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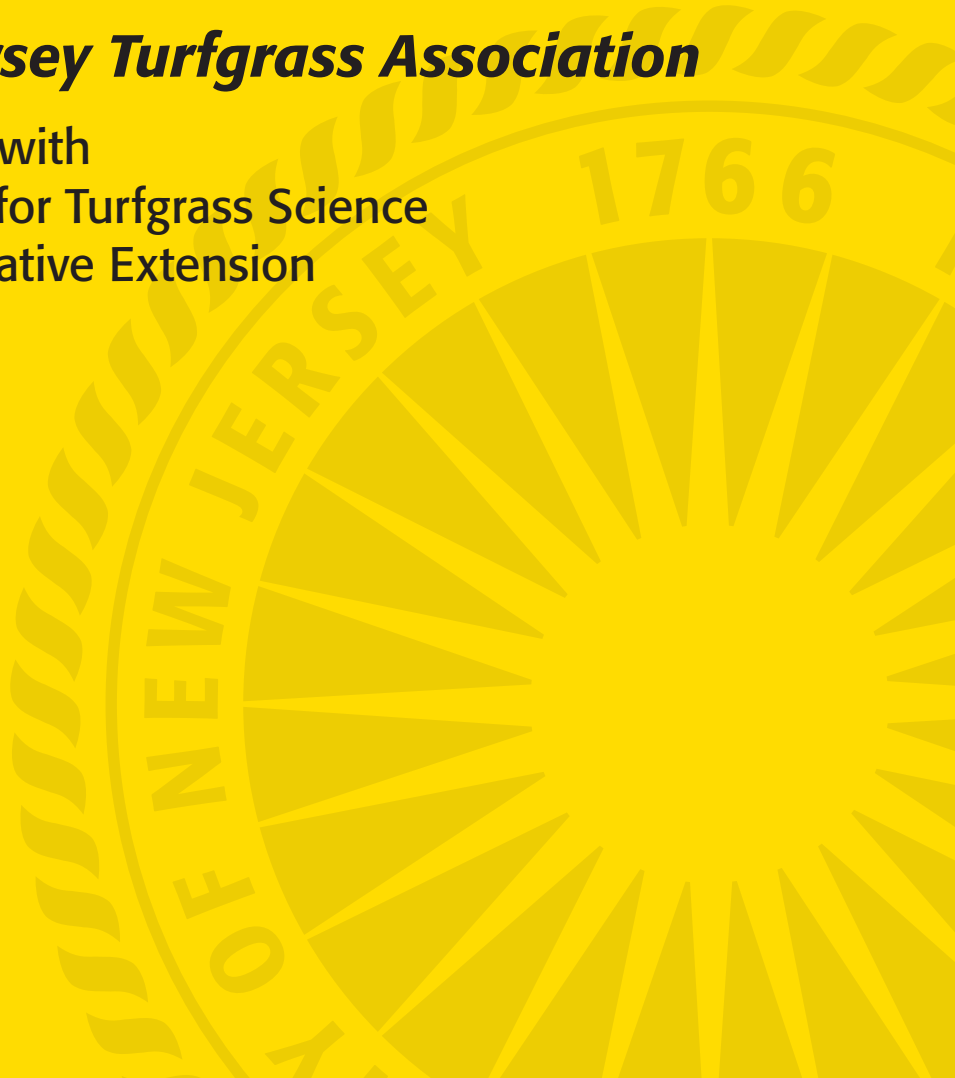

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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences, Rutgers, The State 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 2010 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. There are three bentgrass species predominantly used for turf: 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 bentgrasses (*A. castellana* Boiss. & Reut.) can be an option for turf in stressful areas, but these tend to be less attractive than the more common species when a high quality turf is needed and are thus 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 the 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). Compared to older cultivars, breeding efforts have since markedly improved creeping bentgrasses to withstand the increasing demands of the game of golf. Improved characteristics include better turf quality, darker green color, improved shoot density, better traffic tolerance and recuperative ability, and increased tolerance to stress and disease.

Creeping bentgrass is susceptible to a number of pathogens and pests. Dollar spot (caused by the fungus *Sclerotinia homoeocarpa*) is a major disease of close-cut creeping bentgrass; this species is alsosusceptible to brown patch (*Rhizoctonia solani*), copper spot (*Gloeocercospora sorghi*), anthracnose (*Colletotrichum cereal*), and diseases caused by *Pythium*.

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. Colonial bentgrass has a finer leaf texture and a more upright and less aggressive spreading growth habit than creeping bentgrass. Colonial bentgrass 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. Compared to creeping bentgrass, colonial bentgrass typically has a brighter green color and better color retention during cool weather. Colonial bentgrasses generally have better dollar spot resistance and better wear tolerance than creeping bentgrass. However, colonial bentgrass is much more susceptible 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 tolerance of colonial bentgrasses to this disease.

Velvet bentgrass forms the finest-textured and most dense turf of the bentgrasses and can nearly

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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 that of colonial bentgrass, but is less aggressive than that of 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 and 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 also 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 will 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* as well as tolerance to wear.

