

2002 RUTGERS Turfgrass Proceedings



THE NEW JERSEY TURFGRASS ASSOCIATION

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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, The State University of New Jersey 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. Through this forum, these professionals also reach a more general audience, which includes the public.

This publication includes lecture notes of papers presented at the 2002 New Jersey Turfgrass Expo. Publication of these lectures provides a readily available source of information covering a wide range of topics and includes technical and popular presentations of importance to the turfgrass industry.

This proceedings also includes research papers that contain original research findings and reviews of selected subjects in turfgrass science. These papers are presented primarily 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 have been widely used in the north-east for very closely mowed, high maintenance turfs commonly associated with golf courses. The main species used for these purposes are creeping bentgrass (*Agrostis palustris*, also called *A. stolonifera*) usually found on tees and greens, and colonial bentgrass (*A. tenuis* or *A. capillaris*) found primarily on fairways. To a lesser extent, highland or dryland (*A. castellana*) and velvet (*A. canina*) bentgrasses can also be found in some of these situations. These species are all fairly tolerant of close mowing due to low, prostrate growth habits.

Creeping bentgrass is particularly adapted for use on putting greens because it has a prostrate growth habit and aggressively spreads by stolons. This permits the grass to persist under extremely low mowing and to fill in damaged areas more quickly. Breeding work has produced improved varieties with better quality and density, as well as greater tolerance to traffic and disease.

Compared to creeping bentgrass, colonial bentgrass is a more upright grass with a weaker lateral growth habit. The grass seems, however, to have better wear tolerance when mowed slightly higher, which lends itself to use on fairways. Colonial bentgrasses are typically brighter green, maintain better color in cool weather, and have better resistance to dollar spot (caused by *Sclerotinia homoeocarpa*) than creeping bentgrasses, but tend to be more susceptible to brown patch (caused by *Rhizoctonia solani*). This susceptibility to brown patch, along with an inability to perform consistently at heights of cut below about 3/8 of an inch, keep these grasses from being widely used on putting greens.

Velvet bentgrass is the densest of the bentgrasses used for turf and tends to have better

heat, drought, and shade tolerance than creeping or colonial bentgrasses. Recent trials show that it is able to thrive in the harsh conditions associated with putting greens, though to date its use has been primarily limited to some areas of New England. Compared to creeping bentgrass, velvet bentgrass has a brighter green color, better dollar spot and brown patch resistance, and is less prone to localized dry spots. It does however, tend to form thatch more rapidly under the same management practices. Research and breeding efforts are focused on evaluating the potential of this species as a viable alternative to creeping bentgrass. The apparent drought tolerance of velvet bentgrass could be an added benefit, particularly in light of the water restrictions in recent years and the potential for further reductions in the future.

Dryland bentgrass is blue-green in color and has more extensive rhizomes, but is otherwise fairly similar to colonial bentgrass in growth, adaptation, and use. Idaho bentgrass (*A. idahoensis*) is native to the western United States, where it is found in wet meadows and bogs. It establishes readily, but its dull color and upright growth make it less attractive in mowed plots than the other bentgrasses. Despite these drawbacks, its good resistance to dollar spot in New Jersey trials makes it interesting to breeders.

The Rutgers turfgrass breeding program is part of the New Jersey Agricultural Experiment Station and evaluates germplasm from its own sources as well as germplasm from other breeders. In addition, the Rutgers program is actively involved in the National Turfgrass Evaluation Program (NTEP), which tests new cultivars and selections at various locations around the country, which helps to give turf specialists a good idea of the range of adaptation for a given grass.

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PROCEDURES

Eleven bentgrass trials were established at the Horticultural Research Farm in North Brunswick, NJ between 1998 and 2001. Two trials established in November 1998 were in cooperation with NTEP and contain entries of the National Putting Green and National Fairway/Tee Trial (Tables 1 and 3 respectively). The putting green trial, as well as another putting green trial established at the same time (Table 2), were established on a sand-based rootzone made to USGA specifications published in 1993. All other putting green and fairway/tee trials were established on Nixon loam soils.

All tests were hand seeded at an approximate rate of 0.5 lb/1000 ft². Plot size for all trials were 3 X 5 ft, with the exception of the 1998 NTEP tests (Tables 1 and 3), which contained 4 X 8 ft plots. Tests were set up in a randomized complete block design with three replications. All trials were mowed frequently during periods of active growth. Putting green trials were mowed five to six times a week with either a triplex or walk-behind reel mower, and fairway/tee trials received three weekly mowings with a triplex mower. Clippings were removed in all cases. All tests were irrigated to avoid drought stress, and soil pH was maintained between 6.0 and 6.5 with agricultural limestone. Mowing height, rate of nitrogen applied, aerification, topdressing practices, and any fungicide, pesticide, or herbicide treatments for each test are presented in Table 12. All data were summarized and subjected to an analysis of variance. Means were separated using the least significant difference (LSD) multiple comparisons test

RESULTS AND DISCUSSION

Turf Quality Evaluations

Entries in Tables 1 through 9 are ranked according to their overall multi-year quality average. Tables 10 and 11 are ranked by their quality average for the 2002 growing season. The best performing cultivars in the 1998 NTEP greens trial (Table 1) were SR 7200 velvet bentgrass, Penn A-1 creeping bentgrass, and Vesper velvet bentgrass. The top entries in the other 1998 greens test (Table 2) were (abg check) SR 7200 and Greenwich velvet bentgrasses and Penn G-2 and Penn G-6 creeping bentgrasses. In both of these trials, Penncross creeping and Bavaria velvet bentgrass performed poorly, and Peterson creeping poa also performed poorly in the latter trial (Table 2).

In the 1998 NTEP fairway/tee trial (Table 3), Tiger II and SRX 7MODD colonial bentgrass and L-93 creeping bentgrass had the highest quality rankings. Seaside, Penneagle, and Penncross creeping bentgrasses and Golfstar Idaho bentgrass all performed poorly. In an additional fairway/tee trial seeded the same year (Table 4), the colonial bentgrass Syn 9NBC was the top performer.

In the 1999 putting green trial (Table 5), the cultivars Penn A-1 and L-93 creeping bentgrass and EFD velvet bentgrass were the top performers. Penncross rated last. In an additional 1999 putting green trial of velvet bentgrasses, EFD and Greenwich were the top ranked cultivars (Table 6). Again, EFD velvet was top performer in the 1999 fairway/tee trial (Table 7). In this trial, the creeping bentgrass Syn OEB ranked second, and Penncross creeping and Rasti colonial bentgrasses were the lowest ranked cultivars.

In the 2000 putting green trial (Table 8), C953, C952, WPE comp, and C954 creeping bentgrass were the top entries. The C952 and C953 lines have performed extremely well since this trial was established. Penncross and Crenshaw creeping bentgrass were the lowest rating entries. In an additional 2000 putting green trial for velvet bentgrasses (Table 8), DSV, EFD, and Greenwich were the top ranked entries.

The velvet bentgrass AC-1 and creeping bentgrasses C952 and C953 were the best entries in the 2000 fairway/tee trial (Table 9, Test 1), and Penncross again performed the most poorly. In the 2000 trial for colonial and dryland bentgrasses (Table 9, Test 2), SRX EW-15-22 colonial and two new experimentals, EWT comp and HCD comp, were the top ranked cultivars.

