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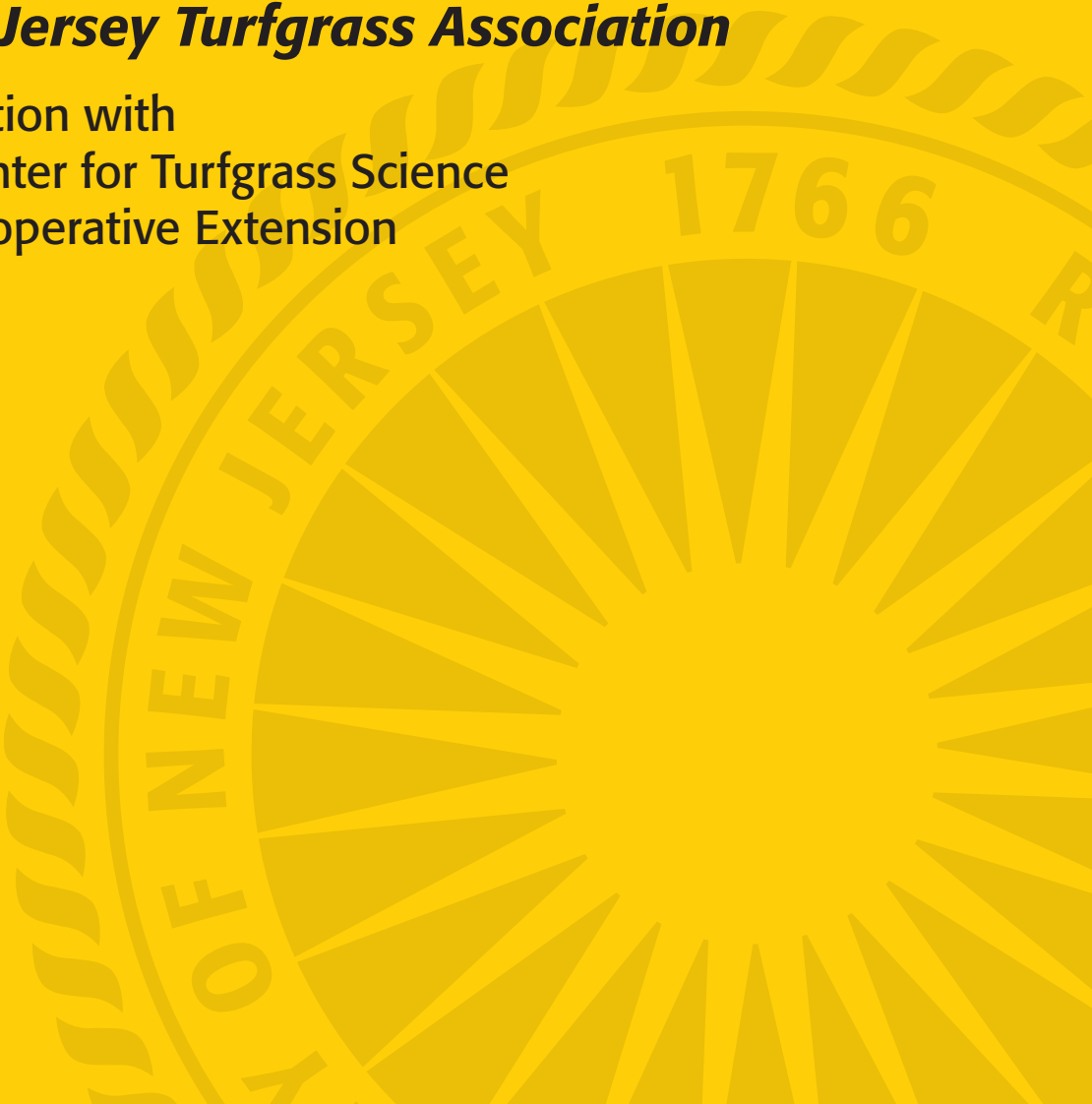

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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences, Rutgers, The State 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 2011 GREEN EXPO Turf and Landscape Conference. 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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Dr. Ann Brooks Gould, Editor
Dr. Bruce B. Clarke, Coordinator

PERFORMANCE OF BENTGRASS CULTIVARS AND SELECTIONS IN NEW JERSEY TURF TRIALS

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Bentgrass species possess a distinct ability to form very dense, uniform, and fine textured surfaces under an extremely low height of cut. As a result, bentgrasses are often used in specialized, high maintenance areas such as golf course fairways, tees, and putting greens. Three bentgrass species predominantly used for turf include creeping bentgrass (*Agrostis palustris* Huds.; synonym = *A. stolonifera* L.), colonial bentgrass (*A. tenuis* L. or *A. capillaris* L.), and velvet bentgrass (*A. canina* L.). In addition, highland or dryland bentgrass (*A. castellana* Boiss. & Reut.) are options for turf in stressful areas, but these bentgrasses tend to be less attractive than the more common species when a high quality turf is needed and, as a result, are less commonly utilized. Due to their aggressive growth habits and adaptability to a variety of climates, creeping and velvet bentgrasses are most suitable for the very low cutting heights required for golf course greens in the United States. Colonial bentgrass responds best to a slightly higher height of cut and is thus usually better suited for fairways in temperate areas of the United States.

Creeping bentgrasses are highly stoloniferous and have a prostrate growth habit, which allows for persistence under very low mowing heights. Cutting heights of 1/10 of an inch are not uncommon on many top tier golf courses. This species is highly adapted to both cool temperate as well as warm humid regions of the United States, making it the most popular species used on golf course putting greens in temperate areas. Its vigorous spreading growth habit also contributes to its ability to repair damaged areas quickly. In 1954, H. B. Musser released 'Penncross,' the first seeded synthetic variety of creeping bentgrass (Musser, 1959). Since that time, breeding efforts have markedly improved the ability of creeping bentgrasses to withstand the increasing demands of the game of golf. Compared to older varieties, improved characteristics include better turf quality, darker green color, improved shoot density, improved traffic tolerance and recuperative ability, and increased disease and stress tolerances.

Creeping bentgrasses are susceptible to a number of pathogens and pests. Dollar spot (caused by the fungus *Sclerotinia homoeocarpa*) is one of the main disease problems of close-cut creeping bentgrass. However, these grasses can also be susceptible to brown patch (caused by *Rhizoctonia solani*), copper spot (*Gloeocercospora sorghi*), anthracnose (*Colletotrichum cereale*), and diseases caused by *Pythium* spp.

Colonial bentgrass, also referred to as browntop, has traditionally been used as a lawn and golf course grass in areas of Northern Europe and New Zealand that have mild (cool and humid) summers. Compared to creeping bentgrass, colonial bentgrass has a finer leaf texture and a more upright and less aggressive spreading growth habit and is generally better adapted for fairway or tee use in the warmer summer climates of the United States. Colonial bentgrasses perform best in New Jersey when mowed no lower than 3/8 of an inch. They typically have a brighter green color and better color retention during cool weather compared to creeping bentgrasses. Although colonial bentgrasses generally have better dollar spot resistance and better wear tolerance, they are much more susceptible than creeping bentgrasses to brown patch. While not lethal, the playability of golf courses may be affected if brown patch is not controlled on colonial bentgrass. Current breeding efforts include improving the tolerance of colonial bentgrasses to this disease.

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Velvet bentgrass forms the finest-textured and most dense turf of the bentgrasses and can nearly resemble green velvet when managed properly. It spreads mainly through profuse production of erect tillers with short stolons. This grass can tolerate very close mowing, heat, cold and shade, and is one of the most drought tolerant of the bentgrasses used for turf (Skogley, 1973). Due to the density and vigor of this turf, even under very low mowing conditions, it has been shown to be extremely effective at preventing the encroachment of the most prolific weed on a golf course, *Poa annua*. The spread of velvet bentgrass via stolons is more aggressive than colonial bentgrass, but not as strong as creeping bentgrass. Velvet bentgrass can form excessive thatch, especially at high fertility rates, increased irrigation, and higher cutting heights, and can thus become problematic if not maintained properly. Years of mismanagement with subsequent poor turf quality has given velvet bentgrass a poor reputation, but recent research shows that when managed properly, velvet bentgrass can create a superior turf (Brilman and Meyer, 2000).

Velvet bentgrass can be susceptible to red thread (caused by *Laetisaria fuciformis*) and copper spot, but generally has good resistance to dollar spot and brown patch. Seedlings of velvet bentgrasses are susceptible to Pythium seedling root rot during establishment.

During colder weather, velvet bentgrass will turn a dark purple color and take longer than the other bentgrass species to “green-up” in the spring. Velvet bentgrass has not been used extensively for high maintenance turf, largely because its range of adaptation has not been well characterized. Selections of velvet bentgrass have persisted for many years in trials under New Jersey growing conditions. Recent research at Rutgers indicates that the species may one day serve as a viable alternative to creeping bentgrass for use on golf course greens in the northeastern United States, as long as proper cultural management inputs are implemented. Some of the major breeding objectives for velvet bentgrass include resistance to copper spot and Pythium diseases, and better wear tolerance.

The New Jersey Agricultural Experiment Station participates in the National Turfgrass Evaluation Program (NTEP), which evaluates many species of turfgrass including bentgrasses at various locations throughout the United States. The Rutgers turfgrass breeding program conducts extensive field evaluations of collections and new material developed in the improvement program, many of which are a result of recent collection trips within the United States and throughout Europe and Asia. Collections from Norway, Sweden, Spain, Portugal, France, Finland, Switzerland, Scotland, Italy, Greece, Poland, Holland, Bulgaria, Romania, Croatia, China, and the Slovak Republic serve to enhance the genetic diversity of the germplasm used in this breeding program. The Rutgers turfgrass breeding program focuses on improving turfgrasses for overall quality, color, density, uniformity, texture, disease resistance, salt tolerance, traffic tolerance, and many other aspects of a turf to be grown for a variety of purposes.

PROCEDURES

Bentgrass evaluation trials were established at the Rutgers Horticultural Research Farm II in North Brunswick, NJ in the fall of 2007 (Tables 1 and 2), 2008 (Tables 3 to 5), 2009 (Tables 6 and 7), and 2010 (Tables 8 to 10). Trials were established on a modified Nixon loam. Plot size was 3 x 5 ft for all trials, except for the two 2008 NTEP trials (putting greens and fairway/tee, Tables 3 and 4, respectively) which were 4 x 6 ft. Plots were hand-seeded at a rate of approximately 1.0 lb per 1000 ft^2. All tests were arranged in a randomized complete block design with three replications.

All sites were well drained and openly exposed to both sunlight and air circulation, except the 2008 NTEP putting green trial (Table 3), which had somewhat enclosed air circulation. The annual rate of nitrogen applied, mowing height, cultivation/topdressing practice, and pesticide applications for each test are presented in Table 11. The putting green tests were mowed five to six times per week during periods of active growth with a triplex or walk-behind reel mower equipped to collect clippings. The fairway tests were mowed three times per week with a triplex reel mower and clippings were removed during periods of active growth. Soil pH was maintained in the range of 5.4 to 6.8 with agricultural limestone. All tests were irrigated to avoid drought stress.