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 2006 (Tables 1 and 2), 2007 (Tables 3 and 4), 2008 (Tables 5 to 8), and 2009 (Tables 9 and 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 5 and 7, respectively) which were 4 x 6 ft. Plots were hand-seeded at a rate of approximately 1.0 lb/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 for the 2008 NTEP putting green (Table 5) and sand green (Table 6) trials, which had somewhat enclosed air circulation. The annual rate of nitrogen applied, mowing height, cultivation/topdressing practices, 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 with the exception of the 2006 greens trial (Table 1), which was withheld irrigation after 1 August in an effort to assess drought tolerance.

Plots were evaluated frequently during the growing season for overall turf quality (i.e. turf density, texture, uniformity, color, growth habit, and presence of disease and insect damage). Turf quality (Tables 1 through 10), wear tolerance (Tables 2 and 4), spring green-up (Tables 5 and 7), establishment (Tables 9 and 10), drought tolerance (Table 1), webworm damage (Table 6), and disease were rated on a 1

to 9 scale, where 9 represented the most desirable turf characteristic. Disease ratings included brown patch (Tables 6 to 10), dollar spot (Tables 3, 9, and 10), anthracnose (Tables 5, 6, and 9), copper spot (Tables 9 and 10), and snow mold (Table 7). 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 8 are ranked according to their overall multi-year quality average. Tables 9 through 10 are ranked by the average turf quality for 2010. 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, Shark, Barracuda, OO7, and the experimental selections TDN2 Comp, CAS2 Comp, SRX 1WM, and IS-AP 15 all performed very well, while Brighton, Penncross, Providence, Sandhill, and SR 1119 were among the poorest performers. At fairway height, OO7, Authority, Declaration, 13M, and the experimental selections SRX 1WM, TDN2 Comp, GMC Comp, and DC1 Comp creeping bentgrasses had excellent turf quality while the lowest scoring cultivars were Penncross, Sandhill, Providence, Century, and Brighton. In the NTEP putting green/tee trial (Table 5), A08-TDN2, PST-OJO, Barracuda, Shark, and V8 were the top creeping bentgrass cultivars and selections. In the NTEP fairway trial (Table 7), PST-OJD, A08-TDN2, Barracuda, Authority, SRP 1WM, and Proclamation were the top performing creeping bentgrasses.

Overall turf quality was evaluated for velvet bentgrasses under greens height of cut (1/8-inch) in 2007, 2008, and 2009 (Tables 3, 5, 6, and 9). The cultivars Villa, PSG 7PC2, IS-AC 4, Greenwich, and Legendary 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, 3, and 9. Under fairway conditions however, the experimental selections A08-FT12, MGD Comp, NBC Comp, BCQ Comp, WBM Comp, WBE Comp, LMC Comp, and the cultivar Capri were the best performing colonial bentgrasses, while SR 7150, SR 7100, and SRX 7EE exhibited the poorest performance under fairway cutting heights when included in trials. In the NTEP fairway height trial (Table 7), 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 homeocarpa, the causal agent of this widespread turfgrass disease, causes silver-dollar shaped spots of dead turf which can converge to form larger areas of damaged turf (Belanger et al., 2005). While potentially one of the more damaging turf diseases on golf courses in the northeast, dollar spot can be easily controlled with the use of fungicides; however this can be expensive due to the prevalence of the fungus. Also becoming more prevalent is the resistance of the pathogen to fungicides, particularly the DMI fungicides (Smiley et al., 2005). In addition, increased fungicide use is not beneficial to the environment. Breeding for dollar spot resistance in bentgrass is an important objective of the Rutgers breeding program. Typically, velvet and colonial bentgrasses have better resistance to dollar spot than creeping bentgrass; however the results from recent trials (Tables 3, 9, and 10) indicate that significant improvements in creeping bentgrass have been made. Declaration, 13M, H05TP 300-1, FAC Comp, SRP 1GMC, SRP 1WM, and CAS2 Comp all showed a high resistance to this disease, while Ninety-Six Two, Alpha, Southshore, Century, Independence, Runner, and RHTAV36 and RHTAV37 were more susceptibile.

Brown Patch

Velvet bentgrass typically exhibits the greatest tolerance to brown patch among the bentgrass species used for turf whereas colonial bentgrass is the most susceptible. A major emphasis of the Rutgers breeding program to improve the resistance of colonial and creeping bentgrasses to this disease, and dramatic improvements have been made. Brown patch data is reported in Tables 6 to 10. Tyee, DC1 Comp, CAS2 Comp, PSG 1RHG1, PSG 1RHG12, SRP 1WM, H05TP 300-1, Barracuda, and 13M are all creeping bentgrasses that topped the tests rated for resistance to this fungus, while Penncross, Brighton, SR 1119, PSG 1RHTAV1, and PSG 1RHTAV2

were susceptible. The fact that several of the more resistant creeping bentgrasses rated higher than most velvet bentgrass entries could be indicative of improvement of cultivars for resistance to this disease.