In the 2001 putting green trial (Table 10), the experimentals C953 and C952 were significantly better in quality than all the other entries in the trial. The top entries in the fairway/tee trial seeded in the fall of 2001 (Table 11) were SR 7200 velvet bentgrass followed by SRX 7CRCO and SRX 781-22 colonial bentgrasses and Independence creeping bentgrass.

Dollar Spot

Dollar spot is the most serious fungal disease of bentgrass in New Jersey. The resistance to dollar spot exhibited by the velvet bentgrasses SR 7200 and Vesper, and Penn A-1, L-93, Penncross, and

Pennlinks creeping bentgrasses in the unsprayed portion of the 1998 NTEP putting green trial (Table 1) is impressive when compared to the susceptibility seen in Syn 96-3, Syn 96-2, Syn 96-1, Century, and Backspin. In the 1998 fairway/tee NTEP trial (Table 3), the colonial bentgrasses Tiger II, SRX 7MODD, SRX 7MOBB, and SR 7100 had the best dollar spot resistance.

In the 2000 putting green trial (Table 8), the creeping bentgrasses C953, C952, WPE comp, C954, and C951 and the velvet bentgrass CIS AC-1 had the best resistance to dollar spot. The entries CIS AC-1 and SR 7200 velvet, and C953, C952, and L-93 creeping bentgrasses in the 2000 fairway/tee trial all exhibited superior resistance to this disease (Table 9, Test 1). Most of the colonial and velvet bentgrasses in the adjoining fairway/tee trial also showed good resistance to dollar spot (Table 9, Test 2).

In the 2001 putting green trial (Table 10), PST OEB, OVN, L-93, PST-ORE1, MS7, and Providence had the highest ratings for dollar spot resistance. The colonial and velvet bentgrasses in the 2001 fairway/tee trial (Table 11) had the best resistance to dollar spot along with L-93 and Providence creeping bentgrasses.

Brown Patch

In most trials in various years, the velvet bentgrasses such as EFD, EVD, Vesper, EEC, SR 7200, AC-1, and VBC have shown improved resistance to brown patch (Tables 7, 8, 9, and 11). The creeping bentgrasses are intermediate in resistance to brown patch with fair to good resistance in some trials (Tables 7, 9, 10, and 11) and only fair resistance under severe disease pressure evident in the 2000 test (Table 8). Creeping bentgrasses that exhibited better resistance under severe disease pressure in-

cluded SRX 1EWW1CR2, SRX1EWW1CR4, and C951 (Tables 8 and 9)

The colonial bentgrasses have the lowest level of resistance to brown patch in most trials (Tables 7, 8, 9, and 11). The experimental lines EWT comp and HCD comp were selected at Rutgers for resistance to brown patch and have compared favorably to Tiger II, which has shown better resistance than SR 7100 (Tables 9 and 11).

SUMMARY

Breeding for dollar spot resistance remains the highest priority in the breeding of colonial, creeping, and velvet bentgrasses. The second most important disease is brown patch, which needs improvement particularly in the colonial bentgrasses.

The velvet bentgrasses have shown tremendous potential in turf trials at Rutgers since 1995. The major improvements needed in this species are increased resistance to *Pythium* on the roots of seedlings, pink snow mold resistance, and resistance to copper spot disease.

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Table 1. Performance of bentgrass cultivars and selections in a putting green trial seeded in November 1998 at North Brunswick, NJ. (Contains all entries of the National Turfgrass Evaluation Program - NTEP.)

Cultivar or Selection	Species	-----Turf Quality ¹ -----				Color ² June 2002	Density ³ June 2002	Leaf Texture ⁴ June 2002	Spray		No	
		1999- 2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.				2002 Avg.	Dollar Spot ⁵ Sept. 2002	Dollar Spot ⁵ Sept. 2002	Spray Quality ¹ 2002
1	SR 7200	7.1	7.1	6.6	7.3	7.4	8.7	9.0	9.0	7.3	7.4	7.5
2	Penn A-1	7.0	7.0	7.1	6.7	7.2	8.7	8.3	8.7	6.3	6.6	5.3
3	Vesper	6.7	6.5	6.3	6.7	7.4	9.0	9.0	9.0	6.3	7.5	6.0
4	Penn G-1	6.3	6.3	6.5	6.6	5.7	7.0	8.0	8.7	5.3	5.0	4.7
5	PST-A2E	6.1	5.8	6.5	6.1	6.0	7.3	7.0	8.7	6.7	5.4	4.8
6	Penn A-4	6.1	5.5	6.6	5.9	6.4	6.7	8.0	8.7	5.7	5.9	4.4
7	Penn G-6	6.0	5.6	6.1	6.5	5.9	6.7	5.7	9.0	4.3	5.8	3.8
8	Syn 96-3	6.0	6.4	6.0	6.0	5.7	7.7	7.7	6.7	2.3	4.8	2.2
9	L-93	6.0	4.8	6.3	6.6	6.2	6.7	5.3	9.0	6.3	6.2	5.5
10	Penn A-2	5.9	5.6	6.1	5.8	6.1	7.7	7.0	9.0	6.0	5.8	4.6
11	ABT-CRB-1	5.9	5.9	6.1	5.6	5.9	7.3	7.3	8.0	3.0	5.3	3.0
12	Syn 96-2	5.8	6.1	5.7	5.6	5.6	7.0	7.7	7.0	1.7	5.0	2.0
13	Syn 96-1	5.7	6.1	5.9	5.6	5.0	5.0	7.3	7.3	1.0	4.6	1.4
14	Bengal	5.5	5.3	5.4	6.0	5.5	5.7	5.3	8.3	4.7	5.6	3.4
15	SR 1119	5.5	5.3	5.4	6.0	5.2	7.7	6.0	8.3	3.7	4.9	3.4
16	SRX 1NJH	5.5	5.3	5.9	5.6	5.1	6.0	6.0	8.3	5.3	4.9	4.1
17	7001	5.4	3.7	5.5	5.7	6.7	7.7	9.0	9.0	6.3	7.0	7.0
18	ISIAP-5	5.4	5.1	5.3	5.6	5.4	6.3	7.3	8.3	6.0	4.7	3.8
19	Imperial	5.2	5.0	5.2	5.9	4.7	6.3	7.0	8.3	4.0	4.0	2.9
20	Brighton	5.1	4.6	5.3	5.5	5.0	6.0	5.0	8.0	5.0	4.5	3.6

Table 1 (continued).

Cultivar or Selection	Species	-----Turf Quality ¹ -----				Color ² June 2002	Density ³ June 2002	Leaf Texture ⁴ June 2002	Spray Dollar Spot ⁵ Sept. 2002	No Spray Dollar Spot ⁵ Sept. 2002	Spray Quality ¹ 2002	No Spray Quality ¹ 2002										
		1999- 2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.								2002 Avg.									
21 Century	creeping	5.1	5.1	5.0	5.7	4.4	3.7	5.3	6.7	7.3	2.0	4.1	1.8									
22 Backspin	creeping	5.0	4.8	5.4	5.4	4.4	5.3	4.3	4.3	7.3	2.3	4.0	1.8									
23 BAR CB 8US3	creeping	5.0	4.4	5.0	5.5	4.8	5.3	5.7	6.0	7.7	3.0	4.4	2.4									
24 Providence	creeping	4.9	4.4	5.1	5.4	4.5	7.3	5.0	4.7	7.0	2.7	3.8	2.7									
25 Crenshaw	creeping	4.8	4.8	5.2	5.0	4.0	5.3	3.7	4.7	5.7	2.7	3.9	1.8									
26 SRX 1BPAA	creeping	4.7	4.5	4.8	5.0	4.4	6.0	3.7	4.7	8.0	4.0	3.9	3.6									
27 PickCB13-94	creeping	4.5	4.4	4.5	5.0	3.9	5.0	3.3	4.0	8.7	4.0	3.8	3.5									
28 Penncross	creeping	3.6	3.7	3.2	4.0	3.5	4.0	2.0	3.0	9.0	6.7	3.7	3.9									
29 Pennlinks	creeping	3.6	3.4	3.1	4.4	3.3	3.3	2.0	2.3	9.0	6.7	3.0	3.5									
30 Bavaria	velvet	2.4	3.6	2.2	2.0	1.7	.	.	.	8.3	4.0	1.9	2.3									
LSD at 5% =												0.7	0.9	0.9	0.7	1.1	1.6	1.5	1.4	2.1	1.3	1.5

¹9 = best turf quality
²9 = darkest green color
³9 = highest shoot density
⁴9 = finest leaf texture
⁵9 = least disease

Table 2. Performance of bentgrass cultivars and selections in a putting green trial seeded in September 1998 at North Brunswick, NJ. (Sand-based root zone.)

