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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, Cook College, Rutgers University in cooperation with the New Jersey Turfgrass Association. The purpose of this document is to provide a forum for the dissemination of information and the exchange of ideas and knowledge. The proceedings provide turfgrass managers, research scientists, extension specialists, and industry personnel with opportunities to communicate with co-workers. It also allows these professionals to reach a more general audience, which includes the public. Articles appearing in these proceedings are divided into two sections.

The first section includes lecture notes of papers presented at the 1996 New Jersey Turfgrass Expo. Publication of the New Jersey Turfgrass Expo Notes provides a readily available source of information covering a wide range of topics. The Expo Notes include technical and popular presentations of importance to the turfgrass industry.

The second section represents performance of turfgrass cultivars and selections in New Jersey turf trials. The primary objective of these papers is to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

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PERFORMANCE OF BENTGRASS CULTIVARS AND SELECTIONS IN NEW JERSEY TURF TRIALS

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Bentgrasses used for close-cut turf include creeping bentgrass (*Agrostis palustris*, also known as *Agrostis stolonifera*), colonial bentgrass (*Agrostis tenuis* or *Agrostis capillaris*), highland or dryland bentgrass (*Agrostis castellana*), and velvet bentgrass (*Agrostis canina*). Creeping bentgrasses have relatively vigorous stolon growth and are generally the best adapted of the bentgrass species for use on golf courses in both the cool, temperate and the warm, humid environments of the United States. Creeping bentgrasses are particularly useful for golf course putting greens because they form a fine-textured, dense, low growing turf with good tolerance of low mowing heights. Colonial bentgrasses produce a turf with fine-textured, upright-growing leaves and have a bunch-type to weakly creeping (short stolons and rhizomes) growth habit. Compared to the creeping bentgrasses, colonial bentgrasses, also referred to as the browntops, are in general brighter green and have better color retention during cool weather. Dryland bentgrasses are similar in adaptation and appearance to colonial bentgrasses, but are more blue-green in color and are more likely to have rhizomes. Rhizomes increase the capacity of these grasses to recover from damage, particularly in non native areas such as the Pacific Northwest. Velvet bentgrasses are very fine-leafed, stoloniferous grasses that can form an attractive turf of very high density with bright green color. These bentgrasses are sometimes used instead of creeping bentgrasses in cool, moist maritime climates. The lack of heat tolerance in older cultivars of velvet bentgrass, however, has limited their range of use.

The number of commercially available creeping and colonial bentgrass cultivars has increased steadily in recent years. No doubt this is due to the increasing popularity of golf in the United States. From 1985 to 1990, the number of golfers rose from 17.5 to 25 million, thus increasing the demand for golf courses and new, high quality bentgrass cultivars. It is critical to thoroughly evaluate newly developed cultivars for their performance over time and in various locations, particularly in the areas of intended use. The results from evaluation trials provide useful data that can help turf managers select cultivars for use in the construction of golf courses, overseeding, or turfgrass species conversion projects. Golf course superintendents are caught in the dilemma of maintaining cost effective operations and meeting increasingly greater user demands while sharing public concern for potential environmental and health hazards associated with water and pesticide use. The development and use of pesticide alternatives are important components in a comprehensive integrated pest management program. Proper cultivar selection, based on demonstrated field resistance to turfgrass pests, is an extremely valuable pest management strategy that should not be overlooked.

The turf quality of a particular cultivar is an important consideration in the selection process. Cultivars that exhibit consistently low quality ratings may be poorly adapted older cultivars or newer cultivars that are highly sensitive to environmental stresses and/or pests. A

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large portion of turf management resources are devoted to combating pest and stress related problems on highly maintained turf. Unfortunately, no single cultivar has tolerance to all potential stresses and pests. However, the major stresses and pests common to a given location should be identified so that cultivars with a high level of tolerance to these problems can be selected. The selection of high quality cultivars that exhibit higher tolerance to important environmental stresses and pests can lead to the reduction of the management resources needed to manage those stresses.

The New Jersey Agricultural Experiment Station at Rutgers University participates in the National Turfgrass Evaluation Program (NTEP) which evaluates many species of turfgrasses, including bentgrasses, throughout the United States. The Rutgers turfgrass breeding program also conducts a number of independent bentgrass trials of material generated by its program as well as cooperating with turf breeders at other institutions.