The resistance of colonial bentgrass to brown patch has been the subject of significant research, and gradual improvements have been made in the past year. In the most recent cycle evaluated in the 2009 fairway trial (Table 10), the experimental selections WLC Comp, BCQ Comp, and WBM Comp exhibited significantly improved brown patch resistance over standard cultivars Glory, Alister, SR 7100, and SR 7150 and were comparable to many creeping bentgrass cultivars. In other trials, NBC Comp, SDS Comp, Revere, and A08-FT12 exhibited improved resistance while Green Time, Tiger II, SR 7150, SR 7100, and PST-R9D7 were among the most susceptible cultivars and selections.

Copper Spot

This disease is of increasing concern in the Northeast during the summer due to the warm wet conditions when limited DMI fungicides are used. Turf affected by *G. sorghi* exhibits 3- to 4-inch red-brown patches, and an epidemic due to this fungus occurred on both of the 2009 trials (Tables 9 and 10). Currently, one of the major drawbacks in the use of velvet bentgrass continues to be the high susceptibility of this species to copper spot, thus selection for resistance to this disease is a major goal of the Rutgers Turfgrass Breeding Program. The experimental lines MDV Comp, MDS Comp, SSS Comp, SRP 2117, and PSG 7PC2 were selected for improved tolerance and were significantly better than the cultivars SR 7200, and Villa. Some creeping bentgrass cultivars and selections were also affected by copper spot. At greens height, creeping bentgrasses Barracuda, Crystal Bluelinks, PST-OPUF Bulk, T-1, Penn A-4, and the experimental RJM 56 had better resistance than Declaration, IS-AP 15, IS-AP 18, RH TAV37, and RH TAV327, which were quite susceptible. Under fairway conditions, while many selections behaved similarly, SRP 1GMC, SRP 1WM, TDN2, and Declaration exhibited better resistance than selections such as Cobra 2, Penn G-1, Penn A-4, and 96-2.

Anthracnose

This disease is a major problem on close-cut bentgrass areas such as golf course greens and fairways. Creeping bentgrass is typically more susceptible to infection when compared to colonial bentgrass and velvet bentgrass. In 2010, the velvet bentgrasses always exhibit strong to excellent resistance whereas the creeping bentgrasses exhibited a range of excellent to poor disease tolerance. Susceptibility to this disease was evaluated on three bentgrass greens trials (Tables 5, 6, and 9). The creeping bentgrasses A08-TDN2, PST-OJO, DC1 Comp, CAS2 Comp, LQC Comp, RJM 513, RJM 412, and RJM 56 entries had the least disease but Penncross, Providence, Southshore, and Crenshaw proved to be highly susceptible. Villa, PSG 7PC2, GSV1 Comp, SSS Comp, and PST-Syn-VH5 velvet bentgrasses rated well while SR 7200 and Greenwich rated poorly.

Wear Tolerance

The ability of a turf stand to handle wear is one of the more important traits in maintaining long term quality and playability of the surface. Wear can be applied to turfgrass through a number of ways such as driving machinery on the turf, cultivation procedures, and walking on the turf. Wear was simulated on the 2006 (Table 2) and 2007 (Table 4) fairway trials by using a novel wear simulator (Bonos et al., 2001), which is an engine driven device with rotating rubber paddles that repeatedly hit the turf. Plots of different cultivars were then rated for their density and color comprising an overall wear quality rating under these conditions. In these trials, only creeping and colonial bentgrasses were assessed; colonial bentgrasses typically exhibited higher wear quality compared to creeping bentgrasses. Colonial bentgrasses Capri, EBM-FTO, MGD Comp, DSH Comp, DGD Comp, LMC Comp, DMB Comp, and 9319-1,3,5 were the top performers for this species while SR 7150, SR 7100, PRO AT-1 BCD, and Tiger II rated poorly. OO7, FAC Comp, IS-AP 15, and Independence creeping bentgrasses all showed increased wear tolerance but Penncross, Brighton, Providence, and Alpha were severely damaged by the wear treatments.

Spring Green-up

Spring green-up data was collected on the 2008 NTEP bentgrass greens/tee and fairway tests (Tables 5 and 7, respectively). The NTEP fairway trial contained both creeping and colonial bentgrass species whereas the NTEP greens/tee trial contained creeping and velvet bentgrass species. In general, velvet bentgrass typically has the poorest spring green-up

compared to colonial and creeping bentgrass and can even exhibit a reddish or purple color during cold winter months.

Another major research initiative of the Rutgers Turfgrass breeding program is to improve the spring green-up of velvet bentgrasses. In the 2008 NTEP greens/tee test (Table 5), Legendary and Villa possessed the earliest spring green-up while Greenwich and SR 7200 were late to green up. Creeping bentgrasses A08-TDN2, PST-OJO, Shark, Barracuda, and V8 had the highest rating for spring green-up while Penncross, L-93, Southshore, Crenshaw, and Tyee were the latest to green up. Under fairway conditions (Table 7), A08-TDN2, Proclamation, Barracuda, and SRP 1WM exhibited early green-up, but Princeville, Penncross and L-93 had the lowest spring green-up ratings. The colonial bentgrasses A08-FT12 and BCD were quicker to green up than Tiger II and PST-9RD7.