Plots were evaluated frequently during the growing season for overall turf quality (i.e., turf density, texture, uniformity, color, growth habit, and presence of damage due to diseases and insects). Turf quality (Tables 1 through 10), spring green-up (Tables 3, 4, and 6), establishment (Tables 8 to 10), bentgrass susceptibility to phytotoxicity caused by the plant-growth regulator Trimmit 2SC (Tables 1 and 2), and disease

were rated on a 1 to 9 scale, where 9 represented the most desirable turf characteristic. Disease ratings included dollar spot (Tables 6, 7, and 10), brown patch (Tables 8 to 10), anthracnose (Table 6), copper spot (Table 8), take-all patch (Table 3), and Pythium (Table 4). All data were subjected to analysis of variance. Means were separated using Fisher's protected least significant difference (LSD) means separation test.

RESULTS AND DISCUSSION

Turf Quality Evaluations

Entries in Tables 1 through 7 are ranked according to their overall multi-year quality average. Tables 8 through 10 are ranked by average turf quality for 2011 only. Throughout all of the years that turf quality was assessed, a few varieties in each bentgrass species stood out as better performing entries. For creeping bentgrasses maintained at a putting green height of cut, Luminary, Barracuda, and the experimental selections IS-AP 15, CAS2 Comp, DC1 Comp, PGC Comp, R10, and R11 all performed very well, while Brighton, Penncross, and Providence were consistently among the poorest performers. At fairway height, Proclamation, Luminary, OO7, Focus, Barracuda, and the experimental selections SRX 1WM, DC1 Comp, CAS2 Comp, FAC Comp, and R10 creeping bentgrasses had excellent turf quality, while the lowest scoring cultivars consisted of Penncross, Providence, and Brighton. In the NTEP putting green/tee trial (Table 3), Luminary, Pure Distinction, Shark, Barracuda, Proclamation, V8, and Focus were the top creeping bentgrass cultivars and selections. In the NTEP fairway trial (Table 4), PST-OJD, Luminary, Barracuda, Authority, Declaration, Pin-Up, OO7, SRP 1WM, and Proclamation were the top performing creeping bentgrasses.

Overall turf quality for velvet bentgrasses was evaluated in years 2007 to 2010 (Tables 1, 3, 6, and 8) under greens height of cut (0.110 inches in the 2007, 2008, and 2009 trials, and 0.125 inches in the 2010 trial). Legendary, Villa, Greenwich, and the experimental entries PSG 7PC2 and IS-AC 4 were among the top performing velvet bentgrasses within all trials in which they were included, although IS-AC 4 and PSG 7PC2 were not entered in the NTEP greens/tee trial. The cultivar SR 7200 had the poorest quality under these greens-type management conditions.

As mentioned previously, colonial bentgrasses perform better at fairway cutting height and typically have poor performance under putting green conditions as shown in Tables 1, 6, and 9. Nevertheless, there were a few colonials that exhibited acceptable turf quality at greens height; these included BCQ Comp and WBM Comp (Table 6) and Capri, EDM Comp, DML Comp, and CDD Comp (Table 9). Under fairway conditions (Tables 2, 4, 5, 7, and 10), however, the experimental selections A08-FT12, MGD Comp, EBM Comp, BCQ Comp, WBM Comp, WBE Comp, PSG 7NBC, IS-AT 8, DDL Comp, EDM Comp, DML Comp, and the cultivar Capri were the best performing colonial bentgrasses, while SR 7150, SR 7100, Exeter, Alister, and SRX 7EE exhibited the poorest performance under fairway cutting heights when included in trials. In the NTEP fairway height trial (Table 4), A08-FT12 and BCD had the highest turf quality, while PST-R9D7 did not perform as well as other colonial bentgrass entries.

Dollar Spot

Sclerotinia homoeocarpa, the causal agent of this widespread turfgrass disease, causes silver dollar-shaped spots of dead turf to form that may converge to cause larger areas of damage (Belanger et al., 2005). While potentially one of the more damaging turf diseases on golf courses in the northeast, dollar spot can be easily managed with the use of fungicides. Since the fungus is so prevalent, however, fungicide use can be expensive. In addition, resistance of *S. homoeocarpa* to fungicides, particularly to DMI fungicides (Smiley et al., 2005), has become more prevalent, and increased fungicide use is not beneficial to the entironment.

Breeding for dollar spot resistance in bentgrass is an important objective of the Rutgers breeding program. Compared to creeping bentgrasses, velvet and colonial bentgrasses are typically more resistant to this disease; results from recent trials (Tables 6, 7, and 10), however, indicate that significant improvements in creeping bentgrass have been made. SRP 1WM, Declaration, H05TP 300-1, HO5TP 295-12, Focus, and CAS2 Comp were highly resistant to dollar spot, while Ninety-Six Two, Alpha, Southshore, Century, Independence, Runner, Penn G-2, DPAZ7, RHTAV36, and RHTAV318 were more susceptible to this disease.

Brown Patch

Whereas velvet bentgrass typically exhibits the greatest tolerance to brown patch among the bentgrass species used for turf, colonial bentgrass is the

most susceptible. Dramatic improvements have been made in breeding colonial and creeping bentgrasses for improved resistance to this disease (Tables 8 to 10). Shark, OJO, OJD, R6, FLE Comp, and GDE are creeping bentgrasses that top the tests for resistance to brown patch, while Penncross, Brighton, PLS, CY-2, and Alpha were more susceptible. Of note, many of the more resistant creeping bentgrasses rated higher than several velvet bentgrass entries, which could be indicative of cultivar improvement for resistance to this disease.

The resistance of colonial bentgrass to brown patch has been the subject of significant research, and gradual improvements been made in recent years. In the most recent cycle evaluated in the 2010 fairway trial (Table 10), the experimental selections A08-FT12, SCBF 3, EDM Comp, DDL Comp, DML Comp, and CDD Comp were significantly more resistant to brown patch than were the standard cultivars Glory, SR 7150, Greentime, and Revere and were also comparable to several creeping bentgrass cultivars. Under greens management practices (Table 9), EDM Comp, DML Comp, CDD Comp, and Capri performed quite well.

Copper Spot

Copper spot is of increasing concern in the northeast during the summer due to typically warm, wet conditions when limited DMI fungicides are used. *Gloeocercospora sorghi* is a fungus that produces 3- to 4-inch red-brown patches on the turf. One drawback to velvet bentgrass use is the susceptibility of this turfgrass to copper spot, so selection for resistance to this disease is a major goal of the Rutgers turfgrass breeding program. During the 2011 growing season, copper spot was assessed in the 2010 greens trial (Table 8). The experimental lines SME Comp, SMM Comp, VTP Comp, PSG 7PC2, and the cultivar Greenwich were significantly more resistant than were the cultivars SR 7200, Villa, and the experimental IS-AC 4. Although some creeping bentgrass cultivars and selections were also affected by copper spot, disease incidence was insufficient to provide comparable results.

Anthracnose

Anthracnose is typically a major problem on close-cut *Poa annua* putting greens. Recently, however, this disease has also been shown to affect bentgrass (Bonos et al., 2009) and, compared to colonial and velvet bentgrasses, creeping bentgrass is more susceptible to this disease. In 2011, resistance of the velvet bentgrasses to anthracnose was generally strong to excellent, whereas the creeping bentgrasses displayed a wider range of poor to excellent disease tolerance. In the 2009 bentgrass sand greens trial (Table 6), the creeping bentgrasses RJM 513, Luminary, PGC Comp, RJM 26, RJM 56, and RH TAV34 had the least disease, but Penncross, Brighton, Crenshaw, Penn G-1, and Putter proved to be highly susceptible. IS-AC 5, PSG 7PC2, IS-AC 4, MDS Comp, and MDV Comp velvet bentgrasses rated well, while the experimental entries SRP 2164 and SRP 2148 rated poorly.

Spring Green-up

Spring green-up data was collected for the 2008 NTEP bentgrass greens/tee and fairway tests (Tables 3 and 4, respectively) and the 2009 sand greens trial (Table 6). The NTEP fairway trial contained both creeping and colonial bentgrass entries, whereas the NTEP greens/tee trial contained creeping and velvet bentgrass species.

In general, compared to colonial and creeping bentgrasses, velvet bentgrasses are typically the poorest to green up in the spring and can even exhibit a reddish or purple color during cold winter months. Whereas there was no statistical difference between velvet bentgrass entries in the 2008 NTEP greens/tee test, Villa possessed the earliest spring green-up while Greenwich, Legendary, and SR 7200 were slower to green up. The creeping bentgrasses Luminary, Shark, Barracuda, Declaration, and Kingpin had the highest rating for spring green-up, while Penncross, L-93, Southshore, Crenshaw, Alpha, and Penn A-2 had the latest spring green-up. In the 2009 sand greens trial, creeping bentgrasses Luminary, Shark, RJM 26, and LQC Comp displayed earlier green-up, while SR1119, Sandhill, Providence, Crenshaw, and Brighton were among those slower to green up. Under fairway conditions, Luminary, Barracuda, Declaration, and SRP 1WM exhibited early green-up, but Penncross, T-1, and 13M had the lowest spring green-up ratings. The colonial bentgrass BCD was quicker to green up than Greentime and PST-R9D7.

Trimmit 2SC Screening

One problem many golf course superintendents face is infestation of *Poa annua* on creeping bentgrass greens. To combat this, turf managers use plant growth regulators to inhibit the spread of the weed

in established turf systems (Johnson and Murphy, 1995; Huang, 2007). While the use of these products can, over time and with proper utilization, reduce *Poa* infestation by controlling seedhead production, there is also the risk of damage to the desired bentgrass, which can be exhibited by a thinning of the turf and burning or turning off-color. Recently, golf course superintendents have been using low rates of paclobutrazol to reduce the presence of annual bluegrass. An effort was made to determine if this approach affects the growth and performance of bentgrass cultivars. Beginning in early May and repeating every two weeks to mid-July, paclobutrazol (Trimmit 2SC) was applied at high label rates equivalent to 14 oz per acre on the 2007 tee/green trial (Table 1) and 22 oz per acre on the 2007 fairway trial (Table 2). This was continued until maximum labeled rates of the plant growth regulator were reached.

In general, all three species showed acceptable levels of tolerance to multiple prolonged rates of paclobutrazol. Although some discoloration was recorded, all the entries recovered. Creeping bentgrasses tolerated the paclobutrazol treatments better than either the velvet or colonial bentgrasses. Under greens height (Table 1), some of the creeping bentgrasses with the least visible damage included RH 13-4, Shark, Luminary, Tyee, SRX 1WM, RH 3-4, and RH 5-24, while Providence, Southshore, and SR 1119 were more susceptible to damage. In addition, LAA-134, PC2 Comp, and PC3 Comp displayed greater quality than entries IS-AC 4, Villa, and SR 7200. Under fairway management (Table 2) creeping bentgrasses RH 3-4, OO7, Shark, Penneagle II, 13M, and the blends OO7/Mackenzie/Tyee and Pennlinks II/Penneagle II performed better than Declaration, FAC Comp, and Penncross. The colonial bentgrasses DGD Comp, PST-Syn-9DTM, and EBM-FTO exhibited less damage than MGD Comp, Glory, PRO AT-1 BCD, SRX 7EE, and Alister.