PROCEDURES

Bentgrass evaluation trials were established in May 1994 and September 1995, at the Rutgers Turfgrass Research Facility in North Brunswick, New Jersey. The two trials seeded in May 1994 included all of the entries of the 1993 National Bentgrass Test coordinated by NTEP. The trial seeded in September 1995 included named cultivars, but the majority of entries were experimental selections. One test seeded in May 1994 (Table 1) simulated putting green conditions on an unmodified Nixon sandy loam. The other two tests, seeded in May 1994 (Table 2) and September 1995 (Tables 3 and 4), were intended to approximate fairway conditions on a Nixon sandy loam. All tests were well-drained and had an open exposure to both sunlight and air circulation. Plot size was 4 X 6 ft in all trials. A 6 inch unseeded border surrounded each plot to minimize seed contamination from adjacent plots. Plots were hand-seeded at a rate of approximately 0.5 lb/1000 ft^2. All tests used a randomized complete block design with three replications.

The annual rate of nitrogen fertilization and mowing height for each test are presented in Table 5. The greens test was mowed five to six times per week during periods of active growth with a triplex reel mower equipped to collect clippings. The fairway tests were mowed and clippings were removed at least three times per week with a triplex reel mower during periods of active growth. Soil pH was maintained in the range of 6.0 to 6.5 with agricultural limestone. All tests were irrigated to avoid drought stress.

The tests seeded in May 1994 received DCPA or bensulide each spring for preemergence control of summer annual weeds. A combination of 2,4-D and dicamba or MCPP was applied in the fall as needed for broadleaf weed control. An additional application of MCPP was applied in the spring of 1995 for broadleaf weed control, and bensulide was applied in the autumn of 1995 for preemergence control of *Poa annua*. Dacthal was applied in the spring of 1996 for preemergence crabgrass control to the test seeded in September 1995. A combination of 2,4-D, MCPP, and dicamba was applied in November 1996 for broadleaf weed control.

In May 1996, the greens and fairway tests seeded May 1994 were cultivated with 0.5 inch hollow tines on a 4 inch spacing. Cores were collected and removed after each operation, and a sand and organic matter (90:10) topdressing was applied. The trial seeded in September 1995 was not cultivated.

During the establishment of tests seeded in May 1994, the fungicides Daconil 2787 or Chipco 26019 were applied in a preventive fungicide program. Following seedling establishment, fungicides were applied only on a curative basis to permit evaluation of disease resistance. In addition, insecticide treatments were applied as needed in the spring and fall of 1996. To evaluate genetic pest resistance, the fairway test seeded in September 1995 was not treated with fungicides or insecticides.

Plots were evaluated frequently during the growing season for overall turf quality (i.e., turf density, texture, uniformity, color, growth habit, and freedom from disease and insect damage). Disease ratings for dollar spot, brown patch, copper spot, and gray snow mold were taken for the tests seeded in May 1994 (Tables 1 and 2). Disease ratings for dollar spot, gray snow mold, and anthracnose were taken for the test seeded in September 1995 (Tables 3 and 4). Turf quality, color, leaf texture, and disease were rated on a 1 to 9 scale, where 9 represented the best turf quality, darkest green color, finest leaf texture, or least disease.

Gray snow mold disease was evaluated in January 1996 on the greens test seeded in May 1994 using a line-intersect counting method. A 3 X 6 ft wooden frame was fitted with nylon line to create line-intersects in a 3 X 3 inch pattern (209 intersect points per grid). The line-intersect grid was centered on each plot and the percent of intersects placed over turf damaged by gray snow mold was calculated. All data were summarized and subjected to analysis of variance. Means were separated using the least significant difference (LSD) multiple comparisons test.

RESULTS AND DISCUSSION

Based on the 3-year (1994-1996) quality average from the greens test seeded May 1994 (Table 1), many of the newer creeping bentgrass cultivars and selections performed better than the older cultivars. Colonial bentgrass performance was not as good as most of the creeping bentgrasses, particularly at a greens height of cut. Ratings from the fairway/tee trial seeded in May 1994 indicated that colonial bentgrasses were more competitive at a higher height of cut (Table 2).

