

Tifgreen, New High-Rated Bermuda, Is Released

By B. P. ROBINSON and J. M. LATHAM, Jr.*

ONE of the primary objectives of the turfgrass program at the Coastal Plain Experiment Station has been the development of improved putting green Bermudagrasses. Releases in the past were Tiflawn, in 1950, and Tiffine in 1953. As in any breeding program, the search for new types and varieties is a never ending proposition.

Origin

Fine leaf texture is one of the highly desired characteristics of putting green grasses. To achieve this in Bermudagrass, the breeder has utilized a species from South Africa (*Cynodon transvaalensis*). In most instances when this grass is hybridized with another, it imports a narrow leaf width to the offspring.

In 1946, W. G. Thomas and Walter Harkney of the Charlotte, (N. C.) CC, selected a fine-textured Bermuda from their fourth green. This was sent to Tifton for further observations. During 1951 this grass, along with seven others, was cross-pollinated with the South African Bermuda. The 432 hybrid seedlings from these crosses were plant-

ed in a screening nursery in 1952. Ratings (shown in Table I) on height of growth, rate of spread, disease incidence, and turf quality were made on the seedlings. The best seedlings were transplanted into putting green test plots in 1953 (among them was selection 328 — Charlotte CC selection x the South African Bermuda).

Experimental Results

The putting green test plots were maintained similar to golf greens during 1953, 1954, and 1955. The new hybrids, their parents, and several other promising selections were graded on the many characters which make up desirable turf quality — rate of coverage, height of growth, fineness of leaves, recovery from ryegrass overseeding, lateral spread (aggressiveness), disease incidence, seedhead production, color, general appearance, et cetera. Selection 328 re-

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Table I
Comparative Ratings of Several Bermudagrass Selections
Growing in an Experimental Putting Green
Tifton, Georgia, 1953 - 1955

Bermudagrass Selection	1953 Ratings*		1954 Ratings		1955 Ratings			
	Coverage Rate	Height of turf (in.)	Fineness of leaves	Turf Quality	Recovery from Ryegrass Overseeding	Turf Quality	Lateral Spread in inches	Average Rating
Tifgreen	1.5	1.8	2.0	1.6	1.5	1.9	11.5	1.7
Tiffine	3.5	2.5	4.5	4.5	2.5	3.9	9.0	3.8
Charlotte CC				4.5	3.5	4.4	5.5	4.1
<i>C. transvaalensis</i>	2.0	4.0	1.0	5.8	4.0	7.1	-1.0	4.0
Gene Tift	1.0	3.5	4.5	4.4	2.0	5.0	-1.5	3.4
Everglades No. 1	1.5	3.5	6.0	3.0		6.8	4.5	4.3
<i>C. magennisii</i>	5.0	1.8	4.0	4.0	4.0	7.9	3.0	4.9
Common (seeded)	2.0	8.0	10.0	8.8	5.0	8.8	-7.5	6.9
.05 LSD	1.6	1.1	1.6	1.1	1.2	1.2	NS	
.01 LSD	2.2	1.5	2.2	1.5	1.7	1.7	NS	

*Rating of 1 was used for best and 5 or 10 poorest

Table II
Comparative Ratings of Bermuda Seedlings Growing
in a Screening Nursery at Tifton, Georgia, 1952

Bermuda Selection	Growth in Inches		Disease Rating*	Turf Quality Rating
	Height	Spread		
Tifgreen	2.0	33	2	1
Charlotte Selection	1.5	20	3	2
<i>C. transvaalensis</i>	2.0	18	3	2

*Ratings of 1 were for no disease and good quality and 5 for heavily diseased and poor quality.

ceived the best average ratings of all Bermuda selections in all comparisons presented in Table II. The recumbent habit of growth makes this hybrid especially adaptable for putting green management.

Field Observations

Golf professionals and superintendents appraised the putting quality of grasses in the putting green test plots during the 8th Annual Southeastern Turfgrass Conference, 1954. Selection 328 received more votes (Table III) for the best putting Bermudagrass than any other selection. Ratings by a similar group in 1955 yielded the same results.