	Cultivar or Selection	Species	-----Turf Quality ¹ -----				
			1999- 2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
1	SR 7200	velvet	6.5	6.5	6.9	5.5	6.3
2	Penn G-2	creeping	6.0	6.3	5.8	5.6	6.2
3	Greenwich	velvet	5.9	5.6	6.2	5.6	5.8
4	Penn G-6	creeping	5.8	5.9	5.7	5.3	6.4
5	Vesper	velvet	5.2	5.1	5.2	5.0	5.9
6	SRX 1HS	creeping	5.1	4.8	5.2	4.6	5.4
7	7001	velvet	5.0	3.7	5.1	5.1	5.7
8	SRX 1HP	colonial	4.7	4.7	5.1	4.2	4.7
9	Pick CB 2-94	creeping	4.7	4.9	4.1	3.9	5.5
10	Pick CB 13-94	creeping	4.6	4.3	5.0	4.3	4.3
11	Penn A-4	creeping	4.6	4.9	5.1	4.0	4.4
12	L-93	creeping	4.6	4.7	5.2	4.1	3.8
13	SRX 1HB	colonial	4.6	4.5	4.3	4.5	5.0
14	SRX IC4	colonial	4.5	4.4	4.5	4.3	4.7
15	Southshore	creeping	4.5	4.4	4.7	4.5	4.4
16	Pick CB E-97	creeping	4.2	4.3	4.1	4.3	4.0
17	SRX 102J	creeping	4.2	4.3	4.9	3.9	3.7
18	MS2	creeping	4.2	4.6	4.3	3.7	4.2
19	MS4	creeping	4.2	4.0	4.4	4.1	4.2
20	Pick CB 1-94	creeping	4.1	3.5	4.7	4.0	4.2
21	Providence	creeping	4.1	3.8	4.4	4.0	4.1
22	Crenshaw	creeping	4.0	3.7	3.2	3.4	4.4
23	Pick CB 3-94	creeping	3.9	4.0	3.6	3.6	4.2
24	Pick CB F-97	creeping	3.8	3.8	4.6	3.7	3.9
25	ES6	creeping	3.8	4.0	4.1	3.5	3.5
26	ODA	creeping	3.8	4.9	4.1	3.7	2.7
27	Putter	creeping	3.7	3.9	4.1	3.5	3.2
28	Mariner	creeping	3.6	3.2	3.9	3.5	3.3
29	MS7	creeping	3.5	4.1	4.1	2.9	3.0
30	Century	creeping	3.5	4.0	3.3	3.1	3.3
31	Penncross	creeping	3.5	3.4	3.5	3.3	3.4
32	18th Green	creeping	3.4	3.9	3.3	2.9	3.8
33	Cobra	creeping	3.4	3.8	4.1	3.1	2.5
34	Cato	creeping	3.4	3.5	4.0	3.5	3.0
35	Pick CB 16-94	creeping	3.1	3.1	3.7	3.7	3.2

Table 2 (continued).

	Cultivar or Selection	Species	-----Turf Quality ¹ -----				
			1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
36	MS5	creeping	3.1	3.7	3.1	3.1	2.5
37	ES1	creeping	3.0	3.8	2.8	2.8	2.8
38	AT-1	colonial	2.3	1.5	2.5	2.8	2.6
39	Bavaria	velvet	1.8	2.7	1.9	1.4	1.0
40	Peterson Crp. Blue	poa	1.2	1.3	1.4	1.1	1.0
LSD at 5% =			0.7	0.8	0.8	0.9	1.5

¹9 = best turf quality

Table 3. Performance of bentgrass cultivars and selections in a fairway/tee trial seeded in November 1998 at North Brunswick, NJ. (Contains all entries of the National Turfgrass Evaluation Program - NTEP.)

Cultivar or Selection	Species	Turf Quality ¹										Color ² June 2002	Density ³ June 2002	Leaf Texture ⁴ June 2002	No Spray Dollar Spot ⁵ Sept. 2002
		1999-2002 Avg.	Spray 2002 Avg.	No Spray 2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	2000 Avg.	2001 Avg.	2002 Avg.				
1 Tiger II	colonial	6.5	5.2	5.0	6.8	7.0	6.2	6.2	6.7	7.0	7.7	8.7			
2 SRX 7MODD	colonial	6.5	5.7	5.0	6.4	7.0	6.0	6.6	8.0	7.0	8.0	7.3			
3 L-93	creeping	6.3	7.0	5.0	6.1	6.9	6.2	6.0	6.0	6.3	5.7	4.3			
4 SRX 7MOBB	colonial	6.1	5.5	5.0	6.3	6.3	5.8	6.0	7.3	7.3	8.0	8.0			
5 ABT-COL-2	colonial	5.7	4.7	5.0	5.8	5.8	6.2	5.0	4.7	5.3	7.3	7.3			
6 SRX 1BPAA	creeping	5.7	7.2	4.8	5.6	5.9	5.4	5.9	5.7	4.3	6.0	5.0			
7 Penn G-6	creeping	5.7	6.5	5.5	5.7	5.9	5.6	5.6	5.0	4.7	5.3	5.0			
8 PST 9HG	colonial	5.6	4.8	4.5	5.6	5.8	5.7	5.3	6.3	5.0	5.7	6.0			
9 PST-OVN	creeping	5.6	6.2	6.0	6.4	6.1	4.9	4.9	4.7	3.7	4.3	5.7			
10 Grand Prix	creeping	5.5	6.7	4.8	6.0	4.9	5.6	5.2	5.0	4.7	6.0	4.0			
11 SRX 1120	creeping	5.4	6.0	4.2	5.5	5.3	5.5	5.2	6.3	5.0	6.3	4.3			
12 Imperial	creeping	5.3	6.3	5.2	5.6	4.9	5.3	5.3	6.0	4.7	5.3	5.0			
13 Tiger	creeping	5.2	3.7	3.7	5.1	5.9	5.1	4.6	6.7	4.3	6.0	8.0			
14 Seaside II	creeping	5.2	5.8	4.3	5.1	5.4	4.7	5.4	5.0	5.3	5.7	5.0			
15 Trueline	creeping	5.1	5.8	5.0	6.0	5.0	4.7	4.8	6.3	3.3	3.7	5.3			
16 SR 7100	colonial	5.1	4.3	4.2	5.1	5.7	4.9	4.8	4.3	5.0	7.7	8.0			
17 SR 1119	creeping	5.1	5.7	4.0	5.3	4.7	5.3	5.1	4.3	4.0	4.3	4.7			
18 PST-9PM	colonial	5.0	4.2	4.2	5.2	5.4	4.7	4.5	6.3	3.7	5.0	5.7			
19 Backspin	creeping	4.7	5.0	4.0	5.2	4.0	5.1	4.6	4.7	3.7	3.7	3.7			
20 Princeville	creeping	4.7	4.8	4.3	4.7	5.0	4.8	4.0	4.3	3.0	3.3	4.3			

Table 3 (continued).