Ratings from the fairway/tee trial in September 1995 also indicated that many of the newer creeping bentgrass cultivars and selections performed better than the older, less adapted cultivars (Table 3). Turf quality ratings among colonial bentgrasses in this test indicated that there were differences in adaptability to New Jersey growing conditions (Table 4).

A relatively broad range of color and leaf texture was observed in the bentgrass tests seeded in May 1994 (Tables 1 and 2). Compared to the older standard Penncross, a number of bentgrasses possessed a more upright growth with a finer leaf texture and higher shoot density.

Ratings for dollar spot incidence indicated that colonial bentgrasses were less affected by this disease than were the creeping bentgrasses (Tables 1 and 2). Among the creeping bentgrass cultivars, there was considerable variation in susceptibility to dollar spot (Table 1, 2 and 3); some cultivars were highly susceptible, whereas others were more tolerant.

Brown patch ratings indicated that colonial bentgrasses were more susceptible to this disease than were the creeping bentgrasses (Tables 1 and 2); although some creeping bentgrasses were moderately resistant to brown patch, resistance to this disease needs to be improved.

Copper spot ratings indicated that this disease was more severe at the greens height of cut (Table 1). Among the creeping bentgrass cultivars, moderate differences in susceptibility were found. All bentgrass cultivars were fairly resistant at the fairway height of cut (data not shown).

Among the creeping bentgrass cultivars, particularly the newer ones, ratings for gray snow mold indicated that there was considerable variation in susceptibility to this disease (Tables 1 to 3). In the greens trial, differences in recovery were still evident in June (Table 1); thus recovery from gray snow mold at this height of cut was slow. In the fairway test, however, all plots except for the most severely damaged cultivars had recovered by this time (Table 2).

Anthracnose disease ratings taken from the 1995 fairway/tee trial indicated that many of the newer creeping bentgrass cultivars were more resistant to this disease than Penncross (Table 3). The data in Table 4 also indicated that the velvet bentgrasses were more resistant to anthracnose than were the colonial bentgrasses.

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Table 1. Performance of bentgrass cultivars and selections in a putting green turf trial seeded in May 1994 at North Brunswick, NJ. (Includes 1993 National Bentgrass Green Test - NTEP.)