Drought Tolerance

Irrigation was withheld from the 2006 greens trial (Table 1) starting in mid-July to simulate drought conditions. Some entries of both creeping and colonial bentgrasses exhibited acceptable turf quality under drought stress, while others did not. The creeping bentgrasses Shark, 95-N, GMC Comp, TDN2 Comp, Runner, PST-Syn-0JO, and RH 8-4 possessed the best turf quality under drought stress, while Putter, Mackenzie, L-93, and Penncross exhibited the least drought tolerance. The colonial bentgrass entries Capri, and DMB Comp possessed the best turf quality under drought stress, while DBN Comp, and Tiger II possessed poor turf quality under drought stress.

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Table 1. Performance of creeping and colonial bentgrass cultivars and selections in a putting green trial seeded in September 2006 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2007-2010 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	Turf Drought Quality[2] 2010
1	TDN2 Comp	Creeping	6.3	7.4	5.2	6.1	6.7	5.7
2	PST-Syn-0JO	Creeping	6.0	6.7	5.1	5.5	6.7	5.7
3	Shark	Creeping	6.0	6.7	5.2	5.4	6.7	6.3
4	9058 - 1-4	Creeping	6.0	6.6	5.5	5.8	6.2	6.0
5	95-S	Creeping	5.9	6.7	5.4	5.8	5.8	5.3
6	PST-0JD Bulk	Creeping	5.8	6.0	5.6	5.3	6.4	3.7
7	RH 12-34	Creeping	5.8	6.2	6.0	5.6	5.2	4.0
8	95-N	Creeping	5.7	6.7	5.2	5.6	5.4	6.3
9	Runner	Creeping	5.7	6.3	5.1	5.7	5.6	5.7
10	IS-AP-15	Creeping	5.7	6.6	5.5	5.8	4.9	5.0
11	OO7	Creeping	5.7	6.6	5.7	5.7	4.9	4.3
12	Tyee	Creeping	5.6	5.7	5.4	6.0	5.3	3.7
13	Authority	Creeping	5.5	6.6	4.8	5.0	5.7	5.3
14	TDN1 Comp	Creeping	5.5	6.0	5.3	5.7	5.1	4.0
15	RH 1-5	Creeping	5.5	5.4	6.0	5.4	5.0	4.0
16	Tyee/OO7	Creeping	5.4	5.6	5.4	5.4	5.3	4.3
17	RH 8-4	Creeping	5.4	5.7	5.2	4.9	5.7	5.7
18	GMC Comp	Creeping	5.4	6.3	5.3	5.1	4.9	6.0
19	AFM Comp	Creeping	5.3	5.8	5.8	5.1	4.7	3.7
20	GEC Comp	Creeping	5.3	6.2	4.9	4.8	5.2	4.7
21	OO7/Mackenzie/Tyee	Creeping	5.3	5.9	4.5	5.4	5.2	3.0
22	OO7/SR 1150	Creeping	5.2	5.9	5.0	4.7	5.1	4.7
23	RH 931	Creeping	5.2	6.2	4.9	4.5	5.0	4.3
24	Tyee/SR 7200	Cr. Blend	5.1	5.7	5.5	4.9	4.5	4.0
25	9002 - 1-3 4-3	Creeping	5.1	6.0	5.3	5.0	4.3	5.7

(Continued)

Table 1 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2007-2010 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	Turf Drought Quality[2] 2010
26	Proclamation (FEC Comp)	Creeping	5.1	5.4	4.9	5.3	5.0	5.0
27	9034 - 1-6	Creeping	5.1	4.9	5.0	5.4	4.9	4.3
28	OO7/Mackenzie	Creeping	5.1	5.4	5.1	5.0	4.9	4.0
29	9039	Creeping	5.1	5.2	5.9	5.1	4.1	4.0
30	Independence	Creeping	5.0	5.7	4.2	4.4	5.7	6.3
31	9012 - 4-6	Creeping	5.0	5.7	5.2	4.5	4.5	3.7
32	9085 - 1-5	Creeping	5.0	5.6	5.2	5.0	4.2	2.7
33	9014 - 4-6	Creeping	5.0	5.9	4.7	5.0	4.3	2.7
34	95-TC	Creeping	4.9	5.0	5.1	4.7	4.7	4.3
35	Capri	Colonial	4.9	5.0	5.3	4.4	4.7	6.7
36	9014 - 1-3	Creeping	4.8	5.5	4.7	4.8	4.1	3.7
37	SRX 1WM	Creeping	4.7	5.1	4.8	4.8	4.0	5.0
38	Declaration	Creeping	4.7	5.4	4.5	5.1	3.9	3.7
39	9020 - 1-3	Creeping	4.6	5.2	4.5	4.8	4.0	2.7
40	Cobra 2	Creeping	4.5	4.8	4.3	4.5	4.3	4.3
41	OO7/SR 1119	Creeping	4.5	4.9	4.7	4.4	3.9	4.0
42	LMC Comp	Colonial	4.5	5.0	4.6	4.0	4.5	4.7
43	Mackenzie/Sandhill	Creeping	4.4	4.8	4.4	4.2	4.3	2.7
44	Benchmark	Creeping	4.4	5.4	4.3	4.2	3.8	4.0
45	9008 - 1-3	Creeping	4.4	4.8	4.8	4.3	3.9	3.0
46	Mackenzie	Creeping	4.3	5.1	4.1	4.0	4.0	2.3
47	Ninety-Six Two/Mackenzie	Creeping	4.3	4.9	4.4	3.8	4.1	4.3
48	9020 - 4-6	Creeping	4.2	5.0	4.3	4.1	3.7	4.7
49	Penneagle II	Creeping	4.1	4.1	4.7	3.6	3.9	4.7
50	Penn A-4	Creeping	4.1	4.6	4.3	3.6	4.0	5.0