Cultivar or Selection	Species	Turf Quality ¹										No Spray Dollar Spot ⁵ Sept. 2002
		1999-2002 Avg.	Spray 2002 Avg.	No Spray 2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	Color ² June 2002	Density ³ June 2002	Leaf Texture ⁴ June 2002	
21 Century	creeping	4.6	4.5	3.5	5.6	3.8	4.7	4.2	4.0	4.0	5.3	3.0
22 Providence	creeping	4.5	5.2	3.2	4.7	4.4	4.5	4.3	3.3	4.0	4.3	3.0
23 Golf Star	Idaho	4.3	3.2	3.7	4.5	4.9	4.2	3.8	7.0	3.7	4.7	7.0
24 Pennncross	creeping	4.3	4.5	3.7	5.2	4.0	3.8	4.1	5.0	2.3	2.3	4.3
25 Penneagle	creeping	4.0	4.5	4.2	3.9	4.5	3.6	4.0	4.0	1.7	1.7	5.0
26 Seaside	creeping	2.5	2.7	3.7	2.5	2.3	2.6	2.4	3.3	1.3	1.0	5.0
LSD at 5% =		0.7	1.5	NS	0.7	0.8	0.9	1.0	2.2	2.0	1.5	1.8

¹9 = best turf quality
²9 = darkest green color
³9 = highest shoot density
⁴9 = finest leaf texture
⁵9 = least disease

Table 4. Performance of bentgrass cultivars and selections in a fairway/tee trial seeded in September 1998 at North Brunswick, NJ.

Cultivar or Selection	Species	-----Turf Quality ¹ -----				
		1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
1 Syn 9BNC	colonial	5.8	6.1	5.2	5.9	5.8
2 Syn 9F7	colonial	5.3	5.5	4.8	5.3	5.5
3 LRF-98-493	colonial	5.0	5.0	4.8	5.1	4.9
4 Syn 98Y	colonial	4.8	5.0	4.6	5.1	4.4
5 SR 7100	colonial	4.7	5.5	4.1	4.8	4.5
6 Syn 9DH	colonial	4.7	5.2	4.4	4.6	4.7
7 Mom At 103	colonial	4.6	5.9	3.9	4.3	4.2
8 9456		4.5	5.6	4.4	4.2	3.8
9 SRX IC4	creeping	4.5	5.4	3.7	5.3	3.5
10 Mom At 106	colonial	4.1	5.0	4.0	3.8	3.8
11 AT-1	colonial	3.3	3.0	3.3	3.6	3.4
LSD at 5% =		0.7	0.6	0.8	0.9	1.2

¹9 = best turf quality

Table 5. Performance of bentgrass cultivars and selections in a putting green trial seeded in September 1999 at North Brunswick, NJ.

	Cultivar or Selection	Species	-----Turf Quality ¹ -----				Dollar Spot ² June 2002
			2000-2002 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	
1	Penn A-1	creeping	5.0	5.3	5.0	4.8	4.7
2	EFD comp	velvet	4.8	5.3	4.7	4.5	5.0
3	L-93	creeping	4.8	5.0	4.8	4.6	5.7
4	EMCB comp	creeping	4.7	5.1	5.0	4.0	5.0
5	Penn G-1	creeping	4.7	5.0	4.9	4.2	5.7
6	MCB comp	creeping	4.5	4.7	4.8	4.0	5.0
7	MCI comp	velvet	4.5	4.7	4.5	4.2	5.7
8	Penn A-4	creeping	4.5	4.9	4.7	3.8	6.0
9	EEC comp	velvet	4.4	4.8	4.0	4.3	5.7
10	Pick 96-2	creeping	4.4	4.9	4.9	3.3	4.7
11	Koos Bent	creeping	4.3	4.5	4.8	3.7	3.7
12	EVD comp	velvet	4.3	4.6	4.4	3.9	4.0
13	Penneagle	creeping	4.2	4.4	4.4	3.9	4.3
14	Pennlinks	creeping	4.2	4.2	4.3	3.9	4.7
15	VBC comp	velvet	4.1	4.3	4.1	3.9	3.7
16	Vesper	velvet	4.1	4.7	3.7	3.9	4.3
17	Syn OFT	creeping	4.1	4.3	4.4	3.6	4.3
18	Syn OBT	creeping	4.1	4.1	3.9	4.1	5.7
19	South Shore	creeping	4.0	4.3	4.1	3.8	4.0
20	Penn G-6	creeping	3.9	3.9	4.1	3.8	5.7
21	SR 7200	velvet	3.9	4.4	4.0	3.3	5.3
22	Putter	creeping	3.9	4.1	4.0	3.6	4.7
23	Matt's Bent	creeping	3.7	4.1	3.9	3.2	2.7
24	Crenshaw	creeping	3.7	4.1	4.0	2.9	3.3
25	Heriot	colonial	3.4	4.2	3.2	2.9	6.3
26	Regent	creeping	3.4	3.6	3.4	3.2	4.0
27	BariFera	creeping	3.3	4.0	3.1	2.9	3.7
28	Bardot	colonial	3.3	3.9	3.0	3.1	7.7
29	Penncross	creeping	2.7	3.4	2.6	2.1	4.5
LSD at 5% =			0.7	0.8	0.9	0.9	2.1

¹9 = best turf quality

²9 = least disease

Table 6. Performance of velvet bentgrasses in a putting green trial seeded in September 1999 at North Brunswick, NJ.

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² June 2002
	2000-2002 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	
1 EFD Comp	5.4	5.5	5.7	4.9	5.7
2 Greenwich	5.1	5.5	5.3	4.5	4.7
3 MCI Comp	5.0	5.1	5.2	4.8	5.7
4 MDD Comp	5.0	5.1	5.4	4.6	4.0
5 EVD Comp	4.9	4.7	4.9	4.9	5.7
6 SR 7200	4.7	5.2	4.8	4.2	6.3
7 EEC Comp	4.7	5.0	4.6	4.4	7.0
8 Vesper	4.6	5.4	4.2	4.1	3.3
9 VBC Comp	4.5	4.7	4.6	4.2	4.0
LSD at 5% =	0.5	NS	0.7	NS	1.2

¹9 = best turf quality

²9 = least disease

Table 7. Performance of bentgrass cultivars and selections in a fairway/tee trial seeded in September 1999 at North Brunswick, NJ.