	Cultivar or Selection	Species	Turf Quality[1] 1994-1996 Avg.	Turf Quality[1] 1994 Avg.	Turf Quality[1] 1995 Avg.	Turf Quality[1] 1996 Avg.	Leaf Texture[2] May 1996	Color[3] May 1996	Gray Snow Mold[4] Jan. 1996 (%)	Gray Snow Mold Recovery[5] June 1996	Brown Patch[6] June 1996	Copper Spot[7] 1996 Avg.	Dollar Spot[8] 1996 Avg.	Uniformity[9] Dec. 1996
1	L-93	creeping	7.2	7.1	7.3	7.2	7.3	8.0	4.0	8.3	8.7	8.3	6.9	7.7
2	A-1	creeping	6.8	7.0	7.0	6.4	8.7	6.7	5.0	8.0	7.7	6.7	5.7	5.7
3	A-4	creeping	6.1	5.9	6.3	6.2	8.0	7.0	8.1	8.0	8.0	7.8	4.1	6.7
4	G-6	creeping	6.0	6.5	6.2	5.4	7.7	5.3	11.5	5.3	8.7	7.5	4.3	5.0
5	Cato	creeping	5.9	5.7	6.5	5.6	6.3	7.0	6.2	7.0	8.0	8.7	4.9	6.7
6	Providence	creeping	5.9	6.1	6.0	5.6	5.7	6.7	10.2	7.0	8.7	8.1	5.1	5.7
7	G-2	creeping	5.9	6.5	6.6	4.4	8.7	5.0	36.2	3.0	7.7	4.8	6.0	5.3
8	Southshore	creeping	5.6	5.8	5.6	5.3	6.3	5.3	8.1	6.7	8.0	7.6	4.9	6.0
9	Syn 92-5-93	creeping	5.5	6.1	5.2	5.2	6.7	5.7	7.2	7.3	7.0	6.5	4.0	4.3
10	Regent	creeping	5.3	5.7	4.9	5.3	4.0	6.7	8.6	7.3	7.7	8.6	6.7	6.7
11	MSUEB	creeping	5.3	5.8	4.9	5.2	4.3	4.7	5.6	8.0	6.7	8.6	5.9	7.3
12	Syn 92-1-93	creeping	5.2	5.7	4.8	5.0	6.3	5.7	10.2	7.0	8.0	7.0	3.8	5.3
13	Pennlinks	creeping	5.2	5.3	5.5	4.8	5.3	3.7	6.4	6.7	7.3	8.9	5.9	6.7
14	Atlanta	creeping	5.2	5.5	5.7	4.3	7.3	6.7	3.2	7.3	9.0	8.9	2.6	4.7
15	Putter	creeping	5.2	5.7	4.8	5.0	4.3	5.0	6.9	6.7	7.7	8.8	5.6	7.3
16	DG-P	creeping	5.1	5.3	4.9	5.3	4.7	6.3	4.6	8.0	7.0	8.2	5.7	7.0
17	ISI-AP-89150	creeping	5.1	5.3	5.2	4.9	4.7	5.0	10.8	6.0	7.0	8.1	5.3	4.0
18	BAR WS 42102	creeping	5.0	4.7	5.2	5.2	7.0	4.3	5.3	8.0	8.3	8.1	6.0	3.0
19	Syn 92-2-93	creeping	5.0	6.0	4.3	4.5	6.0	3.7	8.5	6.3	7.0	7.9	3.2	4.7
20	Pro/Cup	creeping	4.9	5.6	4.7	4.5	4.3	5.0	6.2	8.0	8.3	8.8	4.9	4.3
21	Cobra	creeping	4.9	5.6	4.3	4.7	4.7	6.0	12.9	7.7	8.0	8.0	5.5	7.0
22	Trueline	creeping	4.7	5.8	4.3	3.9	4.3	5.0	7.8	8.0	7.7	7.4	4.5	5.7
23	Lopez	creeping	4.7	5.7	4.6	3.9	4.3	4.0	2.9	8.0.	8.0	8.7	3.9	5.3
24	Crenshaw	creeping	4.6	6.4	3.6	3.7	6.3	6.3	51.9	3.3	8.0	5.1	3.6	4.3
25	SR-1020	creeping	4.5	5.0	4.6	3.9	5.7	5.0	24.4	4.7	6.7	8.1	3.4	5.3

Table 1 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 1994-1996 Avg.	Turf Quality[1] 1994 Avg.	Turf Quality[1] 1995 Avg.	Turf Quality[1] 1996 Avg.	Leaf Texture[2] May 1996	Color[3] May 1996	Gray Snow Mold[4] Jan. 1996 (%)	Gray Snow Mold Recovery[5] June 1996	Brown Patch[6] June 1996	Copper Spot[7] 1996 Avg.	Dollar Spot[8] 1996 Avg.	Uniformity[9] Dec. 1996
26	18th Green	creeping	4.0	5.1	3.6	3.3	3.0	9.0	23.6	5.3	9.0	8.6	2.9	5.0
27	Penncross	creeping	3.9	4.5	3.5	3.6	3.3	4.0	6.9	7.7	7.7	8.9	5.9	6.3
28	Syn-1-88	creeping	3.9	5.2	3.6	3.0	4.3	3.0	46.2	3.0	5.3	6.1	4.3	5.3
29	BAR AS 493	creeping	2.9	3.4	2.9	2.5	3.7	3.0	1.6	8.0	3.3	7.3	7.7	2.3
30	Tendez	colonial	2.8	4.1	2.5	1.9	2.7	2.3	2.4	8.3	4.3	7.3	7.4	2.0
31	Exeter	colonial	2.7	2.4	2.7	3.1	3.0	2.7	7.8	7.7	4.3	8.7	6.2	3.7
32	Seaside	creeping	2.2	2.8	1.9	1.8	1.0	1.0	32.9	3.0	4.0	8.2	6.0	3.3
	LSD at 5% =		0.4	0.6	0.5	0.8	1.4	1.3	12.5	1.9	1.3	1.2	1.3	1.1

[1] 9 = best turf quality
[2] 9 = finest leaf texture
[3] 9 = darkest green color
[4] Gray snow mold damage (percent of plot)
[5] 9 = best gray snow mold recovery
[6] 9 = least brown patch damage
[7] 9 = least copper spot damage
[8] 9 = least dollar spot damage
[9] 9 = most uniformity within plot as grass goes dormant

Table 2. Performance of bentgrass cultivars and selections in a fairway/tee turf trial seeded in May 1994 at North Brunswick, NJ. (Includes 1993 National Bentgrass Fairway/Tee Test - NTEP.)