(Continued)

Table 1 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2007-2010 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	Turf Drought Quality[2] 2010
51	T-1	Creeping	4.1	4.8	3.9	4.1	3.4	4.3
52	9027 - 4-6	Creeping	4.0	4.1	4.4	4.4	3.3	2.0
53	Mackenzie/Penn G-1	Creeping	4.0	4.0	4.2	4.2	3.6	4.3
54	SR 1150	Creeping	4.0	4.7	3.9	3.5	3.7	4.3
55	Alpha	Creeping	4.0	4.3	4.1	3.5	3.9	5.0
56	Ninety-Six Two	Creeping	3.9	4.5	4.2	3.6	3.5	4.3
57	KingPin	Creeping	3.9	4.1	4.3	4.0	3.3	3.3
58	Ninety-Six Two/Sandhill	Creeping	3.9	4.8	3.8	3.5	3.6	4.7
59	Sandhill	Creeping	3.9	3.4	4.1	3.9	4.1	3.3
60	9328 - 1-3,5	Colonial	3.9	3.6	4.4	4.0	3.5	4.3
61	9009 - 4-6	Creeping	3.9	4.0	4.5	3.6	3.3	5.0
62	Penn G-1	Creeping	3.8	3.8	4.3	3.5	3.5	3.7
63	Penncross	Creeping	3.8	3.7	4.2	3.7	3.5	2.7
64	95-W	Creeping	3.8	3.8	4.1	3.8	3.3	3.0
65	SR 1150/SR 1119	Creeping	3.7	4.2	4.0	3.6	3.2	3.3
66	9021 - 1-3	Creeping	3.7	4.7	4.0	3.0	2.9	2.7
67	DMB Comp	Colonial	3.7	4.0	3.2	3.5	4.1	5.7
68	Southshore	Creeping	3.7	3.8	4.1	3.5	3.3	3.0
69	9313 - 10-12	Colonial	3.6	4.2	3.6	3.2	3.5	4.3
70	9314 - 6-12	Colonial	3.6	3.5	4.0	3.3	3.4	5.7
71	DEB Comp	Colonial	3.5	4.1	3.6	3.0	3.3	4.0
72	L-93	Creeping	3.5	3.1	4.6	3.4	2.8	2.7
73	Century	Creeping	3.5	3.3	3.7	3.6	3.4	3.3
74	Backspin	Creeping	3.4	3.6	3.8	3.0	3.2	3.3
75	Imperial	Creeping	3.3	4.1	3.5	2.8	2.9	3.7

(Continued)

Table 1 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2007-2010 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	Turf Drought Quality[2] 2010
76	PST-0166 Bulk	Creeping	3.2	2.7	3.7	3.1	3.2	4.3
77	9327 - 1-6	Colonial	3.2	2.9	3.0	3.3	3.5	3.7
78	9316 - 2,3,5	Colonial	3.2	3.4	3.0	3.0	3.3	3.0
79	DBN Comp	Colonial	3.1	3.5	3.1	3.0	2.9	2.7
80	SR 1119	Creeping	3.1	3.3	3.6	2.8	2.8	4.0
81	Tiger II	Colonial	3.1	3.2	2.9	3.0	3.1	2.7
82	9355 - 6	Colonial	3.1	3.8	2.8	2.8	2.9	2.5
83	Pennlinks II	Creeping	3.0	3.4	3.1	2.9	2.5	3.0
84	Providence	Creeping	2.9	2.8	3.3	2.8	2.7	3.7
85	Putter	Creeping	2.8	2.8	3.6	2.6	2.3	2.3
86	9310 - 1-6	Colonial	2.8	2.9	2.9	2.9	2.5	3.0
87	Brighton/Sandhill	Creeping	2.7	2.3	3.1	2.8	2.7	3.7
88	9343 - 6	Colonial	2.7	2.5	2.7	2.9	2.6	2.3
89	Brighton	Creeping	2.7	2.8	3.3	2.4	2.2	3.3
90	SR 7100	Colonial	2.7	2.3	3.0	2.4	2.9	3.0
	LSD at 5% =		0.6	0.9	0.8	0.7	0.9	2.3