	Cultivar or Selection	Species	-----Turf Quality ¹ -----				Brown Patch ² June 2002
			2000- 2002 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	
1	EFD Comp	velvet	6.1	6.6	6.8	5.0	8.3
2	SYN OEB	creeping	5.8	6.6	5.3	5.6	7.7
3	EVD Comp	velvet	5.5	6.0	6.0	4.5	8.3
4	MCI Comp	velvet	5.4	5.5	6.0	4.8	6.7
5	EEC Comp	velvet	5.4	5.7	5.6	4.9	7.3
6	SR 7200	velvet	5.4	5.8	5.7	4.5	8.0
7	Penn A-1	creeping	5.3	6.0	5.6	4.4	7.0
8	L-93	creeping	5.3	5.7	5.7	4.6	8.0
9	VBC Comp	velvet	5.3	5.6	6.0	4.2	8.3
10	SYN OPN	creeping	5.3	6.2	5.5	4.1	8.7
11	SYN ODO	creeping	5.2	5.9	5.3	4.4	6.3
12	SR 7200	velvet	5.2	6.3	5.1	4.2	8.0
13	EMCB Comp	creeping	5.2	6.3	5.3	4.0	9.0
14	Penn G-1	creeping	5.1	5.6	5.3	4.4	8.0
15	EF-115	creeping	5.1	6.2	4.7	4.4	9.0
16	A2E	creeping	5.1	5.7	5.7	3.9	9.0
17	SYN OBR	creeping	5.0	5.3	5.2	4.5	9.0
18	SYN OFT	creeping	4.9	5.1	4.6	5.2	7.3
19	Penn A-4	creeping	4.9	5.8	5.2	3.5	7.3
20	MCB Comp	creeping	4.9	5.8	4.7	4.2	7.3
21	SYN OMT	creeping	4.8	5.2	5.0	4.3	6.3
22	OVN	creeping	4.8	5.6	5.1	3.7	9.0
23	SYN OEH	creeping	4.7	5.4	4.6	4.3	9.0
24	Pennlinks	creeping	4.7	5.0	4.9	4.3	7.7
25	SYN OBT	creeping	4.7	4.8	4.5	4.8	6.7
26	SYN OBR	creeping	4.6	5.4	4.8	3.6	6.7
27	Penneagle	creeping	4.6	5.2	4.7	3.8	8.3
28	Koos Bent	creeping	4.5	5.1	4.6	3.9	7.0
29	Southshore	creeping	4.5	4.9	4.5	4.0	8.3
30	Penn G-6	creeping	4.5	4.7	4.5	4.3	8.0
31	8151 Comp	creeping	4.5	5.1	4.5	3.8	7.7
32	Cobra	creeping	4.2	4.1	4.4	4.1	7.3
33	Putter	creeping	4.2	4.6	4.2	3.8	7.3
34	Heriot	colonial	4.2	4.8	4.1	3.6	2.7
35	Bardot	colonial	4.0	4.1	4.0	3.9	4.0

Table 7 (continued).

	Cultivar or Selection	Species	-----Turf Quality ¹ -----				Brown Patch ² June 2002
			2000-2002 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	
36	Matts Bent	creeping	4.0	4.2	4.0	3.8	8.0
37	Crenshaw	creeping	4.0	4.4	4.2	3.3	8.0
38	Regent	creeping	3.9	3.6	4.2	3.9	6.7
39	BariFera	creeping	3.8	4.5	3.9	3.1	6.3
40	SYN 9DH	colonial	3.8	4.1	4.0	3.2	4.3
41	9F7	colonial	3.7	4.1	3.8	3.3	3.7
42	SYN 9SG	colonial	3.5	3.6	3.8	3.2	5.7
43	Penncross	creeping	3.3	3.3	3.3	3.4	9.0
44	Rasti	colonial	3.1	3.1	3.1	3.0	7.7
LSD at 5% =			0.6	0.7	0.7	1.0	2.7

¹9 = best turf quality

²9 = least disease

Table 8. Performance of bentgrass cultivars and selections in a putting green trial seeded in September 2000 at North Brunswick, NJ.

	Cultivar or Selection	Species	-----Turf Quality ¹ -----			Spring Green-up ² April 2002	Dollar Spot ³ April 2002	Brown Patch ³ June 2002
			2001- 2002 Avg.	2001 Avg.	2002 Avg.			
1	C953	creeping	6.7	6.6	6.7	5.3	8.0	5.3
2	C952	creeping	6.5	6.0	6.9	6.3	7.7	4.0
3	WPE comp	creeping	6.4	6.1	6.7	8.0	8.3	5.7
4	C954	creeping	6.0	6.3	5.6	4.0	7.7	4.0
5	CIS AC-1	velvet	5.7	5.9	5.5	2.3	8.7	6.0
6	RTE comp	creeping	5.7	6.3	5.1	5.0	6.3	4.7
7	EMC comp	creeping	5.4	5.9	4.8	6.3	6.3	4.3
8	CIS AC-1/AT-5	v/col	5.4	5.8	4.9	4.3	8.7	3.3
9	Penn G-2	creeping	5.3	5.3	5.2	2.7	6.3	4.3
10	L-93	creeping	5.2	5.2	5.2	5.3	7.3	4.3
11	00-108 V. Lehman	creeping	5.1	5.4	4.7	7.0	6.3	4.3
12	SRX 1EWW1CR1	creeping	5.0	5.4	4.6	5.0	6.3	4.7
13	CIS AC-1/AP-5/AT-5	v/cr/col	5.0	5.2	4.8	5.0	8.3	4.3
14	CIS AC-1/AP-5	v/cr/col	4.9	4.9	4.8	3.7	8.7	4.3
15	MCB comp	creeping	4.8	5.3	4.3	5.7	5.0	3.7
16	SRX 1EWW1CR3	creeping	4.8	5.2	4.4	4.0	5.3	5.7
17	Penn A-4	creeping	4.7	5.4	4.0	7.3	5.0	2.3
18	SRX 1DIN	creeping	4.7	5.0	4.4	3.3	5.7	4.0
19	SR 1119	creeping	4.7	5.3	4.1	5.0	5.7	5.0
20	SRX 1EWW1CR4	creeping	4.7	4.8	4.6	2.7	6.7	6.3
21	Brighton	creeping	4.7	5.1	4.2	2.7	7.0	5.3
22	Syn-AIU	creeping	4.7	4.8	4.5	2.7	6.3	2.7
23	SRX 1NJH	creeping	4.7	5.2	4.1	5.0	6.0	5.3
24	CIS AP-5	creeping	4.6	4.8	4.4	5.0	6.0	3.0
25	SRX 1EWW1CR2	creeping	4.6	5.1	4.1	4.7	6.0	6.3
26	CIS AP-7	creeping	4.5	5.0	4.0	5.3	5.3	5.0
27	SRX 1EW46-12	creeping	4.5	4.9	4.1	4.3	5.7	4.0
28	SRX 1COCR	creeping	4.5	5.0	3.9	2.7	4.3	5.3
29	C951	creeping	4.5	4.4	4.5	5.0	8.0	6.0
30	Cato	creeping	4.4	5.1	3.7	4.7	7.0	4.7
31	Syn 96-2	creeping	4.4	5.3	3.4	3.3	4.0	5.3
32	SRX 1BPAA	creeping	4.4	4.6	4.2	5.7	6.0	4.3
33	Pick ECB	creeping	4.3	4.8	3.8	8.3	6.0	4.3
34	SRX 1MOCR1	creeping	4.3	5.1	3.5	2.3	4.3	4.7
35	Backspin	creeping	4.1	4.4	3.8	4.7	5.7	4.0

Table 8 (continued).

