TURF FIELD DAY AT BELTSVILLE

The first annual national open invitation Turf Field Day at the Beltsville Turf Gardens on Friday, October 15, 1948, was, according to the weather, perfect. The attendance was 175, and, according to the comments of the guests, it was an unqualified success. The USGA Green Section and the Bureau of Plant Industry, Soils and Agricultural Engineering, cooperating, were hosts.

Dr. Fred V. Grau, USGA Green Section director, opened the meeting at 9:30 A.M. at the flag pole in front of the Administration Building. Dr. R. M. Salter, Chief of the Bureau, greeted the group warmly and expressed friendly, open cooperation on the specialized uses of grass. H. E. Allanson, Assistant Chief of the Bureau and Chairman of the Station Committee (for developing the lawns and grounds) echoed Dr. Salter's sentiments, expressed appreciation for the cooperation of the USGA Green Section, and regretted that he had only one more year of active service.

Introductions included E. W. Van Gorder, from Palo Alto, Cal.; Prof. H. B. Musser, Pennsylvania Experiment Station, who is Editor of the new USGA book on "Turf Management for Golf Courses" and is in charge of the largest turf experimental set-up in the United States; three graduate students from Penn State-James Watson, Neal Wright, John Stanford; and Dr. Kenyon T. Payne, in charge of the turf grass breeding at Purdue University. The USGA was represented by Sherrill Sherman, Utica, N. Y.

Raymond Knight, Maintenance Foreman for the Bureau's Station Committee, had a display of the machinery used on the grounds. A tour of the Turf Gardens included:

Stop No. 1. Alta fescue lawn one year old, growing on sand, gravel and clay. Root growth was good. Turf is coarse and open but provides good appearance and setting for buildings. This area is designed for appearance only.

Stop No. 2. Ureaform trials on Alta fescue. Walter Armiger explained the manufacture and expected future of Ureaform fertilizers, which will feed turf more slowly and more evenly over longer periods of time than will inorganic nitrogen fertilizers.

Stop No. 3. *Zoysia japonica* planted vegetatively into existing bluegrass turf May 3, 4, and 5, 1948. Roger Peacock, professional, won a dollar bill for first finding two plugs of Zoysia. Z-52 establishes more easily than does Z-9.

Stop No. 4. Soil material from steam line excavations particularly unfavorable to good grass production.

Stop No. 5. Weed control plots: Dr. Chappell. Materials giving good results at other stations have not been impressive under Beltsville conditions.

Stop No. 6. The coffee at the cafeteria seemed to be appreciated by nearly everyone.

Stop No. 7. U-3 Bermudagrass sprigged vegetatively in July, 1947, had been aerified and overseeded with cool-season grasses in the fall of 1947. There has been no irrigation. Mowers are set at ½ inch. The best-looking turf was produced with (1) a mixture of bentgrasses and (2) B-27 bluegrass. Roger Peacock hit eight-iron shots from different areas. No. 1 choice was the U-3 Bermuda and B-27 bluegrass combination. Divots were smaller and flew to pieces; turf was firmer. Divots

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Steel Spikes vs. Lug Soles

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soles, but the steel spikes tore the turf badly. Twisting the shoes for a stance damaged the turf more with the steel spikes than with the lugs.

After the walking ended, the turf on the paths where the lug soles were used recovered more rapidly than where the steel spikes had been used. The accompanying photograph shows the relative extent of injury and recovery 30 days after the walking stopped.

It is admitted that this test was not repeated a sufficient number of times on different grasses and under different soil and climatic conditions. It represents results at Beltsville on one grass on one soil type. It is believed, however, that this test was sufficiently representative to serve as a guide to further testing.

On the basis of the trial we can say that, under these conditions, there is no valid reason for barring lug soles from golf courses because of damage done to the turf.

Experts Tour Beltsville Turf Gardens

Bureau of Plant Industry, Soils and Agricultural Engineering—Photo by W. J. Mead

Field Day group of 175 being addressed by Dr. R. M. Salter, Chief of the Bureau of Plant Industry, Soils and Agricultural Engineering, in front of Administration Building.

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from the bent-Bermuda turf were larger and came out as solid chunks of turf. U-3 Bermudagrass is in use on tees in Washington. Healing of divots is complete in from three to four weeks where nitrogen fertilizer is adequate. This experimental area received 6¼ pounds of nitrogen to 1,000 square feet.

Stop No. 8. Bentgrass evaluation studies. Out of 100 bentgrasses,, only% few were outstanding under no-fungicide and no-irrigation management and with ¼ inch and ½ inch heights of cut. Best were Arlington (C-l), Congressional (C-19), C-114 from Atlantic City, and C-102 from Hershey, Pa. These bents will be furnished to cooperating experiment stations (Pennsylvania. Purdue, Rhode Island) for breeding work. At Beltsville these good bents will be increased vegetatively and will be exhaustively tested alone and in combination with Bermudagrasses and with Zoysia grasses.

Stop No. 9. Steel spikes and lug soles on golf shoes were tested on bent turf. After 25 round trips in the same path for nine days, the injury was greater from spikes than from lugs. Most significant comment was that, when greens are wet and soft, a heavy man wearing lugs would create depressions in turf especially near the cup where a putt would be deflected.

Stop No. 10. A number of southern grasses in small plots was observed.

Stop No. 11. First range of 10'x90' plots (summer-growing grasses) for observation only. Mowing heights of approximately ½ inch, 2 inches, 4 inches, and mowed once only when seed is ripe. Most significant observation: summer grasses go dormant sooner at higher mowing heights. Zoysia grasses resist weed invasions to a high degree.

Stop No. 12. "Nurse grass" tests newly established, using ryegrass, redtop, timothy and Alta fescue to observe effects on permanent seedings.

Stop No. 13. Q-10 creeping red fescue nursery to check uniformity of progeny from this promising grass.

Observed newly-established plots sown to seed of Z-52 strain of Zoysia *japonica* which had been winter-harvested 'in greenhouse from sod taken in when dormant period began in November, 1947.

New seedings of B-27 and common bluegrass for studies of combinations with Zoysia and Bermuda.

Stop No. 14. Lunch at Bureau of Plant Industry cafeteria.

Immediately after lunch, by popular request, the Aerifier was operated on a bluegrass-fescue sod.

Stop No. 15. A study of management for seed production on the Z-52 strain of *Zoysia japonica* grown vegetatively in greenhouse, then planted in increase nursery in S-foot rows in May, 1948.

Stop No. 16. The bentgrass fairway area was established to a mixture of creeping strains together with seed of Highland Colonial, Astoria Colonial and seaside bent. Mower set at ½ inch. No artificial irrigation. Urea-form fertilizers are being studied on this turf. *Zoysiagrasses* and Bermudagrass will be introduced into this turf for further study.