[1]9 = best turf quality
[2]9 = best turf quality under drought conditions

Table 2. Performance of creeping and colonial bentgrass cultivars and selections in a fairway trial seeded in September 2006 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2007-2010 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	Turf Wear Quality[2] 2010
1	Capri	Colonial	6.6	6.0	7.0	6.4	7.1	8.8
2	Proclamation (FEC Comp)	Creeping	6.2	7.0	6.1	5.4	6.4	2.8
3	Tyee/OO7	Creeping	6.0	6.7	6.1	5.3	5.8	4.3
4	Tyee/SR 7200	Creeping	6.0	5.9	6.3	5.5	6.1	5.5
5	GMC Comp	Creeping	5.9	6.6	6.1	5.3	5.4	4.7
6	Authority	Creeping	5.9	6.0	5.9	4.9	6.5	3.2
7	LMC Comp	Colonial	5.8	6.0	5.9	5.2	6.0	6.8
8	SRX 1WM Comp	Creeping	5.8	6.2	5.9	5.3	5.9	4.5
9	OO7	Creeping	5.7	6.3	5.6	5.5	5.3	5.0
10	9039	Creeping	5.7	5.7	6.0	5.3	5.6	4.0
11	9314 - 6-12	Colonial	5.6	5.8	5.6	5.3	5.9	6.0
12	9034 - 1-6	Creeping	5.6	5.6	6.2	4.9	5.7	5.7
13	9312 - 10-12	Colonial	5.6	5.3	6.0	5.3	5.7	4.8
14	GEC Comp	Creeping	5.6	6.2	5.2	5.4	5.5	3.0
15	Runner	Creeping	5.4	5.6	5.3	4.6	6.1	4.0
16	DEB Comp	Colonial	5.4	5.9	6.1	4.7	4.8	5.5
17	Tyee	Creeping	5.4	5.7	5.8	4.9	5.3	4.2
18	OO7/SR 1150	Creeping	5.4	5.9	5.2	4.8	5.7	3.8
19	AFM Comp	Creeping	5.4	5.2	5.8	5.4	5.0	3.7
20	DBN Comp	Colonial	5.3	5.8	5.2	4.7	5.7	5.7
21	9316 - 2,3,5	Colonial	5.3	5.1	5.5	4.7	5.9	5.3
22	SR 1150	Creeping	5.3	6.0	5.7	4.9	4.8	3.0
23	9330 - 7-9	Colonial	5.3	5.7	5.5	4.7	4.9	4.5
24	DMB Comp	Colonial	5.2	5.7	5.3	4.4	5.4	6.0
25	9313 - 10-12	Colonial	5.2	4.9	5.1	5.0	5.7	5.7

(Continued)

Table 2 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2007-2010 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	Turf Wear Quality[2] 2010
26	OO7/Mackenzie/Tyee	Creeping	5.2	5.2	5.5	4.6	5.4	3.2
27	OO7/SR 1119	Creeping	5.2	5.2	5.6	4.3	5.6	3.7
28	Declaration	Creeping	5.2	6.3	4.9	4.7	4.8	3.3
29	Shark	Creeping	5.2	5.4	5.2	4.7	5.3	4.7
30	9328 - 1-3,5	Colonial	5.1	5.1	5.4	4.8	5.2	6.2
31	SR 1150/SR 1119	Creeping	5.1	5.6	5.2	4.3	5.4	2.8
32	9319 - 8-10	Colonial	5.1	4.5	5.0	5.0	6.0	7.5
33	Penn A-1	Creeping	5.1	5.3	5.2	4.5	5.1	2.7
34	PST-Syn-0JO	Creeping	5.0	4.8	5.3	4.4	5.6	2.7
35	Cobra 2	Creeping	5.0	5.3	4.6	4.3	5.7	5.5
36	9014 - 1-3	Creeping	5.0	4.7	5.4	4.6	5.3	2.3
37	T-1	Creeping	5.0	4.7	5.3	4.1	5.8	4.2
38	RH 931	Creeping	4.9	5.0	5.3	4.4	5.1	3.7
39	OO7/Mackenzie	Creeping	4.8	4.9	5.0	4.0	5.4	4.3
40	Mackenzie/Penn G-1	Creeping	4.8	5.1	4.8	4.3	4.9	3.5
41	Benchmark	Creeping	4.8	5.0	4.7	4.2	5.4	4.8
42	KingPin	Creeping	4.8	4.8	5.0	4.3	4.8	3.3
43	9333 - 6-10	Colonial	4.7	4.8	4.7	4.6	4.8	3.7
44	Ninety-Six Two/Sandhill	Creeping	4.7	5.2	4.5	4.3	4.9	3.7
45	Mackenzie	Creeping	4.6	4.5	4.5	4.3	5.0	3.5
46	SR 7100	Colonial	4.6	4.8	4.7	4.1	4.7	3.5
47	SR 1CCR2	Creeping	4.6	4.3	4.9	4.5	4.5	4.7
48	Penn G-1	Creeping	4.6	4.9	4.7	4.0	4.7	2.8
49	L-93	Creeping	4.5	4.3	4.8	4.0	4.8	3.7
50	Independence	Creeping	4.5	4.9	4.6	3.9	4.7	4.7