	Cultivar or Selection	Species	-----Turf Quality ¹ -----			Spring Green-up ² April 2002	Dollar Spot ³ April 2002	Brown Patch ³ June 2002
			2001- 2002 Avg.	2001 Avg.	2002 Avg.			
36	Southshore	creeping	4.1	4.6	3.6	5.0	5.3	4.7
37	SR 7100	colonial	4.1	4.3	3.9	4.3	7.7	3.0
38	Century	creeping	4.0	4.6	3.4	7.7	5.3	4.3
39	Providence	creeping	3.9	4.2	3.6	6.0	6.3	4.3
40	Crenshaw	creeping	3.6	4.2	2.9	3.3	2.3	4.0
41	Penncross	creeping	3.1	3.3	3.0	4.3	6.7	4.3
LSD at 5% =			0.6	0.6	0.8	1.9	1.5	1.9
VELVET BENTGRASSES								
1	DSV comp	velvet	6.2	5.7	6.7	4.7	9.0	9.0
2	EFD comp	velvet	6.1	5.8	6.3	5.0	9.0	9.0
3	Greenwich	velvet	6.0	6.1	5.9	1.7	9.0	9.0
4	MAL comp	velvet	5.8	6.0	5.5	2.7	9.0	7.7
5	EVN comp	velvet	5.8	5.5	6.1	4.0	9.0	9.0
6	MAC comp	velvet	5.4	5.5	5.2	5.0	9.0	9.0
7	MAM comp	velvet	5.3	5.7	5.0	5.3	9.0	8.0
8	SR7200	velvet	4.9	5.3	4.5	7.0	9.0	9.0
9	SRX7EW57-23	velvet	4.7	4.9	4.5	7.3	8.3	8.0
10	SRX7EWRIVI	velvet	4.6	4.8	4.4	6.7	8.7	9.0
LSD at 5% =			0.6	0.5	0.8	2.1	NS	NS

¹9 = best turf quality

²9 = earliest spring green-up

³9 = least disease

Table 9. Performance of bentgrass cultivars and selections in a fairway/tee trial seeded in September 2000 at North Brunswick, NJ.

Cultivar or Selection	Species	-----Turf Quality ¹ -----			Dollar Spot ² 2002	Brown Patch ² 2002
		2001-2002 Avg.	2001 Avg.	2002 Avg.		
TEST 1						
1	CIS AC-1	velvet	7.6	6.9	8.2	8.7
2	C953	creeping	7.4	7.8	6.9	6.5
3	C952	creeping	7.4	7.4	7.3	6.7
4	SR 7200	velvet	6.9	6.7	7.1	8.3
5	CIS AC-1/AT-5	v/col	6.6	6.5	6.6	7.7
6	CIS AC-1/AP-5	v/cr	6.3	6.1	6.5	7.7
7	C954	creeping	6.2	6.3	6.0	6.0
8	CIS AC-1/AP-5/AT-5	cr/col/v	5.6	5.7	5.4	6.5
9	CIS AT-5	colonial	5.5	5.8	5.2	6.2
10	Penn G-2	creeping	5.4	5.9	4.8	3.7
11	00-108	creeping	5.3	5.5	5.2	5.7
12	L93	creeping	5.3	5.4	5.2	7.2
13	Penn A-4	creeping	5.1	6.2	4.1	3.2
14	Pick 96-2	creeping	5.1	6.1	4.1	3.3
15	SRX 1NJH	creeping	5.1	5.1	5.0	4.8
16	Brighton	creeping	4.9	5.9	3.8	4.0
17	SR 1119	creeping	4.9	5.5	4.2	4.2
18	SRX 1DIN	creeping	4.9	5.8	3.9	3.8
19	SRX 1BPAA	creeping	4.8	5.3	4.3	5.2
20	SRX 1COCR	creeping	4.8	5.3	4.2	3.7
21	Pick ECB	creeping	4.8	5.7	3.8	4.0
22	Cato	creeping	4.6	5.3	3.9	5.8
23	Crenshaw	creeping	4.6	5.6	3.6	3.0
24	C951	creeping	4.5	4.7	4.4	5.5
25	SRX 1EW46-12	creeping	4.5	5.1	3.8	3.5
26	Pennlinks	creeping	4.4	4.6	4.1	5.3
27	Providence	creeping	4.3	4.8	3.9	5.7
28	Southshore	creeping	4.0	4.2	3.8	5.0
29	Syn RHU	creeping	3.7	3.9	3.4	5.8
30	Syn ORM	creeping	3.4	3.7	3.2	4.8
31	Syn ORE	creeping	3.2	3.7	2.6	4.3
32	Penncross	creeping	3.0	3.7	2.4	4.7

LSD at 5% = 0.8 0.9 0.9 1.3 NS

Table 9 (continued).

Cultivar or Selection	Species	-----Turf Quality ¹ -----			Dollar Spot ² 2002	Brown Patch ² 2002	
		2001-2002 Avg.	2001 Avg.	2002 Avg.			
TEST 2 - COLONIAL AND DRYLAND BENTGRASSES							
1	SRX EW15-22	colonial	6.1	6.3	5.9	7.7	6.3
2	EWT comp	colonial	5.7	5.3	6.1	8.7	7.0
3	HCD comp	colonial	5.7	5.4	5.9	8.5	6.3
4	HCE comp	colonial	5.6	5.3	5.9	8.3	5.2
5	NST comp	colonial	5.5	5.1	5.9	8.2	6.0
6	AT-5	colonial	5.4	5.7	5.1	7.3	5.8
7	Syn-9BC	colonial	5.4	5.8	4.9	7.0	6.0
8	Syn-9BNC	colonial	5.3	5.8	4.8	7.3	6.0
9	SRX 7CRCO	colonial	5.3	5.0	5.5	8.8	6.0
10	SRX 7MOBB	colonial	5.3	5.8	4.7	7.7	5.3
11	SRX 7MODD	colonial	5.2	5.4	5.1	8.0	6.3
12	SRX 7EW65-1	colonial	5.2	5.4	5.0	8.3	5.3
13	SRX 7EW81-13	colonial	5.2	5.9	4.4	7.3	4.3
14	SRX 7EW81-11	colonial	5.2	5.4	4.9	8.3	6.3
15	Syn-945y	colonial	5.0	4.8	5.2	9.0	6.8
16	SRX 7EW65-9	colonial	5.0	5.2	4.7	8.2	6.8
17	SR 7100	colonial	5.0	5.2	4.7	7.3	5.7
18	SRX 7EE25	colonial	4.9	5.1	4.7	7.8	5.5
19	SRX 7EW80-15	colonial	4.9	5.0	4.8	8.8	5.3
20	SRX 7EE	colonial	4.9	4.9	4.8	8.8	6.2
21	SRX 7EE20	colonial	4.9	5.0	4.7	8.5	5.7
22	SRX 7EW81-3	colonial	4.9	5.0	4.7	8.5	5.5
23	Syn 9FB	colonial	4.8	4.6	5.1	7.7	5.7
24	SRX 7EW86-6	colonial	4.8	5.2	4.5	8.3	4.0
25	SRX 7EW65-5	colonial	4.8	4.7	5.0	8.7	6.5
26	SRX 7EW65-15	colonial	4.8	4.9	4.8	9.0	5.8
27	SRX 7EW80-19	colonial	4.8	5.2	4.3	7.7	6.0
28	SRX EW 67-7	colonial	4.8	4.8	4.7	8.3	5.5
29	SRX 7EW80-6	colonial	4.7	5.0	4.4	8.7	5.2
30	SRX 7EW65-11	colonial	4.6	4.7	4.6	8.7	5.7
31	SRX 7EW86-5	colonial	4.6	4.7	4.5	8.2	4.8
32	SRX 7EW65-3	colonial	4.5	4.4	4.6	8.8	6.3
33	SRX 7EW80-17	colonial	4.5	4.8	4.3	8.8	4.8
34	SRX 7EW17-23	creeping?	4.5	5.0	3.9	5.2	7.0
35	SRX 7EW81-21	colonial	4.2	4.5	3.8	7.7	4.8

Table 9 (continued).