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Table 1. Performance of bentgrass cultivars and selections in a putting green trial seeded in September 2007 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2008-2011 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	Trimmit Damage[2] 2011
1	TDN2 Comp (Luminary)	Creeping	7.0	7.4	7.1	6.2	7.3	7.0
2	DC1 Comp	Creeping	6.4	6.7	6.5	6.2	6.4	5.8
3	IS-AC 4	Velvet	6.4	6.7	7.0	5.9	6.1	3.3
4	Legendary	Velvet	6.0	6.8	6.4	5.2	5.7	4.5
5	IS-AP 15	Creeping	6.0	6.0	6.8	5.6	5.5	5.3
6	Villa	Velvet	6.0	6.4	6.4	5.5	5.5	3.3
7	SRX 1WM	Creeping	5.7	6.5	6.2	4.8	5.4	6.8
8	Greenwich	Velvet	5.7	5.9	5.9	5.6	5.5	4.7
9	FAC Comp	Creeping	5.7	6.5	5.8	5.1	5.3	5.5
10	RH 13-4	Creeping	5.6	5.9	5.3	4.8	6.5	7.3
11	Pin-Up	Creeping	5.6	5.6	5.8	4.8	6.1	6.3
12	Shark	Creeping	5.6	5.7	5.4	5.2	6.1	7.2
13	CY-2	Creeping	5.5	5.8	5.6	5.0	5.5	6.5
14	PC2 Comp	Velvet	5.4	5.8	5.7	5.2	5.0	5.0
15	PC3 Comp	Velvet	5.4	5.5	5.5	5.2	5.4	5.3
16	RH 12-8	Creeping	5.4	5.3	4.8	4.5	6.9	6.7
17	Declaration	Creeping	5.4	6.3	5.9	4.1	5.1	6.0
18	RH 3-4	Creeping	5.3	5.6	5.2	4.7	5.7	6.8
19	Runner	Creeping	5.3	5.4	4.9	4.7	6.1	7.0
20	OO7/SR 1150/Tyee	Creeping	5.2	5.6	5.5	4.4	5.3	6.5
21	Vesper	Velvet	5.2	6.2	5.5	4.6	4.4	4.3
22	RH 5-24	Creeping	5.1	5.0	4.7	4.6	6.2	6.8
23	PC4 Comp	Velvet	5.1	5.7	5.8	4.1	4.8	4.5
24	Tyee	Creeping	5.1	4.8	5.1	4.7	5.9	7.0
25	Memorial	Creeping	5.0	5.5	5.4	4.8	4.5	6.2

(Continued)

Table 1. Bentgrass putting green trial, 2007 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2008-2011 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	Trimmit Damage[2] 2011
26	OO7	Creeping	5.0	5.6	5.0	4.1	5.4	6.5
27	OO7/SR 1150/Mackenzie	Creeping	5.0	5.1	4.8	4.7	5.3	6.8
28	Cobra 2	Creeping	4.9	5.2	5.2	4.6	4.8	6.5
29	Penneagle II	Creeping	4.9	4.7	5.1	5.0	4.7	5.8
30	Kingpin	Creeping	4.8	5.2	5.4	3.9	4.6	6.5
31	OO7/Mackenzie/Tyee	Creeping	4.8	5.6	4.9	4.2	4.7	6.2
32	LS-44	Creeping	4.7	4.6	4.9	4.6	4.9	5.5
33	Benchmark DSR	Creeping	4.7	5.7	5.5	3.4	4.4	6.0
34	PC1 Comp	Velvet	4.6	4.9	4.8	4.6	4.1	4.2
35	Mackenzie/Tyee	Creeping	4.5	4.4	4.3	4.2	5.0	6.0
36	Independence	Creeping	4.4	4.3	4.3	4.1	5.0	6.0
37	TDN1 Comp	Creeping	4.4	4.0	5.0	4.0	4.6	5.8
38	Penn G-1	Creeping	4.3	4.7	4.7	3.9	3.8	6.2
39	Mackenzie	Creeping	4.3	4.4	3.6	4.2	5.1	6.0
40	Pennlinks II/Penneagle II	Creeping	4.3	4.8	4.4	4.1	4.1	5.7
41	T-1	Creeping	4.2	4.6	4.5	3.2	4.4	5.7
42	Penn A-4	Creeping	4.1	4.4	4.2	3.4	4.3	5.8
43	LAA-134	Velvet	4.0	4.1	4.1	3.8	4.1	6.0
44	SR 1150	Creeping	3.9	4.7	3.6	3.5	3.9	5.3
45	SR 7200	Velvet	3.9	5.5	4.1	3.2	3.1	3.0
46	L-93	Creeping	3.9	4.2	4.2	3.4	3.5	5.0
47	MGD Comp	Colonial	3.7	5.0	3.4	2.8	3.7	4.8
48	Nintey-Six Two	Creeping	3.6	4.0	3.9	2.7	3.9	5.3
49	DSH Comp	Colonial	3.6	4.7	3.3	3.2	3.2	5.7
50	Sandhill	Creeping	3.4	3.8	3.6	3.2	3.1	5.3

(Continued)

Table 1. Bentgrass putting green trial, 2007 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2008-2011 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	Trimmit Damage[2] 2011
51	SR 1150/SR 1119	Creeping	3.4	3.9	3.2	2.9	3.5	5.5
52	SR 1119	Creeping	3.3	3.6	3.5	2.9	3.3	5.2
53	DGD Comp	Colonial	3.3	4.4	3.2	2.7	2.9	5.7
54	Southshore	Creeping	3.2	3.5	3.3	3.0	3.0	5.0
55	Providence	Creeping	3.1	3.2	3.3	3.1	3.0	4.7
56	EBM - FTO	Colonial	3.0	4.0	3.1	2.5	2.5	5.2
57	Alpha	Creeping	3.0	2.9	3.4	2.6	3.1	5.2
58	Brighton	Creeping	2.9	3.0	2.8	2.9	2.9	5.0
59	BCD	Colonial	2.8	4.0	2.6	2.1	2.5	5.5
60	Alister	Colonial	2.3	3.7	2.2	1.7	1.7	4.3
61	PCC Comp	Colonial	2.2	2.9	2.0	1.9	1.9	4.0
	LSD at 5% =		0.7	0.7	0.9	1.1	1.0	1.3

[1]Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
[2]Trimmit damage assessed on a 1 to 9 scale, where 9 = least herbicide damage

Table 2. Performance of creeping and colonial bentgrass cultivars and selections in a fairway/tee trial seeded in September 2007 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2008-2011 Avg.	Turf Quality[1] 2008 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Trimmit Damage[2] 2011
1	FAC Comp	Creeping	6.4	5.9	6.5	6.3	6.9	4.5
2	TDN2 Comp (Luminary)	Creeping	5.9	6.9	5.4	4.8	6.3	5.5
3	13M	Creeping	5.8	5.5	6.3	5.5	5.9	7.0
4	007	Creeping	5.7	6.4	5.5	4.7	6.4	7.2
5	RH 3-4	Creeping	5.6	5.8	5.2	5.1	6.4	8.0
6	MGD Comp	Colonial	5.6	5.5	5.5	5.0	6.4	3.3
7	Declaration	Creeping	5.6	6.0	6.7	4.6	4.9	4.5
8	SRX1WM	Creeping	5.5	6.1	5.5	4.4	6.1	6.2
9	PinUp	Creeping	5.4	6.2	5.6	3.9	6.0	6.0
10	Tyee	Creeping	5.4	5.2	4.5	5.5	6.7	6.7
11	007/Mackenzie/Tyee	Creeping	5.4	5.3	4.5	5.3	6.8	7.7
12	Cobra 2	Creeping	5.4	5.5	4.7	5.6	5.7	7.0
13	RH 12-8	Creeping	5.4	5.2	4.2	5.5	6.6	5.7
14	Shark	Creeping	5.3	5.3	4.8	5.3	6.0	7.2
15	Memorial	Creeping	5.3	5.5	6.1	4.9	4.9	5.5
16	007/SR 1150/Tyee	Creeping	5.3	5.6	4.7	4.7	6.4	6.8
17	RH 13-4	Creeping	5.3	5.0	4.4	5.2	6.5	7.3
18	EBM - FTO	Colonial	5.3	4.7	4.9	5.4	6.1	5.0
19	CY-2	Creeping	5.2	5.6	4.9	5.3	5.2	6.5
20	007/SR 1150/Mackenzie	Creeping	5.2	5.9	4.1	5.1	5.8	6.8

(Continued)

Table 2. Bentgrass fairway/tee trial, 2007 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2008-2011 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	Trimmit Damage[2] 2011
21	Benchmark DSR	Creeping	5.2	5.6	5.7	4.5	5.0	6.0
22	IS-AP 15	Creeping	5.1	5.9	4.7	3.8	6.2	6.7
23	Independence	Creeping	5.1	5.2	3.8	4.9	6.5	6.8
24	Mackenzie/Tyee	Creeping	5.1	5.1	3.9	5.4	6.0	6.7
25	Penneagle II	Creeping	5.1	4.8	4.4	5.6	5.4	7.3
26	RH 5-24	Creeping	5.1	5.5	4.6	3.9	6.2	5.3
27	TDN1 Comp	Creeping	5.0	4.8	4.7	4.8	6.0	4.7
28	DSH Comp	Colonial	5.0	5.4	4.8	4.0	5.9	4.0
29	Runner	Creeping	5.0	4.9	4.2	4.8	6.2	6.5
30	Pennlinks II/Penneagle II	Creeping	5.0	5.1	4.5	5.4	5.1	7.5
31	IS-AT 8	Colonial	5.0	5.0	4.9	4.5	5.5	4.2
32	Penn G-1	Creeping	4.9	4.8	4.2	5.1	5.4	6.3
33	Mackenzie	Creeping	4.9	4.2	4.0	5.4	6.0	6.5
34	Penn A-1	Creeping	4.9	5.2	4.5	5.1	4.7	6.7
35	T-1	Creeping	4.8	4.8	4.4	5.2	5.1	6.8
36	LS-44	Creeping	4.8	4.8	4.3	5.5	4.6	6.5
37	Penn A-4	Creeping	4.7	4.8	3.9	4.9	5.3	7.0
38	Kingpin	Creeping	4.7	5.3	4.7	3.9	4.9	6.3
39	PCC Comp	Colonial	4.7	4.6	4.8	4.7	5.0	5.0
40	PST-Syn-9DTM	Colonial	4.7	5.1	4.2	4.3	5.0	4.8
41	DGD Comp	Colonial	4.7	5.2	3.9	4.2	5.5	5.7
42	PST-9BNC	Colonial	4.6	4.2	4.8	4.6	4.9	4.5
43	Sandhill	Creeping	4.6	5.0	4.5	5.1	3.9	6.0
44	Ninety-Six Two	Creeping	4.6	4.2	4.0	4.3	5.7	5.8
45	PST-Syn-9HO	Colonial	4.6	4.8	4.3	4.2	5.0	5.0

(Continued)