(Continued)

Table 2 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2007-2010 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	Turf Wear Quality[2] 2010
51	SRX 7CRCO	Colonial	4.5	5.0	4.6	3.9	4.4	4.3
52	9310 - 1-6	Colonial	4.5	4.5	4.5	4.2	4.6	5.2
53	Tiger II	Colonial	4.4	5.1	4.5	3.9	4.2	3.8
54	Penn A-4	Creeping	4.4	5.4	4.0	3.8	4.5	3.3
55	9027 - 4-6	Creeping	4.4	4.3	4.1	4.4	4.7	3.5
56	Ninety-Six Two	Creeping	4.4	4.3	4.7	3.9	4.5	2.7
57	9343-6	Colonial	4.3	4.7	4.6	4.0	4.2	4.5
58	9355-6	Colonial	4.3	5.1	4.1	3.9	4.2	3.7
59	Ninety-Six Two/Mackenzie	Creeping	4.3	4.2	4.2	3.7	5.2	3.7
60	Imperial	Creeping	4.3	4.2	4.3	4.2	4.7	2.7
61	9327 - 1-6	Colonial	4.3	4.9	4.6	3.8	4.0	3.0
62	Mackenzie/Sandhill	Creeping	4.3	4.9	4.2	3.6	4.5	3.3
63	Penn G-2	Creeping	4.3	4.3	4.2	4.0	4.7	3.0
64	Alpha	Creeping	4.3	4.4	4.5	3.9	4.5	4.0
65	Brighton	Creeping	4.3	4.4	4.2	3.8	4.8	2.2
66	SRX 7EE	Colonial	4.2	3.9	4.3	4.2	4.4	3.8
67	Putter	Creeping	4.2	4.4	4.4	3.8	4.1	2.5
68	9307 - 10-12	Colonial	4.1	4.1	4.3	4.0	4.1	3.3
69	SR 1119	Creeping	4.1	4.3	4.2	3.7	4.2	2.7
70	Sandhill	Creeping	4.1	4.1	4.1	3.8	4.3	3.7
71	Brighton/Sandhill	Creeping	4.0	3.5	4.0	3.7	4.9	2.8
72	Glory	Colonial	4.0	4.2	4.3	3.8	3.8	3.5
73	Penn G-6	Creeping	4.0	3.8	4.2	3.8	4.2	3.0
74	Southshore	Creeping	4.0	3.8	4.3	3.4	4.5	4.0
75	Century	Creeping	3.9	3.4	4.0	3.9	4.4	3.3

(Continued)

Table 2 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2007-2010 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	2010 Avg.	Turf Wear Quality[2] 2010
76	Providence	Creeping	3.9	3.6	3.5	3.5	4.7	3.5
77	Penncross	Creeping	3.8	3.9	3.8	3.3	4.1	3.7
78	Backspin	Creeping	3.7	4.3	3.6	3.2	3.8	2.2
79	Seaside II	Creeping	3.6	3.3	3.5	3.2	4.5	2.8
80	SR 7150	Colonial	3.5	3.4	4.0	3.4	3.4	3.2
	LSD at 5% =		0.7	0.9	0.9	0.8	1.2	1.7

[1]9 = best turf quality
[2]9 = best turf quality under simulated wear

Table 3. 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] 2008-2010 Avg.	Turf Quality[1] 2008 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Dollar Spot[2] June 2010
1	TDN2 Comp	Creeping	6.9	7.4	7.1	6.2	4.3
2	IS-AC 4	Velvet	6.5	6.7	7.0	5.9	7.7
3	DC1 Comp	Creeping	6.4	6.7	6.5	6.2	5.3
4	Legendary	Velvet	6.2	6.8	6.4	5.2	7.3
5	IS-AP 15	Creeping	6.1	6.0	6.8	5.6	4.0
6	Villa	Velvet	6.1	6.4	6.4	5.5	7.7
7	SRX 1WM	Creeping	5.8	6.5	6.2	4.8	5.0
8	Greenwich	Velvet	5.8	5.9	5.9	5.6	8.0
9	FAC Comp	Creeping	5.8	6.5	5.8	5.1	5.3
10	PC2 Comp	Velvet	5.6	5.8	5.7	5.2	8.3
11	Declaration	Creeping	5.5	6.3	5.9	4.1	6.7
12	CY-2	Creeping	5.5	5.8	5.6	5.0	4.7
13	Pin-Up	Creeping	5.4	5.6	5.8	4.8	3.7
14	Vesper	Velvet	5.4	6.2	5.5	4.6	7.0
15	Shark	Creeping	5.4	5.7	5.4	5.2	4.3
16	PC3 Comp	Velvet	5.4	5.5	5.5	5.2	7.3
17	RH 13-4	Creeping	5.3	5.9	5.3	4.8	4.0
18	Memorial	Creeping	5.2	5.5	5.4	4.8	6.3
19	PC4 Comp	Velvet	5.2	5.7	5.8	4.1	7.3
20	RH 3-4	Creeping	5.2	5.6	5.2	4.7	4.7
21	OO7/SR 1150/Tyee	Creeping	5.2	5.6	5.5	4.4	4.0
22	Runner	Creeping	5.0	5.4	4.9	4.7	2.7
23	Cobra 2	Creeping	5.0	5.2	5.2	4.6	4.3
24	Penneagle II	Creeping	5.0	4.7	5.1	5.0	5.0
25	OO7	Creeping	4.9	5.6	5.0	4.1	3.7