Cultivar or Selection	Species	-----Turf Quality ¹ -----			Dollar Spot ² 2002	Brown Patch ² 2002
		2001-2002 Avg.	2001 Avg.	2002 Avg.		
TEST 2 - COLONIAL AND DRYLAND BENTGRASSES (cont.)						
36	Tiger	colonial	4.1	4.5	3.6	5.2
37	SRX 7DLBNN	dryland	3.8	3.9	3.6	5.2
38	Punawai	brntop	3.7	4.3	3.1	6.2
LSD at 5% =			0.5	0.6	0.7	0.9
						NS

¹9 = best turf quality

²9 = least disease

Table 10. Performance of creeping bentgrass cultivars and selections in a putting green trial seeded in September 2001 at North Brunswick, NJ.

	Cultivar or Selection	Turf Quality ¹ 2002 Avg.	Establishment ² Sept. 2001	Pink Snow Mold ³ 2001 Avg.	Dollar Spot ⁴ 2002 Avg.	Brown Patch ⁴ 2002 Avg.
1	C953	7.6	4.3	7.2	6.8	5.8
2	C952	7.2	6.0	7.0	7.3	5.8
3	PST OEB	6.3	6.3	8.0	8.1	7.0
4	SRX 1G222	6.3	6.3	8.2	5.8	6.3
5	SRX 1G54	6.2	6.3	6.0	5.5	6.4
6	C954	6.1	7.0	8.7	5.3	6.3
7	PST-OPNB	5.9	6.3	6.7	7.5	6.0
8	SRX 1G68	5.9	5.3	6.5	6.6	7.1
9	SRX 1G46	5.8	5.7	6.7	4.7	6.1
10	Bengal	5.8	6.7	7.0	7.2	5.9
11	Independence	5.8	5.7	7.5	5.6	6.0
12	ORU-2001 C8-1-ORU	5.8	6.7	7.5	6.8	5.5
13	Penn A-2	5.7	7.7	7.8	6.4	5.3
14	CIS-AP9	5.7	4.3	7.5	6.8	6.7
15	OPN-2001C8-1-OPN	5.7	6.3	7.5	6.8	6.3
16	Penn A-1	5.7	8.7	8.0	6.6	5.5
17	SRX 1G32	5.6	6.3	7.2	4.7	5.9
18	Syn ORO	5.5	6.0	8.2	7.1	6.0
19	SRX 1R1V1	5.5	5.0	7.5	5.8	5.7
20	Penn A-4	5.5	8.7	8.2	5.0	5.3
21	SRX 1G44	5.5	6.3	7.2	3.7	6.0
22	Nu-Penn Blend	5.4	8.0	7.8	6.3	4.7
23	SRX R1E2	5.4	6.0	7.8	5.1	6.2
24	SRX 146-12	5.2	5.0	6.2	6.2	6.8
25	SRX 1W1CR3	5.2	4.3	8.0	4.9	6.4
26	Pick Syn 96-2	5.2	7.3	7.0	3.3	7.1
27	Penn G-1	5.1	7.7	7.3	6.8	5.6
28	7CMS4	5.1	5.0	8.3	6.1	6.9
29	SRX W1CR1	5.1	5.3	7.0	7.2	6.3
30	SRX 1G56	5.0	6.0	7.2	4.4	7.6
31	7RMS4	4.9	5.7	7.5	6.3	6.3
32	SRX 1G57	4.9	6.0	8.0	4.3	6.3
33	SRX 1W1CR2	4.9	4.7	7.0	6.9	5.8
34	SRX 1D1N	4.9	6.7	7.0	5.3	5.7
35	SRX 1H Blue	4.8	6.3	7.8	5.9	6.3

Table 10 (continued).

	Cultivar or Selection	Turf Quality ¹ 2002 Avg.	Establishment ² Sept. 2001	Pink Snow Mold ³ 2001 Avg.	Dollar Spot ⁴ 2002 Avg.	Brown Patch ⁴ 2002 Avg.
36	SRX 1COCR	4.8	6.3	7.5	5.8	5.2
37	Pick ECB	4.8	6.3	7.7	5.6	6.1
38	MS4	4.8	5.7	6.3	6.8	6.8
39	SRX 1BPAA	4.7	6.7	8.2	6.0	5.7
40	OVN C8-0-OVN	4.7	8.0	7.5	8.4	5.8
41	Penn G-6	4.7	7.7	7.5	5.8	6.4
42	L-93	4.7	8.0	8.7	8.1	6.1
43	SR 1119	4.7	7.0	7.5	7.3	5.3
44	Brighton	4.6	6.7	8.2	7.7	6.0
45	PST ORM-1	4.4	6.0	6.8	8.3	5.7
46	SRX 1H Pink	4.4	6.3	7.3	6.2	7.2
47	SRX MOCR1	4.4	5.3	7.3	4.0	5.7
48	SRX 1NJ H	4.4	7.0	7.0	6.6	6.1
49	MS5	4.4	7.0	6.8	6.8	5.8
50	Pennway Blend	4.3	7.7	7.7	6.5	6.0
51	Penneagle	4.2	8.7	7.2	6.8	5.4
52	SRX H Silver	4.2	6.3	7.5	7.2	7.2
53	01-4CB	4.2	6.0	7.3	6.9	5.1
54	MS7	4.1	6.0	7.8	8.0	6.4
55	Pick 01-3CB	4.1	4.7	7.0	7.0	6.1
56	Seaside II	4.0	8.7	7.5	7.6	5.5
57	MS6	4.0	6.7	6.7	6.9	6.6
58	C951	4.0	5.0	6.8	6.8	6.3
59	Southshore	4.0	7.0	7.7	6.7	6.0
60	Pick CB13.94.98	3.9	7.0	7.5	6.5	5.1
61	PST-ORE1	3.8	6.3	7.7	8.2	6.3
62	Putter	3.8	7.3	7.7	6.7	6.4
63	G-6	3.8	7.0	8.2	6.1	6.3
64	Pennlinks	3.7	8.0	7.7	7.6	6.2
65	Cato	3.5	7.3	7.5	7.5	5.4
66	Providence	3.3	7.0	8.2	8.3	5.9
67	Regent	3.3	7.7	8.0	7.4	5.0
68	Penncross	3.0	8.0	7.7	7.8	6.6
69	Penn Trio Blend	3.0	7.0	8.2	7.8	6.3
70	Pick CB4.94.01	2.8	4.7	7.2	8.3	6.6

Table 10 (continued).