Table 2. Bentgrass fairway/tee trial, 2007 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2008-2011 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	Trimmit Damage[2] 2011
46	SR 1150/SR 1119	Creeping	4.5	5.0	3.9	4.3	4.9	6.5
47	SR 1150	Creeping	4.4	5.1	3.6	3.9	5.1	7.2
48	SRX1CRCO	Colonial	4.4	4.4	3.6	4.4	5.2	6.7
49	PST-Syn-9DTE	Colonial	4.3	4.3	4.0	4.1	4.8	5.8
50	L-93	Creeping	4.2	4.3	3.9	4.5	4.2	5.0
51	Alpha	Creeping	4.1	4.0	3.5	4.4	4.6	5.7
52	SR 1119	Creeping	4.1	4.2	3.4	4.6	4.2	6.0
53	Alister	Colonial	4.1	4.1	4.6	3.6	4.1	4.0
54	PST-OETD Bulk	Creeping	4.0	3.6	4.1	3.7	4.8	6.0
55	Southshore	Creeping	4.0	4.2	3.7	4.7	3.7	6.3
56	Glory	Colonial	3.9	4.4	4.0	3.9	3.5	4.0
57	Tiger II	Colonial	3.9	4.3	3.9	3.8	3.9	5.0
58	Brighton	Creeping	3.8	3.7	3.7	4.3	3.7	5.0
59	SR 7100	Colonial	3.5	3.8	3.3	3.1	3.9	5.2
60	Providence	Creeping	3.5	3.6	3.3	3.8	3.1	5.7
61	PRO AT-1 BCD	Colonial	3.5	4.2	3.5	2.8	3.5	3.7
62	SRX7EE	Colonial	3.4	3.6	3.2	3.5	3.3	4.0
63	PST-OLTD Bulk	Creeping	3.3	3.0	3.0	3.4	3.9	5.5
64	Penncross	Creeping	3.2	3.6	2.5	3.8	2.8	4.8
65	SR 7150	Colonial	3.1	3.5	3.1	2.5	3.1	5.5
	LSD at 5% =		0.6	0.8	0.7	1.1	0.9	1.3

[1]Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
[2]Trimmit damage assessed on a 1 to 9 scale, where 9 = least herbicide damage

Table 3. Performance of bentgrass cultivars in a putting green trial established in September 2008 at North Brunswick, NJ. (Includes all entries of the 2008 National Bentgrass Greens Test - NTEP.)

	Cultivar or Selection	Species	Turf Quality[1] 2009-2011 Avg.	Turf Quality[1] 2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2009 Avg.	Spring Green-up[2] March 2011	Genetic Color[3] Sept. 2011	Take-all Patch[4] Oct. 2011	Turf Density[5] Nov. 2011	Leaf Texture[6] Nov. 2011	Fall Color[7] Nov. 2011
1	Luminary (A08-TDN2)	Creeping	7.8	7.9	8.0	7.5	7.7	6.7	8.3	8.7	8.3	7.0
2	Pure Distinction (PST-OJO)	Creeping	7.7	8.0	7.7	7.5	6.0	5.0	8.0	9.0	8.0	7.7
3	Legendary	Velvet	6.9	6.6	6.8	7.4	2.7	5.0	6.3	7.3	8.7	8.3
4	Shark	Creeping	6.8	6.9	6.5	7.0	6.3	6.3	7.7	7.3	7.0	6.0
5	Barracuda	Creeping	6.7	6.9	6.3	7.0	7.3	6.3	6.3	7.3	7.0	7.0
6	Villa	Velvet	6.5	5.9	6.3	7.2	3.7	4.7	6.3	8.0	8.7	8.7
7	Proclamation	Creeping	6.4	6.7	6.2	6.4	4.7	6.3	7.7	6.7	7.0	6.3
8	V8	Creeping	6.3	6.0	6.2	6.8	4.3	6.3	6.7	6.3	6.7	6.0
9	Focus (SRP-1GMC)	Creeping	6.2	6.0	6.0	6.8	5.7	6.3	6.7	7.7	6.3	6.0
10	Greenwich	Velvet	5.9	5.5	5.2	6.9	2.0	4.7	4.0	6.7	8.3	8.0
11	Pin-Up	Creeping	5.8	6.0	5.5	5.8	6.0	7.3	6.0	6.7	6.3	6.0
12	Declaration	Creeping	5.8	5.5	5.5	6.3	7.7	5.3	5.0	7.0	6.0	7.3
13	OO7	Creeping	5.7	5.8	5.5	5.9	5.7	6.7	6.3	7.3	5.3	5.3
14	Penneagle II	Creeping	5.4	5.3	4.7	6.2	4.0	7.3	6.3	4.7	5.0	4.3
15	Authority	Creeping	5.4	4.9	4.8	6.5	4.3	5.3	3.7	5.3	5.0	6.0
16	SRP-1BLTR3	Creeping	5.2	5.0	5.2	5.6	5.3	6.7	6.3	6.7	6.7	5.3
17	Penn A-4	Creeping	5.1	5.1	4.3	6.0	4.3	7.3	6.3	6.0	5.0	6.0
18	T-1	Creeping	5.1	4.6	4.6	6.1	3.7	8.3	5.0	5.0	6.0	4.3
19	Kingpin	Creeping	4.9	4.0	5.0	5.7	6.3	7.0	3.3	5.7	5.3	7.0
20	AFM	Creeping	4.8	4.5	4.7	5.2	5.3	4.7	5.3	4.7	6.3	5.7

(Continued)

Table 3. Bentgrass putting green trial, 2008 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2009-2011 Avg.	Turf Quality[1] 2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2009 Avg.	Spring Green-up[2] March 2011	Genetic Color[3] Sept. 2011	Take-all Patch[4] Oct. 2011	Turf Density[5] Nov. 2011	Leaf Texture[6] Nov. 2011	Fall Color[7] Nov. 2011
21	Alpha	Creeping	4.7	4.3	4.0	5.8	3.0	7.3	5.0	4.7	4.0	5.3
22	Penn A-1	Creeping	4.6	4.4	4.3	5.3	3.7	6.3	6.0	4.3	4.3	5.3
23	Tyee	Creeping	4.3	4.5	4.0	4.5	4.0	7.0	6.3	6.0	5.3	4.3
24	Penn A-2	Creeping	4.1	4.3	3.8	4.3	3.0	6.7	4.3	4.7	4.7	3.7
25	Memorial	Creeping	4.1	3.8	3.8	4.7	4.0	5.7	4.0	4.3	4.7	5.3
26	13M	Creeping	4.1	3.5	3.7	5.1	3.3	5.0	4.3	4.7	4.7	5.3
27	SR 7200	Velvet	4.0	3.0	3.3	5.8	2.7	3.0	3.7	4.3	6.0	7.0
28	Crenshaw	Creeping	3.9	3.7	3.2	4.8	2.0	7.3	5.3	4.3	3.7	3.7
29	Penn G-2	Creeping	3.6	3.3	3.8	3.8	3.0	5.7	4.7	3.3	4.0	4.3
30	L-93	Creeping	3.5	3.7	3.0	4.0	2.7	5.3	5.0	2.7	3.7	5.0
31	Southshore	Creeping	3.4	3.1	3.0	4.0	2.7	5.7	5.0	2.3	3.0	3.3
32	Penncross	Creeping	2.7	2.0	2.3	3.8	2.3	5.0	3.3	1.0	2.0	4.0
	LSD at 5% =		0.6	0.9	0.9	0.8	1.5	1.8	2.0	2.0	1.3	1.4

[1]Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
[2]Spring green-up rated on a 1 to 9 scale, where 9 = earliest spring green-up
[3]Genetic color rated on a 1 to 9 scale, where 9 = darkest green color
[4]Take-all patch disease rated on a 1 to 9 scale, where 9 = best disease resistance
[5]Turf density rated on a 1 to 9 scale, where 9 = highest shoot density
[6]Leaf texture rated on a 1 to 9 scale, where 9 = finest leaf texture
[7]Fall color rated on a 1 to 9 scale, where 9 = greenest turf color

Table 4. Performance of bentgrass cultivars in a fairway/tee trial established in September 2008 at North Brunswick, NJ. (Includes all entries of the 2008 National Bentgrass Fairway Test - NTEP.)

	Cultivar or Selection	Species	Turf Quality[1] 2009-2011 Avg.	Turf Quality[1] 2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2009 Avg.	Spring Green-up[2] March 2011	Pythium[3] July 2011	Genetic Color[4] Sept. 2011	Turf Density[5] Nov. 2011	Leaf Texture[6] Oct. 2011	Fall Color[7] Nov. 2011
1	PST-OJD	Creeping	7.0	7.0	6.7	7.3	4.0	6.3	6.7	9.0	8.3	7.7
2	Luminary (A08-TDN2)	Creeping	6.9	7.0	6.5	7.3	7.0	5.3	7.7	8.0	8.0	8.0
3	Proclamation	Creeping	6.8	7.1	6.6	6.7	5.7	5.3	6.7	8.3	8.3	7.0
4	Barracuda	Creeping	6.7	6.3	6.7	7.3	7.7	5.7	5.0	8.7	7.7	7.0
5	Authority	Creeping	6.7	6.4	6.7	6.9	5.7	5.3	5.3	8.3	8.0	7.7
6	Declaration	Creeping	6.6	6.3	6.8	6.6	7.7	3.7	4.3	9.0	7.3	5.7
7	Pin-Up	Creeping	6.5	7.0	6.3	6.4	6.0	6.3	7.0	9.0	8.3	7.7
8	SRP 1WM	Creeping	6.5	6.7	6.3	6.6	7.0	5.0	6.7	9.0	8.0	8.0
9	OO7	Creeping	6.4	6.8	6.2	6.3	6.0	5.3	6.7	8.3	8.7	6.7
10	CY-2	Creeping	6.1	6.4	5.8	6.2	6.7	5.0	5.7	7.0	7.3	8.7
11	Penn A-4	Creeping	6.1	6.2	5.8	6.2	5.7	6.3	6.0	7.7	7.0	6.7
12	A08-FT12	Colonial	5.9	5.9	5.7	6.1	5.3	8.7	6.0	7.3	6.7	3.3
13	BCD	Colonial	5.7	6.0	5.4	5.8	6.7	9.0	5.3	7.3	6.3	3.3
14	T-1	Creeping	5.6	5.6	4.9	6.3	2.7	1.7	5.0	6.7	6.0	5.0
15	Crystal BlueLinks	Creeping	5.3	4.9	4.4	6.5	4.3	4.3	5.0	6.7	5.3	5.3
16	Benchmark DSR	Creeping	5.2	4.9	4.5	6.4	4.3	2.0	4.7	7.7	6.7	6.0
17	13M	Creeping	5.2	5.3	4.5	5.7	3.0	4.0	5.3	5.7	4.7	6.3
18	Green Time	Colonial	5.2	5.0	4.8	5.6	3.7	8.0	5.0	7.0	5.7	3.0
19	A08-EBM	Colonial	5.1	5.3	4.6	5.4	4.3	7.7	5.3	6.0	6.0	3.3
20	Tiger II	Colonial	5.0	5.2	4.4	5.5	5.3	5.0	4.3	5.7	6.0	2.7

(Continued)