A survey was made in late 1955 of the golf course superintendents who had Tifgreen (selection 328) planted on their own course, and under observation from 3 to 36 months. Out of 10 items on this checklist, Tifgreen rated best for 6 and better or equal for 4. Sixteen superintendents in nine states reported these results, (Table IV) ten of which had Tifgreen planted in their greens. Ninety percent of the superintendents planned to plant more greens to Tifgreen. Eighty-nine percent reported

less seedhead production than other Bermudas and 66 percent indicated less mat formation. These field plantings of Tifgreen were compared with such outstanding selections as Tiffine, Gene Tift, Ormond, Tiflawn, U-3, Everglades 1 and 2, and *Cynodon magennisii* (Magennis Grass), and common seeded Bermuda grass. Tifgreen has a forest green color, fine texture, and a low spreading growing habit. From its performance to date, it may prove to be very useful for turf purposes other than that for which it is now being recommended.

Planting Stock

In keeping with Experiment Station policy, Tifgreen will be released to Certified growers only. Certification requirements can be obtained from Hugh A. Inglis, Georgia Crop Improvement Assn., 208 Hoke Smith Annex, Athens, Ga. Shipments of foundation planting stock will begin April 11, 1956, from the Georgia Coastal Plain Experiment Station, Tifton, Ga. The price on foundation stock is \$15.00 per sq. yd. F.O.B. Tifton.

(Table IV is on page 48)

Table III
Results of Survey Among Golf Course Superintendents Comparing
Tifgreen with Several Other Bermudagrass Selections—Dec., 1955.

Comparison	Percent, reporting Tifgreen As		
	Better	Equal	Poorer
Turf Quality	75	25	0
Fineness	81	19	0
Putting Quality	80	20	0
Rate of Spread	63	31	6
Disease Resistance	45	45	9
Color	40	60	0
Frost Resistance	26	47	26
Winter Green Establishment	57	14	29
Winter Green Quality	83	17	0
Weed Invasion Resistance	50	50	0

Table IV

Ratings by Golf Professionals and Golf Course Superintendents on the Putting Quality of Several Bermudagrass Selections During the Eighth Annual Southeastern Turfgrass Conference Tifton, Ga., 1954.

Selection	Number of Individuals Rating Selections As					
	Best	Second	Third	Fourth	Fifth	TOTAL
Tifgreen	36	20	13	8	1	78
Tiflawn x <i>C. transvaalensis</i>	6	9	5	1	3	24
Tifton 55 x <i>C. transvaalensis</i>	2			4	9	15
Gene Tift				1	1	2

Prominent Turf Authorities Speak at Canadian Conference

Top Canadian and U. S. turf authorities presided at the speakers' rostrum or led panel discussions at the seventh annual conference of the Green Section of the Royal Canadian Golf Assn. held Mar. 19-20 at Ontario Agricultural College, Guelph, Ont.

At the opening morning session, Prof. R. Goodwin-Wilson summarized turf research progress at the Ontario agricultural school during the past year, while Dr. James Watson, Jr., Toro Mfg. Co., Minneapolis, Minn., gave supts. many valuable tips on improving golf soils. The seed situation for 1956 was discussed by Ted MacDonald of Ottawa.

One of the highlights of the afternoon's conference was a discussion of fringe benefits by J. A. Weall, also of O.A.C.'s horticulture dept. Dr. James Tyson of Michigan State College described the effect of seed mixtures in establishing fairway turf, and parkway development and maintenance problems were discussed by E. I. Wood, Ottawa landscape architect. The panel review of the day's speeches and discussion of questions asked by supts. was led by Dr. Watson. In the evening the supts. and their wives were guests of the RCGA at a cocktail hour and dinner in the Royal Hotel, Guelph.

Discusses Snow Mold Control

Dr. Watson appeared on the second day's program to discuss snow mold control. Turf pests were the subject of a talk by D. C. Hamilton of O. A. C. and J. A. Aitken, Royal Canadian Air Force, told how the RCAF goes about selecting and constructing athletic fields. The final speaker on the morning's program, Dr. H. B.

Musser of Penn State University, discussed the effect of various clipping heights and nitrogen levels on bluegrass mixtures.

Dr. Musser also appeared on the final afternoon program to deliver a paper on nitrogen fertilizers. Other speakers at this session included M. E. Peart, O.A.C. horticulturist, who outlined the steps to be taken in chemical weed control and Dr. O. J. Noer of the Milwaukee Sewerage Commission who gave a roundup of turf conditions for 1955. Dr. Noer later presided at the panel discussion which wound up the conference.

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