	Cultivar or Selection	Turf Quality ¹ 2002 Avg.	Establishment ² Sept. 2001	Pink Snow Mold ³ 2001 Avg.	Dollar Spot ⁴ 2002 Avg.	Brown Patch ⁴ 2002 Avg.
71	Pick CB6.94.01	2.8	6.0	6.5	8.0	7.6
	LSD at 5% =	0.7	1.4	1.4	1.4	1.3

¹9 = best turf quality

²9 = quickest establishment

³9 = least disease (average of two ratings)

⁴9 = least disease (average of four ratings)

Table 11. Performance of bentgrass cultivars and selections in a fairway/tee trial seeded in September 2001 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality ¹ 2002 Avg.	Establish- ment ² Sept. 2001	Brown Patch ³ 2002	Dollar Spot ³ July 2002	Pink Snow ³ Mold 2002
1	SR 7200	velvet	6.4	4.0	8.1	8.7	7.2
2	SRX 7CRCO	colonial	6.2	4.3	6.5	8.7	6.5
3	SRX 781-22	colonial	6.2	3.7	6.4	7.7	7.0
4	Independence	creeping	6.2	3.3	9.0	7.3	7.7
5	Tiger II	colonial	6.1	3.3	6.5	9.0	7.3
6	Bengal	creeping	6.1	4.0	8.3	6.0	7.8
7	SRX IG44	creeping	6.0	4.0	8.3	6.3	7.2
8	SRX IG56	creeping	6.0	3.7	8.1	6.3	7.0
9	SRX 7MOBB	colonial	6.0	5.0	5.8	8.3	6.7
10	SRX IG46	creeping	5.9	4.3	8.0	6.3	7.3
11	9BNC-2001	colonial	5.8	4.7	5.9	7.3	7.7
12	SRX IG57	creeping	5.8	4.0	8.8	6.3	7.2
13	SRX 7EE5	colonial	5.7	2.7	5.3	8.0	6.5
14	SRX 7EE4	colonial	5.7	3.0	6.2	8.0	7.0
15	SRX 7MODD	colonial	5.7	4.0	4.9	8.0	6.3
16	SRX IG222	creeping	5.7	3.7	8.7	5.7	7.3
17	SRX 1G68	creeping	5.6	4.3	8.5	7.0	6.7
18	SRX ICOCR	creeping	5.6	4.0	8.2	6.0	8.0
19	SRX IG32	creeping	5.6	4.3	8.9	6.0	7.0
20	SRX IG54	creeping	5.5	3.7	8.8	6.0	7.8
21	SR 1119	creeping	5.4	3.7	8.8	7.0	7.7
22	SRX IH Pink	creeping	5.4	3.7	8.6	7.7	7.2
23	9ER Blk-5 Bulk	colonial	5.3	3.7	6.3	9.0	7.2
24	SRX 767-7	colonial	5.3	3.7	5.8	9.0	7.3
25	Allister	colonial	5.3	4.7	5.5	7.7	7.7
26	SRX 781-13	colonial	5.3	4.7	5.3	9.0	7.7
27	SRX 781-3	colonial	5.2	4.7	6.0	9.0	7.0
28	SRX IH Blue	creeping	5.2	3.7	8.7	7.7	7.7
29	SRX 7EE	colonial	5.1	4.0	6.0	9.0	7.5
30	SR 7100	colonial	5.1	4.0	5.8	8.7	7.2
31	SRX 7EE25	colonial	5.1	4.3	6.6	9.0	6.5
32	SRX 146-12	creeping	5.1	4.0	8.9	7.0	7.0
33	SRX IH Silver	creeping	5.0	4.0	8.8	8.0	7.8
34	Glory	colonial	5.0	4.0	6.2	8.7	6.5
35	SRX 786-6	colonial	5.0	3.7	5.2	9.0	6.8

Table 11 (continued).

	Cultivar or Selection	Species	Turf Quality ¹ 2002 Avg.	Establish- ment ² Sept. 2001	Brown Patch ³ 2002	Dollar Spot ³ July 2002	Pink Snow ³ Mold 2002
36	SRX IDIN	creeping	5.0	4.3	8.2	6.7	7.3
37	EWTR comp	colonial	5.0	2.7	6.3	8.7	7.2
38	Brighton	creeping	4.9	4.0	8.6	8.3	7.7
39	SRX IBPAA	creeping	4.9	3.7	8.3	7.0	7.8
40	L-93	creeping	4.9	4.3	8.3	8.3	7.8
41	HCDR comp	colonial	4.8	3.0	5.4	9.0	7.3
42	Heriot	colonial	4.8	3.3	6.2	8.7	7.2
43	SRX IWJH	creeping	4.8	3.3	8.8	6.0	6.8
44	Providence	creeping	4.7	3.7	8.3	8.7	7.7
45	SRX 765-5	colonial	4.6	3.0	5.0	8.7	6.8
46	SRX 765-11	colonial	4.6	3.7	5.2	9.0	7.0
47	Southshore	creeping	4.6	4.3	8.2	8.0	7.7
48	SRX 7EE20	colonial	4.6	5.0	5.1	9.0	6.8
49	SRX 780-6	colonial	4.6	3.7	6.2	9.0	7.5
50	G-6	creeping	4.6	4.3	8.8	7.0	8.0
51	SRX 765-3	colonial	4.5	4.0	6.1	9.0	7.3
52	SRX 780-19	colonial	4.5	4.3	6.0	8.7	7.5
53	Bardot	colonial	4.5	2.3	6.1	8.7	7.7
54	Regent	creeping	4.5	3.7	8.0	7.7	7.8
55	SRX 781-21	colonial	4.4	4.3	4.8	9.0	6.0
56	Putter	creeping	4.3	4.3	8.8	7.0	7.7
57	IBP comp	colonial	4.0	3.0	5.6	9.0	7.2
58	AT-1	colonial	2.6	2.3	7.1	9.0	6.8
59	PST-9ED	colonial	2.5	3.0	7.2	9.0	6.7
	LSD at 5% =		0.8	1.0	1.1	1.2	1.1

¹9 = best turf quality²9 = quickest establishment³9 = least disease

Table 12. Maintenance practices performed in 2002 on bentgrass trials at North Brunswick, NJ.

Table Test	Fertility ¹	Mowing Height (inches)	Aerification/Topdress	Fungicides	Insecticides	Herbicides
1 1998 NTEP Greens	2.6	1/8	April – 5/8 inch core/sand	May/Jun/July – whole plot whole plot Aug./Sept. – half plots	Aug. – Turcam 76 (for Cutworms)	—
2 1998 Greens	2.1	1/8	—	May/June/July/Aug./Sept.	Aug. – Turcam 76 (for Cutworms)	—
3 1998 NTEP Fairway	2.0	3/8	April – 5/8 inch core/sand May – 5/16 inch solid tine	May/Jun/July – whole plot Aug./Sept. – half plots	May/July – Dursban (for ants/earthworms)	—
4 1998 Fairway	1.5	3/8	May – 5/16 inch solid tine	—	July – Dursban Pro (for ants/earthworms)	—
5, 6 1999 Greens	1.0	1/8	—	Aug. – Daconil Ultrex	July – Merit 75WP (for grubs)	July – Lontrel (for clover)
7 1999 Fairway	1.0	3/8	—	Aug. – Daconil Ultrex	July – Merit 75WP (for grubs)	July – Lontrel (for clover)
8 2000 Greens	2.5	1/8	July – topdressed sand	June/July/Aug. – Daconil Ultrex	July – Merit 75WP (for grubs)	June – Acclaim Extra (for crabgrass) July – Lontrel (for grubs)
9 2000 Fairway	3.0	3/8	June – 5/16 inch solid tine	June/Oct. – Daconil Ultrex	July – Merit 75WP (for grubs)	June – Acclaim Extra (for crabgrass) July – Lontrel (for grubs)
10 2001 Greens	2.0	1/8	April/May – topdressed sand	July/Aug./Oct. – Daconil Ultrex	July – Merit 75WP (for grubs)	—
11 2001 Fairway	1.5	3/8	—	July/Aug./Oct. – Daconil Ultrex	July – Merit 75WP (for grubs)	—

¹ Annual nitrogen applied (lbs per 1000 ft²)