Table 4. Bentgrass fairway/tee trial, 2008 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2009-2011 Avg.	Turf Quality[1] 2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2009 Avg.	Spring Green-up[2] March 2011	Pythium[3] July 2011	Genetic Color[4] Sept. 2011	Turf Density[5] Nov. 2011	Leaf Texture[6] Oct. 2011	Fall Color[7] Nov. 2011
21	L-93	Creeping	4.8	5.3	4.3	4.9	3.7	5.3	5.0	5.0	4.3	4.7
22	Memorial	Creeping	4.7	4.4	4.3	5.2	4.3	5.3	4.0	4.7	4.3	5.0
23	Princeville	Creeping	3.5	3.3	3.3	3.9	4.3	6.3	2.7	2.3	2.7	4.7
24	PST-R9D7	Colonial	3.4	3.3	3.3	3.7	3.7	5.7	2.0	5.0	4.3	2.7
25	Penncross	Creeping	3.4	3.2	2.3	4.5	1.7	1.0	2.7	2.0	1.7	4.3
	LSD at 5% =		0.6	0.9	0.8	0.7	2.1	2.3	1.2	1.5	1.3	1.5

[1]Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
[2]Spring green-up rated on a 1 to 9 scale, where 9 = earliest spring green-up
[3]Pythium disease rated on a 1 to 9 scale, where 9 = least disease
[4]Genetic color rated on a 1 to 9 scale, where 9 = darkest green color
[5]Turf density rated on a 1 to 9 scale, where 9 = highest shoot density
[6]Leaf texture rated on a 1 to 9 scale, where 9 = finest leaf texture
[7]Fall color rated on a 1 to 9 scale, where 9 = greenest turf color

Table 5. Performance of creeping and colonial bentgrass cultivars and selections in a fairway/tee trial seeded in September 2008 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2009-2011 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.
1	07-MGD Comp	Colonial	6.1	6.4	6.1	5.9
2	SEC Comp	Creeping	6.1	6.0	6.9	5.4
3	NBC Comp	Colonial	6.0	6.3	6.1	5.8
4	MSS Comp	Creeping	6.0	6.2	6.3	5.6
5	SDS Comp	Colonial	5.9	6.2	5.7	5.8
6	BQC Comp	Colonial	5.7	5.5	5.5	6.0
7	DC1 Comp	Creeping	5.7	6.5	6.6	3.9
8	ESS Comp	Creeping	5.6	5.6	6.5	4.7
9	PST-Syn-9HO	Colonial	5.4	5.8	5.1	5.3
10	Shark	Creeping	5.4	5.8	6.1	4.4
11	EBM	Colonial	5.3	5.7	4.8	5.3
12	Tyee	Creeping	5.3	5.9	6.2	3.7
13	Authority	Creeping	5.3	5.8	6.1	4.0
14	PRO AT-1	Colonial	5.1	5.6	4.8	4.8
15	Penneagle II	Creeping	5.0	5.4	5.5	4.2
16	PST-Syn-9BC3	Colonial	5.0	5.4	4.7	4.9
17	OO7	Creeping	4.9	5.7	5.9	3.2
18	PBP Comp	Colonial	4.9	5.1	4.9	4.6
19	Revere (EWTR)	Colonial	4.8	5.2	4.6	4.7
20	PST-Syn-9NCS	Colonial	4.8	4.8	4.9	4.7

(Continued)

Table 5. Bentgrass fairway/tee trial, 2008 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2009-2011 Avg.	2009 Avg.	2010 Avg.	2011 Avg.
21	Independence	Creeping	4.8	5.6	5.1	3.6
22	PST-Syn-9MS	Colonial	4.7	5.1	4.2	4.7
23	PST-9NCS Bulk	Colonial	4.7	4.7	4.4	4.9
24	Declaration	Creeping	4.6	5.9	4.9	3.0
25	07-PCC Comp	Colonial	4.6	4.3	4.6	5.0
26	PSG 1RHG1	Creeping	4.6	5.1	4.7	4.0
27	Tiger II	Colonial	4.6	5.0	4.3	4.4
28	Penn A-4	Creeping	4.6	5.5	5.4	2.8
29	Penn G-1	Creeping	4.5	4.8	5.2	3.5
30	13M	Creeping	4.5	5.2	4.7	3.6
31	PST-920 Bulk	Colonial	4.5	4.8	4.4	4.3
32	Mackenzie	Creeping	4.4	4.7	5.6	3.1
33	Alister	Colonial	4.3	4.8	4.1	4.1
34	Kingpin	Creeping	4.3	5.1	4.4	3.5
35	Memorial	Creeping	4.2	4.9	4.3	3.4
36	SR 1150	Creeping	4.2	4.7	5.1	2.8
37	Glory	Colonial	4.0	4.5	3.5	3.9
38	Putter	Creeping	4.0	4.9	4.3	2.7
39	SR 7100	Colonial	3.9	4.3	3.9	3.6
40	PST-OPUF Bulk	Creeping	3.9	4.0	4.8	2.8
41	T-1	Creeping	3.9	4.8	4.2	2.5
42	PSG 1RHG12	Creeping	3.8	4.2	3.8	3.6
43	Alpha	Creeping	3.8	4.6	4.4	2.6
44	L-93	Creeping	3.8	4.6	4.2	2.6
45	Crenshaw	Creeping	3.7	4.5	3.9	2.6

(Continued)

Table 5. Bentgrass fairway/tee trial, 2008 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2009-2011 Avg.	2009 Avg.	2010 Avg.	2011 Avg.
46	Southshore	Creeping	3.6	4.4	3.6	3.0
47	Penn G-2	Creeping	3.6	3.7	4.5	2.9
48	SR 1119	Creeping	3.6	3.9	3.8	3.2
49	SR 7150	Colonial	3.5	4.1	3.2	3.2
50	PSG 1RHG13	Creeping	3.5	3.7	3.7	3.2
51	Providence	Creeping	3.3	3.5	3.1	3.2
52	PST-Syn-OPXS	Creeping	3.2	3.6	3.5	2.3
53	PST-ODJ Bulk	Creeping	3.1	4.0	3.0	2.2
54	Brighton	Creeping	3.0	3.9	3.0	2.5
55	Sandhill	Creeping	2.9	2.5	3.3	2.9
56	Penncross	Creeping	2.7	3.7	2.3	2.0
57	PST-9TO Bulk	Colonial	2.0	1.7	2.0	2.2
58	Exeter	Colonial	1.6	1.4	1.5	1.8
	LSD at 5% =		0.7	0.7	0.9	0.8

[1]Turf quality rated on a 1 to 9 scale, where 9 = best turf quality

Table 6. Performance of creeping, velvet, and colonial bentgrass cultivars and selections in a putting green trial seeded in sand in September 2009 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Spring Green-up[2] April 2011	Anthracnose[3] June 2011	Dollar Spot[3] July 2011
1	PGC Comp	Creeping	7.0	7.0	7.1	6.7	7.7	8.0
2	CAS2 Comp	Creeping	6.9	7.0	6.8	5.7	7.3	8.3
3	Luminary (TDN2)	Creeping	6.9	7.2	6.5	7.7	7.7	8.0
4	H05TP-300-1	Creeping	6.8	7.2	6.4	5.7	5.7	8.7
5	H05TP-295-12	Creeping	6.6	7.0	6.2	4.7	5.3	8.7
6	PSG 7PC2	Velvet	6.6	7.1	6.1	2.7	8.0	8.7
7	LQC Comp	Creeping	6.6	6.9	6.2	7.0	6.7	7.7
8	H05TP-295-1	Creeping	6.5	6.8	6.2	5.0	6.7	7.7
9	IS-AP 15	Creeping	6.3	6.6	6.0	4.7	7.3	8.3
10	RJM 513	Creeping	6.3	7.0	5.6	5.5	8.0	6.5
11	IS-AP 18	Creeping	6.3	6.4	6.2	6.3	6.3	8.7
12	Barracuda	Creeping	6.3	6.9	5.7	6.0	7.3	8.3
13	DQC Comp	Creeping	6.2	6.1	6.4	5.7	6.7	6.7
14	RJM 26	Creeping	6.1	6.9	5.4	7.5	7.5	6.5
15	RH 931	Creeping	6.1	6.3	5.9	6.0	5.0	6.7
16	Authority	Creeping	6.0	6.6	5.5	5.7	6.7	7.0
17	IS-AC 5	Velvet	6.0	6.7	5.5	5.3	9.0	8.7
18	IS-AC 4	Velvet	6.0	6.5	5.5	5.7	8.0	8.7
19	CAS1 Comp	Creeping	6.0	5.8	6.1	6.0	7.3	7.7
20	Shark	Creeping	5.8	6.3	5.2	7.0	6.0	7.7
21	Pin-Up	Creeping	5.8	6.4	5.2	4.7	5.3	8.3
22	Greenwich	Velvet	5.8	6.4	5.2	2.7	7.0	8.3
23	BCQ Comp	Colonial	5.8	6.0	5.6	4.0	6.7	8.7
24	Focus (SRP 1GMC)	Creeping	5.6	5.9	5.4	6.0	5.3	8.3
25	RH 0839	Creeping	5.6	6.5	4.6	3.3	6.3	6.7

(Continued)

Table 6. Bentgrass putting green trial seeded in sand, 2009 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Spring Green-up[2] April 2011	Anthracnose[3] June 2011	Dollar Spot[3] July 2011
26	SRP 1WM	Creeping	5.6	6.7	4.5	6.0	4.0	9.0
27	RJM 412	Creeping	5.6	6.7	4.5	6.0	7.5	5.0
28	H04TP-211-7-9	Creeping	5.6	5.9	5.4	5.7	4.7	8.0
29	Villa	Velvet	5.5	6.1	5.0	3.3	7.3	9.0
30	WBM Comp	Colonial	5.5	5.6	5.5	4.0	7.7	8.7
31	OO7	Creeping	5.5	6.2	4.8	4.3	4.3	7.0
32	Luminary/A-1	Creeping	5.5	5.9	5.0	4.3	5.7	7.7
33	Legendary	Velvet	5.5	6.4	4.6	3.7	6.7	9.0
34	MDS Comp	Velvet	5.5	5.6	5.4	2.3	7.7	8.7
35	MDV Comp	Velvet	5.4	5.8	5.0	3.0	7.7	8.0
36	RJM 56	Creeping	5.4	6.4	4.3	6.5	7.5	4.5
37	SR 1150	Creeping	5.3	5.9	4.6	5.7	5.3	8.3
38	Runner	Creeping	5.2	5.5	4.9	5.0	5.7	6.3
39	OO7/SR 1150	Creeping	5.2	5.8	4.7	4.7	5.3	8.0
40	Declaration	Creeping	5.2	6.1	4.4	5.0	4.0	8.3
41	VDE Comp	Velvet	5.2	5.7	4.7	2.0	7.0	9.0
42	RH 081	Creeping	5.2	5.9	4.6	3.0	6.3	7.3
43	WBE Comp	Colonial	5.2	5.3	5.0	4.0	7.3	8.7
44	SSS Comp	Velvet	5.2	5.5	4.9	2.7	7.3	8.7
45	Luminary/A-1/Memorial	Creeping	5.1	5.4	4.7	3.7	5.7	8.0
46	FWC Comp	Colonial	5.1	5.4	4.8	3.3	6.7	8.7
47	Cobra 2	Creeping	5.1	5.9	4.3	3.0	5.7	8.0
48	Tyee/OO7	Creeping	5.1	6.1	4.0	4.0	5.0	7.0
49	SRP 1BLTR3	Creeping	5.1	6.0	4.2	4.0	4.3	7.7
50	H05TP-290-2	Creeping	5.0	5.2	4.9	3.7	6.0	8.0