	Cultivar or Selection	Species	Turf Quality[1] 1994-1996 Avg.	Turf Quality[1] 1994 Avg.	Turf Quality[1] 1995 Avg.	Turf Quality[1] 1996 Avg.	Leaf Texture[2] May 1996	Color[3] May 1996	Gray Snow Mold Patches[4] Jan. 1996	Gray Snow Mold[5] June 1996	Dollar Spot[6] 1996 Avg.	Uniformity[7] Dec. 1996
1	Cato	creeping	6.8	6.8	7.2	6.4	6.0	7.3	6.7	9.0	5.9	7.0
2	G-6	creeping	6.7	7.4	6.5	6.2	7.0	7.7	7.7	9.0	5.5	7.3
3	L-93	creeping	6.6	6.7	6.9	6.3	7.0	7.3	5.7	9.0	7.0	8.0
4	G-2	creeping	6.4	7.0	6.5	5.4	8.0	8.0	32.0	8.3	5.5	7.3
5	Providence	creeping	6.3	6.2	6.5	6.2	6.0	7.3	2.3	9.0	5.6	6.3
6	Penneagle	creeping	6.2	6.3	6.2	5.9	5.3	6.7	5.0	9.0	6.4	8.0
7	Southshore	creeping	6.0	6.3	6.0	5.8	6.0	7.0	3.0	9.0	6.0	6.3
8	Atlanta	creeping	6.0	6.7	5.7	5.5	7.0	7.3	0.7	9.0	4.6	6.3
9	Putter	creeping	5.9	6.6	5.8	5.4	5.7	6.7	1.0	9.0	5.2	6.7
10	Crenshaw	creeping	5.7	7.5	4.9	4.7	4.3	7.7	31.0	9.0	3.6	6.3
11	Pennlinks	creeping	5.7	5.6	5.7	5.9	5.3	7.0	2.7	9.0	5.7	7.7
12	DF-1	creeping	5.5	5.7	5.6	5.3	6.0	5.0	5.7	9.0	6.4	8.0
13	Cobra	creeping	5.5	5.8	5.3	5.3	4.0	7.0	5.3	9.0	6.2	7.3
14	ISI-At-90162	colonial	5.3	5.7	5.1	5.4	6.3	6.0	0.0	9.0	6.9	5.0
15	BAR WS 42102	creeping	5.2	5.3	5.2	5.1	7.0	7.7	0.7	9.0	5.8	5.3
16	Trueline	creeping	5.2	5.9	5.1	4.5	3.7	6.7	2.7	9.0	4.8	6.3
17	SR 7100	colonial	5.2	5.1	5.0	5.4	6.7	4.7	0.0	9.0	7.9	5.0
18	Lopez	creeping	5.0	5.8	5.0	4.2	4.0	7.0	1.3	9.0	3.7	6.7
19	Pro/Cup	creeping	4.7	5.5	4.4	4.1	3.7	7.0	0.3	9.0	4.9	6.0
20	Penncross	creeping	4.6	5.0	4.6	4.3	2.7	6.3	0.7	9.0	4.7	7.0
21	BAR AS 493	creeping	4.5	4.3	4.6	4.5	6.3	7.0	1.3	9.0	7.9	6.3
22	OM-At-90163	colonial	4.4	4.9	4.3	4.1	5.0	6.0	0.3	9.0	6.9	4.7
23	18th Green	creeping	4.1	5.2	3.6	3.6	3.0	7.3	4.0	9.0	3.5	4.7
24	Exeter	colonial	3.7	2.9	4.0	4.4	3.7	6.7	1.7	9.0	5.4	6.3
25	Tendez (5.6g)	colonial	3.5	4.5	3.6	2.4	4.3	5.0	0.7	9.0	6.7	4.7

