. Fax: (703) 231-3431.

Nov. 7-12, 1993. Annual Meetings of American Society of Agronomy and the C-5 Turfgrass Division. Cincinnati, Ohio, USA. Contact ASA Headquarters, 677 South Segoe Road, Madison, Wisconsin, USA 53711. Fax: (608) 274-1212.

TURF ROLLING OF GREENS - BENEFITS, AND PRECAUTIONS*

by

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Historically, turf rolling was one of the most basic cultural practices utilized in maintenance of turfs and was regularly utilized for many centuries. To this day, frequent rolling at intervals ranging from 7 to 3 times weekly is practiced on high quality bowling greens around the world. In their book "Turf for Golf Courses" published in the 1920's Piper and Oakley stated "Rolling is a treatment that should be employed in moderation, especially on putting-greens. The popular belief that rolling appreciably promotes the growth of grass has been largely responsible for the liberal use of the roller." A scientific understanding as to the negative effects of turf rolling on the root zone and indirectly on turfgrass growing conditions evolved in the 1950's. This resulted in a strategy to minimize rolling of putting greens in order to avoid soil compaction problems and resultant lack of aeration that restricts root growth and weakens the turf. These effects are of particular concern on greens constructed of fine-textured, clayey soils.

Turf rolling reentered the cultural program as an option with the extensive use of high-sand root zones in the construction of putting greens, and this renewed interest is being driven by the desire for fast putting greens. Use of the proper sands, such as the Texas-USGA Method, in root-zone construction results in minimal susceptibility to soil compaction problems. Such root zones may be rolled without imparting detrimental compaction effects; thereby accomplishing improved smoothness and speed of roll. This is of great interest in that putting speed may be enhanced via turf rolling, which reduces the need to utilize an excessively close mowing height that results in turf thinning and subsequent development of moss and algae problems.

The effects of turf rolling on ball roll distance were assessed with (a) a 3-gang powered mechanical roller by S. Hammon and M. Morris at Crystal Downs C. C., Frankfort, Michigan and (b) a single weighted powered mechanical walking unit by D. Kendziorski and J. Holmes at the Grand Traverse Resort, Traverse City, Michigan. The pressure applied was 2.2 kg (4.8 lb) per lateral 25 mm (1 inch) for the former and 5.4 kg (11.9 lb) per lateral 25 mm (1 inch) for the latter. Both experimental sites were constructed of a well-drained, high-sand root zone. The turf was composed of mature *Agrostis stolonifera* subsp. *stolonifera*, (creeping bentgrass), that had a minimum mat accumulation. The nonrolled putting green ball roll distance at the test sites ranged from 2.8 to 3.3 meters (9.3 to 10.7 feet) during the duration of the study conducted in September of 1992. Five experiments were conducted to assess the effects of: (a) one-time rolled versus not rolled and (b) 4 intensities of rolling. A single turf rolling resulted in a ~ 300 mm (1 foot) increase in ball roll distance at both locations when assessed in mid-morning of the same day, with an ~ 150 mm (0.5 foot) increase in ball roll distance persisting through late afternoon of the same day. Comparisons of rolling intensities of 1, 2, 3, and 4 times resulted in enhanced ball roll distance ranging from 10 to 20 percent at both experimental locations. There basically was no significant difference in effect on ball roll distance between the two pressures of 2.2 and 5.4 kg per lateral 25 mm. These data demonstrate a substantial enhancement in putting green ball roll speed from turf rolling, while also greatly improving the smoothness and uniformity of ball roll. These investigations will be continued during 1993.

Two alternatives to turf rolling that may achieve increased putting green speed include (a) excessively close mowing and (b) frequent topdressing. However, very close mowing eventually introduces problems in terms of a weakened turf, with resultant thinning that provides openings for moss and algae invasion. Topdressing is more expensive and disruptive of play.

This author first observed a newly developed mobile, mechanically powered turf roller for putting greens over 7 years ago in Melbourne, Australia. It led to authorship of a turf rolling article in the January 1986 issue of Grounds Maintenance. Now after 6 years, the interest in turf rolling of high-sand root zone greens has increased to the point that US turf equipment manufacturers are developing powered mechanical models of turf rollers specifically designed for putting greens. A prime time for use of a turf roller to achieve increased smoothness and distance of ball roll is just prior to tournaments. There is a learning curve of proper utilization of a turf roller, as with any cultural practice being considered for routine use. A significant portion of this technical information remains to be generated.

A primary precaution in the routine use of turf rolling is to employ it primarily in situations where potential soil compaction is minimal, such as high-sand root zones of the proper particle size distribution. Soils with significant clay contents have a much greater potential for soil compaction from turf rolling, plus associated problems in maintaining turfgrasses. This may limit turf roller use at a minimal frequency if at all on clayey soils, and if used the turf roller selected should impose a lighter pressure than on high-sand root zones.

Based on the studies reported herein, and especially in view of the golfer's desire for fast putting greens, it is evident that turf rolling will become a more important and perhaps a significant routine component in the cultural maintenance program of high-sand putting greens. As with any cultural practice, turf rolling should not be viewed as a panacea to solve a multiplicity of problems. Rather, it is one additional component in a range of cultural practices available to turfgrass managers to produce the highest quality surface on a cost-efficient basis, particularly in relation to the smoothness and distance of ball roll.

*Abstract of paper presented at 64th GCSAA International Golf Course Conference and Show. Anaheim, California. Jan. 27, 1993.

UPCOMING JB VISITATIONS

Provided for Institute Affiliates who might wish to request a visitation when I'm nearby.

Feb. 23-25 - Columbus, Ohio.
Feb. 26-Mar. 3 - San Francisco/Manteca, California.
Mar. 21-26 - Saint Johns, New Brunswick, Canada.
April (tentative) - New Zealand, Singapore, Hong Kong.
May or early June - Europe.

Informational Notes

- Many publications from the United States refer to turfgrass "varieties." This term is used in the US seed trade. However, the correct botanical term is cultivar.

- Plant taxonomist have changed the scientific name of creeping bentgrass to *Agrostis stolonifera* subsp. *stolonifera L*; from *Agrostis palustris* Huds.

- Plant pathologists continue to change names i.e. takeall patch (*Gaeumannomyces graminis* var. *avenae*) was formerly ophiobolus patch (*Ophiobolus graminis Sacc.*).