(Continued)

Table 6. Bentgrass putting green trial seeded in sand, 2009 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Spring Green-up[2] April 2011	Anthracnose[3] June 2011	Dollar Spot[3] July 2011
51	A-1	Creeping	5.0	5.8	4.2	2.7	4.3	7.0
52	H05TP-269-8	Creeping	5.0	5.4	4.5	6.0	5.0	7.3
53	H05TP-276-2	Creeping	5.0	5.2	4.8	3.0	7.3	7.7
54	PSG RHG12	Creeping	4.9	5.5	4.4	3.0	5.0	6.7
55	PST-Syn-VR05	Velvet	4.9	5.8	4.1	2.7	7.0	8.7
56	SRP 2163	Velvet	4.9	5.0	4.9	4.7	6.0	8.3
57	CY-2	Creeping	4.9	5.1	4.7	4.0	4.3	7.7
58	OO7/Mackenzie/Tyee	Creeping	4.8	5.5	4.2	3.7	4.3	6.3
59	WLC Comp	Colonial	4.8	4.8	4.8	2.7	7.0	8.7
60	RH TAV34	Creeping	4.8	5.3	4.3	4.3	7.7	4.7
61	SR 7200	Velvet	4.8	5.7	3.8	4.0	7.0	8.7
62	Tyee	Creeping	4.8	4.6	4.9	5.7	5.0	7.0
63	Mackenzie	Creeping	4.7	5.1	4.3	4.3	4.3	5.7
64	PST-Syn-VH5	Velvet	4.7	5.5	3.9	2.3	7.0	8.3
65	RH TAV317	Creeping	4.7	5.4	4.0	4.0	7.3	4.0
66	OO7/Mackenzie	Creeping	4.7	5.3	4.0	4.3	3.7	6.3
67	RH TAV327	Creeping	4.6	5.3	4.0	4.0	7.0	4.3
68	Independence	Creeping	4.6	5.1	4.2	4.7	5.7	6.3
69	SRP 72P2	Velvet	4.6	5.0	4.2	4.3	6.0	7.3
70	Penn G-1	Creeping	4.6	4.7	4.5	4.3	4.3	8.0
71	OO7/SR1119	Creeping	4.5	5.3	3.7	4.0	3.0	8.0
72	Penn G-6	Creeping	4.5	5.0	4.0	3.7	4.3	7.0
73	Penneagle II	Creeping	4.5	4.9	4.1	4.3	3.7	7.3
74	RH TAV318	Creeping	4.5	5.4	3.5	4.7	7.3	3.3
75	DPAZ1	Creeping	4.5	5.2	3.7	3.7	5.3	6.0

(Continued)

Table 6. Bentgrass putting green trial seeded in sand, 2009 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Spring Green-up[2] April 2011	Anthracnose[3] June 2011	Dollar Spot[3] July 2011
76	SL TAZ2	Creeping	4.4	5.1	3.8	3.3	6.0	5.7
77	BCD	Colonial	4.4	4.7	4.3	3.0	7.3	8.7
78	Pennlinks II/Penneagle II	Creeping	4.4	4.9	3.8	4.0	4.3	7.3
79	Penn A-2	Creeping	4.4	4.7	4.1	4.3	4.0	7.3
80	Penn G-1	Creeping	4.4	5.1	3.7	4.0	3.3	6.7
81	Crystal Bluelinks	Creeping	4.4	5.2	3.5	4.0	4.3	8.0
82	SR 1150/SR 1119	Creeping	4.4	4.7	4.1	4.0	3.7	8.0
83	SRP 2117	Velvet	4.4	5.3	3.4	3.0	5.0	6.0
84	WQD Comp	Colonial	4.4	4.1	4.7	2.7	6.7	8.7
85	13M	Creeping	4.3	5.0	3.7	4.0	4.0	7.7
86	Penn A-1/Penn A-4	Creeping	4.3	5.3	3.4	3.7	4.3	7.7
87	SRP 2161	Velvet	4.3	4.8	3.9	3.3	6.0	7.0
88	PST-ODJ Bulk	Creeping	4.3	5.2	3.4	2.3	5.3	7.3
89	DPAZ7	Creeping	4.3	5.1	3.5	6.7	6.7	3.0
90	SL TAZ1	Creeping	4.3	4.4	4.2	4.0	6.5	5.0
91	LS-44	Creeping	4.3	4.9	3.7	3.3	4.0	8.3
92	SL TAZ3	Creeping	4.3	5.0	3.5	3.0	4.7	4.7
93	SRP 2169	Velvet	4.3	4.8	3.8	4.5	5.0	5.5
94	SRP 2127	Velvet	4.3	4.6	4.0	4.0	6.5	6.5
95	PST-Syn-0R56	Creeping	4.2	4.3	4.0	3.0	4.0	7.7
96	96-2	Creeping	4.2	4.8	3.6	3.7	4.3	6.0
97	SRP 72P4	Velvet	4.2	4.8	3.6	3.3	6.0	6.7
98	SRP 2186	Velvet	4.2	4.5	3.9	3.5	7.0	6.5
99	T-1	Creeping	4.2	5.0	3.3	3.7	3.7	6.3
100	Mackenzie/Penn G-1	Creeping	4.1	4.6	3.6	4.0	4.0	6.0

(Continued)

Table 6. Bentgrass putting green trial seeded in sand, 2009 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Spring Green-up[2] April 2011	Anthracnose[3] June 2011	Dollar Spot[3] July 2011
101	H05TP-207-4	Creeping	4.1	4.8	3.5	5.0	3.3	8.0
102	SRP 2145	Velvet	4.1	4.4	3.9	3.0	6.0	6.5
103	RH TAV524	Creeping	4.1	5.0	3.2	3.3	5.7	4.3
104	RH TAV36	Creeping	4.1	4.6	3.5	4.0	6.5	4.0
105	SRP 72P3	Velvet	4.0	4.5	3.7	2.7	5.3	6.0
106	Memorial	Creeping	4.0	4.6	3.4	2.7	3.7	8.0
107	SRP 2145	Velvet	4.0	4.3	3.8	2.7	5.3	6.3
108	Penn A-4	Creeping	4.0	4.9	3.1	3.3	5.0	7.0
109	Penn G-2	Creeping	3.9	4.5	3.2	3.3	3.3	7.3
110	Kingpin	Creeping	3.8	4.8	3.0	5.3	3.3	7.7
111	SRP 72P1	Velvet	3.8	4.2	3.4	4.3	7.0	6.0
112	Pennlinks II	Creeping	3.7	4.5	2.9	3.3	3.7	7.7
113	SRP 2168	Velvet	3.7	4.3	3.0	2.7	6.3	4.7
114	Alpha	Creeping	3.6	4.4	2.8	3.7	4.7	8.0
115	L-93	Creeping	3.6	3.9	3.2	3.0	3.7	8.0
116	SR 1119	Creeping	3.5	4.3	2.7	2.0	4.0	7.0
117	Sandhill	Creeping	3.5	4.4	2.6	2.0	3.7	8.0
118	Century	Creeping	3.4	4.2	2.6	3.3	3.0	4.0
119	Southshore	Creeping	3.4	4.2	2.7	2.7	4.0	6.3
120	RH TAV37	Creeping	3.4	4.4	2.4	2.7	5.0	4.3
121	SRP 2148	Velvet	3.4	4.1	2.7	2.3	4.3	7.7
122	Providence	Creeping	3.3	4.1	2.6	2.3	3.7	7.3
123	Putter	Creeping	3.3	4.2	2.5	2.7	3.3	7.7
124	Seaside II	Creeping	3.2	3.8	2.6	2.7	3.3	7.7
125	PST-OPUF Bulk	Creeping	3.2	3.2	3.1	1.0	5.0	6.0

(Continued)

Table 6. Bentgrass putting green trial seeded in sand, 2009 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Spring Green-up[2] April 2011	Anthracnose[3] June 2011	Dollar Spot[3] July 2011
126	Crenshaw	Creeping	3.1	3.9	2.3	1.7	3.3	5.0
127	SRP 2164	Velvet	3.1	3.4	2.9	2.5	3.0	7.5
128	Brighton	Creeping	3.0	3.4	2.5	1.7	3.0	7.7
129	Penncross	Creeping	2.5	2.9	2.1	2.7	3.3	7.3
	LSD at 5% =		0.8	0.9	1.0	1.6	1.8	1.8

[1]Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
[2]Spring green-up rated on a 1 to 9 scale, where 9 = earliest spring green-up
[3]Disease rated on a 1 to 9 scale, where 9 = best disease resistance

Table 7. Performance of colonial, creeping, and velvet bentgrass cultivars and selections in a fairway/tee trial seeded in September 2009 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Dollar Spot[2] July 2011
1	BCQ Comp	Colonial	7.2	6.9	7.6	8.7
2	WBE Comp	Colonial	7.1	6.7	7.4	8.0
3	WBM Comp	Colonial	7.0	6.8	7.2	8.3
4	WLC Comp	Colonial	6.6	6.3	6.9	8.7
5	MDV Comp	Velvet	6.5	6.1	6.9	8.7
6	MDS Comp	Velvet	6.3	5.6	7.1	9.0
7	VDE Comp	Velvet	6.3	5.9	6.7	9.0
8	SSS Comp	Velvet	6.3	5.4	7.1	8.7
9	IS-AC 5	Velvet	6.2	6.0	6.5	7.0
10	PSG 7PC2	Velvet	6.2	5.8	6.7	8.7
11	CAS2 Comp	Creeping	6.1	6.3	6.0	8.0
12	WQD Comp	Colonial	6.1	5.9	6.3	8.3
13	IS-AC 4	Velvet	6.1	5.8	6.4	8.7
14	Focus (SRP 1GMC)	Creeping	6.0	6.2	6.0	6.7
15	A08-FT12	Colonial	6.0	5.9	6.1	8.3
16	IS-AT 10	Colonial	6.0	5.6	6.4	8.0
17	FWC Comp	Colonial	5.9	5.3	6.6	6.7
18	SRP 1WM	Creeping	5.9	6.0	5.7	7.7
19	Barracuda	Creeping	5.8	6.0	5.5	5.3
20	PST-Syn-9HO	Colonial	5.6	5.6	5.6	6.7
21	Villa	Velvet	5.6	5.5	5.7	8.0
22	Shark	Creeping	5.5	5.6	5.3	3.7
23	IS-AP 18	Creeping	5.4	5.8	5.1	4.7
24	IS-AP 15	Creeping	5.4	5.9	4.9	4.0
25	Luminary (TDN2)	Creeping	5.4	5.7	5.1	6.0

(Continued)