Table 2 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 1994-1996 Avg.	Turf Quality[1] 1994 Avg.	Turf Quality[1] 1995 Avg.	Turf Quality[1] 1996 Avg.	Leaf Texture[2] May 1996	Color[3] May 1996	Gray Snow Mold Patches[4] Jan. 1996	Gray Snow Mold[5] June 1996	Dollar Spot[6] 1996 Avg.	Uniformity[7] Dec. 1996
26	Seaside	creeping	2.5	3.1	2.1	2.3	2.7	4.3	9.7	9.0	5.2	4.7
	LSD at 5% =		0.5	0.7	0.6	0.8	1.3	1.1	11.6	0.2	1.4	1.3

[1] 9 = best turf quality
[2] 9 = finest leaf texture
[3] 9 = darkest green color
[4] Number of gray snow mold patches per plot
[5] 9 = least gray snow mold damage
[6] 9 = least dollar spot damage
[7] 9 = most uniformity within plot as grass goes dormant

Table 3. Performance of creeping bentgrass cultivars and selections in a fairway/tee turf trial seeded September 1995 at North Brunswick, NJ.

	Cultivar or Selection	Turf quality[1] 1996	Seedling vigor[2] Sept. 26 1995	Color[3] Nov. 22 1995	Winter color[3] Feb. 26 1996	Gray snow mold patches[4] Feb. 26 1996	Spring green-up[5] March 14 1996	Anthrac-nose[6] Aug. 3 1996	Dollar spot[7] Aug. 3 1996	Purple color[8] Nov. 21 1996
1	G-2	6.5	6.7	5.0	4.3	1.7	2.3	7.0	6.2	9.0
2	Syn ODA	6.3	6.7	5.3	5.3	2.0	3.3	6.3	6.0	9.0
3	A-4	6.2	6.7	4.3	4.3	2.3	2.7	6.7	4.5	9.0
4	Syn OVS	6.1	6.3	5.0	5.0	0.0	3.0	6.3	5.3	9.0
5	Syn OVM	6.1	7.0	5.3	5.0	1.0	4.0	6.0	6.3	9.0
6	Syn OVL	6.0	6.7	6.0	4.7	1.0	3.3	6.0	5.5	9.0
7	G-6	6.0	6.0	5.3	4.0	9.3	2.3	8.0	5.3	6.7
8	IBM8-14	5.9	8.0	6.0	3.5	1.5	2.5	6.0	4.0	6.0
9	L-93	5.9	6.3	5.0	4.3	3.7	3.0	6.3	6.2	9.0
10	SRX 1119	5.7	6.7	5.7	3.7	0.0	2.3	6.7	4.3	8.0
11	SR 1020	5.2	5.0	6.0	4.0	0.0	2.3	5.0	3.3	8.0
12	Providence	4.9	5.7	5.0	4.3	0.3	2.3	4.0	4.0	7.7
13	Seaside II	4.8	5.3	5.0	4.0	3.7	3.3	5.7	5.2	9.0
14	Penneagle	4.8	5.7	4.7	4.3	1.3	3.0	5.0	4.7	9.0
15	Syn Biltmore	4.7	4.0	6.0	3.7	0.0	2.0	5.7	4.8	8.3
16	Syn OBS	4.5	5.0	7.0	4.0	17.7	2.3	6.7	4.2	6.7
17	Penncross	4.4	7.0	5.0	4.3	1.0	3.0	2.7	4.2	9.0
18	Pennlinks	4.4	5.7	4.0	4.0	0.3	2.3	5.3	4.7	9.0
19	3011	2.5	5.0	6.3	2.0	0.3	1.7	4.7	3.7	3.3

Table 3 (continued).

Cultivar or Selection	Turf quality[1] 1996	Seedling vigor[2] Sept. 26 1995	Color[3] Nov. 22 1995	Winter color[3] Feb. 26 1996	Gray snow mold patches[4] Feb. 26 1996	Spring green-up[5] March 14 1996	Anthrac-nose[6] Aug. 3 1996	Dollar spot[7] Aug. 3 1996	Purple color[8] Nov. 21 1996
LSD at 5% =	0.5	0.8	0.8	1.1	2.8	0.9	1.0	1.0	1.7

[1] 9 = best turf quality
[2] 9 = best seedling vigor
[3] 9 = brightest green color
[4] Number of gray snow mold patches per plot
[5] 9 = brightest green color
[6] 9 = least anthracnose disease
[7] 9 = least dollar spot disease
[8] 9 = least purple color