Table 7. Bentgrass fairway/tee trial, 2009 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Dollar Spot[2] July 2011
26	Greentime	Colonial	5.3	5.5	5.1	8.3
27	BCD	Colonial	5.3	5.1	5.6	7.3
28	LQC Comp	Creeping	5.2	5.9	4.5	5.7
29	Pin-Up	Creeping	5.2	5.5	4.9	4.7
30	CAS1 Comp	Creeping	5.2	5.5	4.8	4.3
31	PST-Syn-0COL	Creeping	5.1	5.1	5.0	6.3
32	Declaration	Creeping	5.1	5.3	4.9	7.0
33	OO7/SR 1150	Creeping	5.1	4.9	5.2	5.7
34	Luminary/Memorial	Creeping	5.0	5.2	4.9	5.0
35	SR 7200	Velvet	5.0	5.4	4.6	6.7
36	Tiger 2	Colonial	5.0	5.4	4.6	7.0
37	OO7	Creeping	5.0	5.3	4.7	5.0
38	CY-2	Creeping	5.0	5.5	4.5	4.3
39	PST-9NCS-Bulk	Colonial	4.9	4.8	5.0	4.7
40	Pennlinks II/Penneagle II	Creeping	4.9	5.3	4.4	3.3
41	Authority	Creeping	4.8	5.4	4.2	2.7
42	Crystal Bluelinks	Creeping	4.7	4.9	4.5	5.3
43	13M	Creeping	4.7	4.5	4.9	6.3
44	Cobra 2	Creeping	4.7	5.2	4.2	4.0
45	Memorial	Creeping	4.7	5.2	4.2	6.3
46	PST-Syn-9BNC	Colonial	4.7	4.6	4.8	5.7
47	A-1	Creeping	4.6	4.8	4.5	2.7
48	RH 931	Creeping	4.6	4.9	4.4	4.7
49	Runner	Creeping	4.6	5.5	3.7	2.0
50	OO7/Mackenzie	Creeping	4.6	4.7	4.5	4.3

(Continued)

Table 7. Bentgrass fairway/tee trial, 2009 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Dollar Spot[2] July 2011
51	Glory	Colonial	4.6	4.6	4.6	6.7
52	SR 1150	Creeping	4.5	4.4	4.7	5.3
53	PST-Syn-9DR5	Colonial	4.4	4.4	4.5	8.0
54	Penn G-6	Creeping	4.4	4.2	4.6	4.0
55	Penn G-1	Creeping	4.4	4.8	4.1	3.0
56	SR 7150	Colonial	4.4	4.5	4.3	5.3
57	OO7/Mackenzie/Tyee	Creeping	4.4	4.4	4.3	3.7
58	SRP 1BLTR3	Creeping	4.4	4.8	4.0	4.7
59	Tyee/OO7	Creeping	4.3	4.5	4.2	3.7
60	SR 7100	Colonial	4.3	4.7	4.0	5.7
61	Alister	Colonial	4.3	4.1	4.4	4.7
62	Penneagle II	Creeping	4.3	4.8	3.7	3.3
63	OO7/SR 1119	Creeping	4.3	4.3	4.2	4.0
64	PSG RHG12	Creeping	4.2	4.5	4.0	4.0
65	Penn A-1/Penn A-4	Creeping	4.2	4.5	3.9	3.0
66	SR 1150/SR 1119	Creeping	4.2	4.7	3.8	4.0
67	Penn G-1	Creeping	4.2	4.6	3.8	3.3
68	Kingpin	Creeping	3.9	4.6	3.3	6.3
69	PST-Syn-0R56	Creeping	3.9	4.5	3.3	3.7
70	Mackenzie/Penn G-1	Creeping	3.9	3.7	4.1	2.7
71	L-93	Creeping	3.9	4.3	3.4	4.0
72	Alpha	Creeping	3.8	4.1	3.5	3.7
73	Penn G-2	Creeping	3.7	4.4	3.1	1.7
74	Penn A-2	Creeping	3.7	4.1	3.3	2.7
75	Tyee	Creeping	3.7	3.7	3.7	2.7

(Continued)

Table 7. Bentgrass fairway/tee trial, 2009 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010-2011 Avg.	Turf Quality[1] 2010 Avg.	Turf Quality[1] 2011 Avg.	Dollar Spot[2] July 2011
76	Penn A-4	Creeping	3.6	3.8	3.5	2.7
77	Independence	Creeping	3.6	3.9	3.3	3.0
78	Pennlinks II	Creeping	3.5	3.8	3.3	5.0
79	Seaside II	Creeping	3.5	3.6	3.4	5.0
80	96-2	Creeping	3.4	3.5	3.4	2.7
81	Providence	Creeping	3.4	3.5	3.4	4.7
82	T-1	Creeping	3.4	4.0	2.7	3.0
83	Sandhill	Creeping	3.3	3.9	2.7	4.0
84	Southshore	Creeping	3.2	3.5	2.9	4.0
85	Mackenzie	Creeping	3.2	3.5	2.9	2.0
86	Penncross	Creeping	3.1	3.4	2.8	4.3
87	Putter	Creeping	3.1	3.3	2.9	3.3
88	Crenshaw	Creeping	2.9	3.3	2.5	1.7
89	Brighton	Creeping	2.8	3.0	2.7	3.3
90	SR 1119	Creeping	2.8	3.2	2.3	2.0
91	Century	Creeping	2.7	3.1	2.2	2.3
	LSD at 5% =		0.7	0.8	1.0	1.9

[1]Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
[2]Dollar spot disease rated on a 1 to 9 scale, where 9 = best disease resistance

Table 8 Performance of velvet bentgrass cultivars and selections in a putting green trial seeded in September 2010 at North Brunswick, NJ.

	Cultivar or Selection	Turf Quality[1] 2011	Turf Establishment[2] Oct. 2010	Brown Patch[3] July 2011	Copper Spot[4] 2011
1	CDE Comp	6.1	6.7	8.7	5.8
2	PSG 7PC2	5.9	7.0	9.0	7.2
3	SME Comp	5.2	6.3	8.0	6.2
4	SMM Comp	5.2	6.0	7.0	6.2
5	Legendary	5.2	7.7	7.0	6.0
6	Villa	5.2	7.7	7.0	5.2
7	Greenwich 2003	4.6	7.0	6.3	6.0
8	IS-AC 4	4.6	4.7	7.7	5.2
9	Greenwich 2009	4.6	8.0	5.0	6.2
10	IS-AC 5	4.4	5.7	8.7	5.5
11	VTP Comp	4.3	6.0	8.3	6.3
12	SR 7200	4.2	8.7	6.0	5.0
13	VGER Bulk	4.0	3.3	8.0	5.8
	LSD at 5% =	0.8	1.6	2.2	1.5

[1] Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
[2] Turf establishment rated on a 1 to 9 scale, where 9 = quickest establishment of turf canopy
[3] Brown patch disease rated on a 1 to 9 scale, where 9 = best disease resistance
[4] Copper spot disease rated on a 1 to 9 scale, where 9 = best disease resistance. Data is an average of two separate disease ratings taken on June 8 and June 24, 2011.

Table 9. Performance of creeping and colonial bentgrass cultivars and selections in a putting green trial seeded in September 2010 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2011	Turf Establishment[2] Oct. 2010	Brown Patch[3] July 2011
1	R11	Creeping	6.6	8.3	7.7
2	R10	Creeping	6.3	7.0	6.7
3	PSG RH08-38	Creeping	6.3	7.7	6.0
4	R6	Creeping	6.2	7.0	8.0
5	PSG RH08E1	Creeping	6.2	8.0	6.0
6	Declaration	Creeping	6.1	9.0	5.7
7	IS-AP 18	Creeping	6.1	8.7	7.0
8	0JD	Creeping	6.1	7.3	8.0
9	Revolution	Creeping	5.9	8.3	6.0
10	PSG RH08E2	Creeping	5.9	7.5	5.0
11	0JO	Creeping	5.8	8.0	7.7
12	R12	Creeping	5.8	7.7	6.7
13	SRP 1WM	Creeping	5.7	8.0	6.0
14	IS-AP 16	Creeping	5.7	8.3	6.0
15	HDG Comp	Creeping	5.7	6.7	7.7
16	FLE Comp	Creeping	5.7	4.7	8.7
17	Shark	Creeping	5.6	9.0	7.7
18	Mackenzie	Creeping	5.6	9.0	5.0
19	RH 081	Creeping	5.6	8.7	5.0
20	FMM Comp	Creeping	5.6	7.0	7.7
21	Pin-Up	Creeping	5.6	9.0	6.7
22	OO7	Creeping	5.6	9.0	6.3
23	EDM Comp	Colonial	5.6	6.7	5.3
24	Focus (SRP 1GMC)	Creeping	5.6	8.0	6.3
25	RH 931	Creeping	5.5	8.7	6.3
26	DML Comp	Colonial	5.5	5.7	5.0
27	IS-AP 15	Creeping	5.4	7.3	6.0
28	Cobra 2	Creeping	5.4	9.0	5.7
29	CDD Comp	Colonial	5.4	6.0	5.3
30	OO7/SR 1150	Creeping	5.3	8.3	5.3
31	OO7/Mackenzie	Creeping	5.3	9.0	4.0
32	Capri	Colonial	5.3	9.0	4.7
33	PSG RH08-935	Creeping	5.3	8.0	6.7
34	SRP 1BLTR3	Creeping	5.3	9.0	3.0
35	Runner	Creeping	5.3	7.7	7.3

(Continued)

Table 9. Bentgrass putting green trial, 2010 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2011	Turf Establishment[2] Oct. 2010	Brown Patch[3] July 2011
36	DDL Comp	Colonial	5.2	6.7	4.3
37	Independence	Creeping	5.2	9.0	6.3
38	GDE Comp	Creeping	5.1	6.0	8.0
39	Authority	Creeping	5.1	8.3	4.0
40	OO7/SR 1119	Creeping	5.1	9.0	5.7
41	Benchmark DSR	Creeping	5.0	8.0	5.0
42	PSG RH08-910	Creeping	4.9	7.3	3.7
43	AFM	Creeping	4.9	7.3	7.0
44	CMD Comp	Colonial	4.9	5.0	5.0
45	13M	Creeping	4.8	8.7	3.3
46	CY-2	Creeping	4.7	9.0	3.0
47	Crystal BlueLinks	Creeping	4.6	9.0	2.0
48	A4	Creeping	4.6	8.3	4.3
49	SR 1150	Creeping	4.5	9.0	6.7
50	T-1	Creeping	4.4	8.3	2.7
51	L-93	Creeping	4.4	9.0	3.0
52	Syn-0KPC	Creeping	4.4	4.3	6.0
53	Penn A-1/A4	Creeping	4.3	8.3	4.0
54	Kingpin	Creeping	4.1	8.3	4.3
55	BCD	Colonial	4.1	8.0	3.0
56	Ninety-Six Two	Creeping	4.1	8.3	4.0
57	CTP Comp	Colonial	4.1	5.7	2.3
58	Memorial	Creeping	4.0	8.7	3.0
59	Sandhill	Creeping	4.0	8.7	3.0
60	Alpha	Creeping	3.9	8.0	2.0
61	Putter	Creeping	3.8	7.7	3.3
62	Penncross	Creeping	3.7	8.8	1.5
63	PLS	Creeping	3.7	8.7	2.3
64	SR 1150/SR 1119	Creeping	3.6	9.0	2.3
65	Southshore	Creeping	3.5	9.0	4.7
66	SR 1119	Creeping	3.5	8.3	4.3
67	Syn-R0PX	Creeping	3.3	4.0	2.7
68	Brighton	Creeping	3.2	9.0	3.0
69	Providence	Creeping	1.8	3.3	2.7

(Continued)

Table 9. Bentgrass putting green trial, 2010 (continued).