Table 4. Performance of colonial and velvet bentgrass cultivars and selections in a fairway/tee turf trial seeded September 1995 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf quality[1] 1996	Seedling vigor[2] Sept. 26 1995	Color[3] Nov. 22 1995	Winter color[3] Feb. 26 1996	Gray snow mold patches[4] Feb. 26 1996	Spring green-up[5] March 14 1996	Anthrac-nose[6] Aug. 3 1996	Dollar spot[7] Aug. 3 1996	Purple color[8] Nov. 21 1996
1	SR 7200	velvet	6.2	7.3	5.3	3.7	0.7	2.0	7.7	6.0	7.3
2	7VB Germ	velvet	5.8	3.7	5.3	3.0	1.3	1.7	6.7	6.0	3.7
3	Amherst GC-2	colonial	5.8	6.7	5.3	4.7	2.3	5.0	5.0	8.7	6.0
4	Amherst GC-3	colonial	5.2	4.0	5.0	4.3	1.3	4.7	5.3	8.0	6.0
5	Syn OHG	colonial	5.0	5.7	4.7	6.3	4.0	5.7	4.3	6.7	8.7
6	MD Nat Cem-6	colonial	5.0	6.0	5.7	5.3	5.3	5.3	3.7	7.3	9.0
7	7 Belt	colonial	4.9	8.0	6.3	4.0	1.0	5.0	4.0	5.7	6.0
8	SK Bent-4	colonial	4.8	3.3	5.0	3.7	4.0	3.3	4.0	8.3	8.3
9	Prouts Neck GC-6	colonial	4.8	6.3	5.0	3.0	0.7	2.7	4.7	6.3	7.0
10	3005	colonial	4.7	8.0	7.0	3.3	1.7	2.3	2.7	8.0	3.0
11	SK Bent-1	colonial	4.7	6.0	6.0	5.0	13.0	5.3	4.0	7.3	7.3
12	Converse Coll	colonial	4.7	7.0	5.0	5.0	0.7	5.0	3.3	8.0	7.3
13	Keene GC-1	colonial	4.6	6.3	5.0	3.7	3.3	4.3	3.7	7.7	5.0
14	Prouts Neck GC-5	colonial	4.6	6.3	5.3	3.7	0.3	3.3	3.7	6.0	5.7
15	3006	colonial	4.6	7.3	5.7	3.0	3.7	2.3	4.0	6.7	5.7
16	Syn 0456	colonial	4.5	5.3	4.7	6.3	0.0	6.0	4.0	8.0	9.0
17	Amherst GC-1B	colonial	4.5	5.0	5.0	4.0	1.3	4.0	3.7	7.3	6.7
18	3003	colonial	4.5	8.0	5.3	4.3	3.0	3.7	3.7	8.7	6.7
19	3001	colonial	4.4	8.0	4.0	6.0	1.0	5.5	3.0	8.0	9.0

Table 4 (continued).

Cultivar or Selection	Species	Turf quality[1] 1996	Seedling vigor[2] Sept. 26 1995	Color[3] Nov. 22 1995	Winter color[3] Feb. 26 1996	Gray snow mold patches[4] Feb. 26 1996	Spring green-up[5] March 14 1996	Anthrac-nose[6] Aug. 3 1996	Dollar spot[7] Aug. 3 1996	Purple color[8] Nov. 21 1996
	LSD at 5% =	0.7	1.2	1.0	1.2	5.3	1.4	1.2	1.5	1.7

[1] 9 = best turf quality
[2] 9 = best seedling vigor
[3] 9 = brightest green color
[4] Number of gray snow mold patches per plot
[5] 9 = brightest green color
[6] 9 = least anthracnose disease
[7] 9 = least dollar spot disease
[8] 9 = least purple color

Table 5. Yearly nitrogen (N) applied and mowing height (Ht) on bentgrass trials established in 1994 and 1995 at North Brunswick, NJ.

	1994		1995		1996	
	N[1]	Ht[2]	N	Ht	N	Ht
Table 1 (1994 Greens Trial)	4.1	5/32	5.0	5/32	2.8	5/32
Table 2 (1994 Fairway/Tee Trial)	4.1	17/32	3.0	17/32	3.3	13/32
Tables 3 and 4 (1995 Fairway/Tee Trial)					2.7	13/32

[1] Annual N applied (lbs/1000 ft^2).
[2] Mowing height in inches.