Cultivar or Selection	Species	Turf Quality[1] 2011	Turf Establishment[2] Oct. 2010	Brown Patch[3] July 2011
LSD at 5% =		0.8	1.6	2.2

[1]Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
[2]Turf establishment rated on a 1 to 9 scale, where 9 = quickest establishment of turf canopy
[3]Brown patch disease rated on a 1 to 9 scale, where 9 = best disease resistance

Table 10. Performance of creeping, velvet, and colonial bentgrass cultivars and selections in a fairway trial seeded in September 2010 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2011	Turf Establishment[2] Oct. 2010	Dollar Spot[3] Sept. 2011	Brown Patch[4] 2011
1	Declaration	Creeping	6.7	8.0	7.7	7.3
2	CMD Comp	Colonial	6.4	6.0	8.3	5.5
3	SRP 1WM	Creeping	6.4	9.0	7.3	7.0
4	Capri	Colonial	6.3	8.7	6.3	5.0
5	DML Comp	Colonial	6.3	6.3	7.3	6.3
6	EDM Comp	Colonial	6.3	5.7	8.0	6.3
7	PSG 7NBC	Colonial	6.3	8.3	5.3	5.8
8	R10	Creeping	6.1	6.3	6.0	8.7
9	Pin-Up	Creeping	6.1	9.0	6.0	7.2
10	DDL Comp	Colonial	6.1	5.7	7.0	7.0
11	OO7	Creeping	6.0	9.0	5.3	6.8
12	Proclamation	Creeping	5.9	7.0	5.7	7.2
13	R6	Creeping	5.9	5.7	4.7	8.7
14	Focus (SRP 1GMC)	Creeping	5.8	7.7	6.3	7.0
15	OO7/Mackenzie	Creeping	5.8	9.0	4.7	7.3
16	GDE Comp	Creeping	5.8	4.7	6.0	8.2
17	R12	Creeping	5.7	8.0	5.0	7.3
18	R11	Creeping	5.6	7.7	2.3	7.7
19	HDG Comp	Creeping	5.6	5.0	5.0	7.3
20	FLE Comp	Creeping	5.6	5.3	6.0	7.8
21	CDD Comp	Colonial	5.6	4.3	7.0	6.3
22	Shark	Creeping	5.6	8.7	2.3	7.8
23	RH 081	Creeping	5.5	9.0	4.3	6.5
24	13M	Creeping	5.5	9.0	7.3	6.0
25	AFM	Creeping	5.4	7.3	3.7	7.5

(Continued)

Table 10. Bentgrass fairway trial, 2010 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2011	Turf Establishment[2] Oct. 2010	Dollar Spot[3] Sept. 2011	Brown Patch[4] 2011
26	CTP Comp	Colonial	5.3	5.3	8.3	5.5
27	RH 931	Creeping	5.3	6.7	5.3	8.2
28	Authority	Creeping	5.3	8.0	5.3	8.0
29	FMM Comp	Creeping	5.3	5.7	4.0	8.5
30	A08-FT12	Colonial	5.2	5.7	7.7	7.3
31	BCD	Colonial	5.2	7.3	5.0	5.7
32	SRP 1BLTR3	Creeping	5.2	8.7	4.3	5.8
33	Crystal BlueLinks	Creeping	5.2	9.0	4.0	6.5
34	Revere	Colonial	5.1	5.7	7.0	4.7
35	0JD	Creeping	5.1	6.7	2.7	7.5
36	007/SR 1119	Creeping	5.1	8.7	3.3	7.5
37	SR 1150/SR 1119	Creeping	5.0	9.0	5.0	6.7
38	Mackenzie	Creeping	5.0	9.0	2.7	5.8
39	Greentime	Colonial	5.0	7.7	7.3	4.5
40	0JO	Creeping	5.0	6.0	1.3	8.0
41	IS-AC 5	Velvet	5.0	4.7	7.3	7.8
42	SR 1150	Creeping	4.9	9.0	5.7	6.8
43	Benchmark DSR	Creeping	4.9	8.3	4.0	7.0
44	Villa	Velvet	4.9	6.0	8.0	6.8
45	Alister	Colonial	4.9	8.3	5.0	4.7
46	IS-AT 10	Colonial	4.9	3.7	7.0	6.0
47	OO7/SR 1150	Creeping	4.9	9.0	5.3	6.8
48	T-1	Creeping	4.8	8.3	3.7	6.2
49	IS-AC 4	Velvet	4.8	4.3	8.3	7.7
50	Memorial	Creeping	4.7	9.0	7.0	5.2

(Continued)

Table 10. Bentgrass fairway trial, 2010 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2011	Turf Establishment[2] Oct. 2010	Dollar Spot[3] Sept. 2011	Brown Patch[4] 2011
51	Tiger 2	Colonial	4.6	5.7	7.7	5.0
52	Glory	Colonial	4.6	9.0	4.7	4.3
53	Independence	Creeping	4.4	9.0	1.0	6.2
54	Putter	Creeping	4.4	9.0	2.3	5.3
55	Kingpin	Creeping	4.4	8.0	6.7	5.5
56	Alpha	Creeping	4.3	9.0	2.7	5.7
57	Ninety-Six Two	Creeping	4.3	8.7	1.7	6.3
58	Syn-9EFR	Colonial	4.2	6.7	6.0	3.8
59	Sandhill	Creeping	4.2	8.3	4.7	6.8
60	SCBF 1	Colonial	4.2	3.7	7.3	6.2
61	PLS	Creeping	4.1	9.0	4.0	4.2
62	L-93	Creeping	4.1	9.0	4.7	5.2
63	Southshore	Creeping	4.0	8.7	2.0	5.7
64	SR 7150	Colonial	4.0	6.5	6.5	3.5
65	SCBF 2	Colonial	3.9	3.7	7.7	6.2
66	SR 1119	Creeping	3.7	8.3	3.0	5.0
67	Brighton	Creeping	3.5	8.7	4.0	3.5
68	Penncross	Creeping	3.3	9.0	2.0	3.8
69	SCBF 3	Colonial	3.3	2.5	7.5	6.5
70	SR 7100	Colonial	3.1	3.3	7.0	4.8
71	Providence	Creeping	2.3	2.7	5.7	6.0

(Continued)

Table 10. Bentgrass fairway trial, 2010 (continued).

Cultivar or Selection	Species	Turf Quality[1] 2011	Turf Establishment[2] Oct. 2010	Dollar Spot[3] Sept. 2011	Brown Patch[4] 2011
LSD at 5% =		0.8	1.4	2.0	1.5

[1] Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
[2] Turf establishment rated on a 1 to 9 scale, where 9 = quickest establishment of turf canopy
[3] Dollar spot disease rated on a 1 to 9 scale, where 9 = best disease resistance
[4] Brown patch disease rated on a 1 to 9 scale, where 9 = best disease resistance. Data is an average of two separate disease ratings taken on June 1 and July 22, 2011.

Table 11. Maintenance practices performed in 2011 on bentgrass trials at North Brunswick, NJ.

Table	Test	Fertility[1]	Mowing Height (inches)	Cultivation/ Top Dress	Fungicides	Insecticides	Herbicides
1	2007 Greens	1.5	0.110	May/June/ July–top dressed May/June/ July–Tricure AD (wetting agent)	May– Daconil Ultrex; Curalan June– Emerald/ProStar July–Chipco 26GT/Daconil Ultrex; Heritage TL Aug.–Emerald	July–Provaunt (Lepidopterous larvae)	May/June/July–Trimmit 2SC (growth regulator trial)
2	2007 Fairway	1.67	0.375	May/June/ July/–Tricure AD (wetting agent)	May– Daconil Ultrex; Curalan June–Emerald/ProStar July–Chipco 26GT/Daconil Ultrex; Heritage TL Aug.–Emerald	none	May/June/July–Trimmit 2SC (growth regulator trial)

(Continued)

Table 11. Bentgrass maintenance practices, 2011 (continued).

Table	Test	Fertility[1]	Mowing Height (inches)	Cultivation/ Top Dress	Fungicides	Insecticides	Herbicides
3	2008 NTEP Greens	2.26; 9 oz Micro-green; 0.3 lb P_2O_5	0.110	May/July/ Aug./Sept.– top dressed May/June/ July/Aug.–Tri-cure AD (wet-ting agent)	May– Daconil Ultrex; Curalan June–Emerald/ProStar July–Chipco 26GT/Daconil Ultrex; Heritage TL; Daconil Ultrex; Segway Aug.–Emerald Sept.–Daconil Ultrex Oct.–Emerald; Disarm 480SC	July–Acelepryn (grubs)	none
4	2008 NTEP Fairway/Tee	2.74; 5 oz Micro-green; 0.1 lb P_2O_5	0.375	May/June/ July–Tricure AD (wetting agent)	May– Daconil Ultrex; Curalan June–Emerald/ProStar July–Chipco 26GT/Daconil Ultrex; Segway; Heritage TL; Daconil Ultrex Aug.–Emerald Sept.–Daconil Ultrex; Heritage TL/Daconil Ultrex Oct.–Subdue MAXX; Emerald	July–Provaunt (Lepi-dopterous larvae)	April–Bensumec 4LF (crabgrass/Poa control); Trimec Bent/Lontrel (post-emergence weeds)

(Continued)

Table 11. Bentgrass maintenance practices, 2011 (continued).

Table	Test	Fertility[1]	Mowing Height (inches)	Cultivation/ Top Dress	Fungicides	Insecticides	Herbicides
5	2008 Fairway	1.85	0.375	none	May–Curalan June–Emerald/Prostar July–Chipco 26GT/Daconil Ultrex; Heritage TL; Daconil Ultrex Aug.–Emerald Sept.–Daconil Ultrex/Heritage TL	none	April–Bensumec 4LF (crabgrass/Poa control); Trimec Bent/Lontrel (post-emergence weeds)
6	2009 Greens	2.1; 12 oz Micro-green; 0.6 lb P_2O_5	0.110	May/July/ Aug.–top dressed May/June/ July–Tricure AD (wetting agent)	April–Emerald July–Emerald/Pentathlon; Segway Aug.–Prostar/Bayleton Flo Sept.–Daconil Ultrex Oct.–Daconil Ultrex	July–Acelepryn (grubs)	none
7	2009 Fairway	2.91	0.375	May/June/ July–Tricure AD (wetting agent)	June–Emerald/ProStar Sept.–Emerald	none	April–Bensumec 4LF (crabgrass/Poa control); Trimec Bent/Lontrel (post-emergence weeds)

(Continued)

Table 11. Bentgrass maintenance practices, 2011 (continued).

Table	Test	Fertility[1]	Mowing Height (inches)	Cultivation/ Top Dress	Fungicides	Insecticides	Herbicides
8	2010 Greens, Velvet	4.78	0.125	May/Aug./ Sept.–top dressed	none	July–Provaunt (Lepidopterous larvae)	April–Trimec/Lontrel (post-emergence weeds)
9	2010 Greens, Creeping and Colonial	4.78	0.125	May/Aug./ Sept.–top dressed	none	July–Provaunt (Lepidopterous larvae)	April–Trimec/Lontrel (post-emergence weeds)
10	2010 Fairway	3.73	0.375	none	Oct.–Daconil Ultrex	none	April–Trimec/Lontrel (post-emergence weeds)

[1]Annual nitrogen applied (lb/1000 ft^2). Additional fertilizers as noted.