(Continued)

Table 3 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2008-2010 Avg.	Turf Quality[1] 2008 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Dollar Spot[2] June 2010
26	Benchmark DSR	Creeping	4.9	5.7	5.5	3.4	5.7
27	RH 12-8	Creeping	4.9	5.3	4.8	4.5	2.7
28	OO7/Mackenzie/Tyee	Creeping	4.9	5.6	4.9	4.2	3.7
29	Kingpin	Creeping	4.8	5.2	5.4	3.9	5.7
30	Tyee	Creeping	4.8	4.8	5.1	4.7	2.7
31	OO7/SR 1150/Mackenzie	Creeping	4.8	5.1	4.8	4.7	3.7
32	RH 5-24	Creeping	4.8	5.0	4.7	4.6	2.7
33	PC1 Comp	Velvet	4.8	4.9	4.8	4.6	8.3
34	LS-44	Creeping	4.7	4.6	4.9	4.6	3.7
35	Penn G-1	Creeping	4.4	4.7	4.7	3.9	4.0
36	Pennlinks II/Penneagle II	Creeping	4.4	4.8	4.4	4.1	4.0
37	TDN1 Comp	Creeping	4.3	4.0	5.0	4.0	4.3
38	Mackenzie/Tyee	Creeping	4.3	4.4	4.3	4.2	2.7
39	SR 7200	Velvet	4.3	5.5	4.1	3.2	8.0
40	Independence	Creeping	4.2	4.3	4.3	4.1	2.7
41	Mackenzie	Creeping	4.1	4.4	3.6	4.2	2.7
42	T-1	Creeping	4.1	4.6	4.5	3.2	2.3
43	Penn A-4	Creeping	4.0	4.4	4.2	3.4	2.7
44	SR 1150	Creeping	4.0	4.7	3.6	3.5	4.0
45	L-93	Creeping	4.0	4.2	4.2	3.4	4.7
46	LAA-134	Velvet	4.0	4.1	4.1	3.8	3.3
47	DSH Comp	Colonial	3.7	4.7	3.3	3.2	7.3
48	MGD Comp	Colonial	3.7	5.0	3.4	2.8	7.7
49	Nintey-Six Two	Creeping	3.5	4.0	3.9	2.7	2.0
50	Sandhill	Creeping	3.5	3.8	3.6	3.2	4.7

(Continued)

Table 3 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2008-2010 Avg.	Turf Quality[1] 2008 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Dollar Spot[2] June 2010
51	DGD Comp	Colonial	3.4	4.4	3.2	2.7	6.7
52	SR 1119	Creeping	3.3	3.6	3.5	2.9	3.7
53	SR 1150/SR 1119	Creeping	3.3	3.9	3.2	2.9	2.7
54	Southshore	Creeping	3.3	3.5	3.3	3.0	2.7
55	EBM - FTO	Colonial	3.2	4.0	3.1	2.5	8.3
56	Providence	Creeping	3.2	3.2	3.3	3.1	4.0
57	Brighton	Creeping	2.9	3.0	2.8	2.9	3.0
58	Alpha	Creeping	2.9	2.9	3.4	2.6	2.7
59	PRO AT-1 BCD	Colonial	2.9	4.0	2.6	2.1	6.3
60	Alister	Colonial	2.5	3.7	2.2	1.7	6.3
61	PCC Comp	Colonial	2.2	2.9	2.0	1.9	7.3
	LSD at 5% =		0.7	0.7	0.9	1.1	1.4

[1]9 = best turf quality
[2]9 = least disease

Table 4. 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] 2008-2010 Avg.	Turf Quality[1] 2008 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Turf Wear Quality[2] 2010
1	FAC Comp	Creeping	6.2	5.9	6.5	6.3	7.4
2	Declaration	Creeping	5.8	6.0	6.7	4.6	3.2
3	13M	Creeping	5.7	5.5	6.3	5.5	4.1
4	TDN2 Comp	Creeping	5.7	6.9	5.4	4.8	5.9
5	OO7	Creeping	5.5	6.4	5.5	4.7	4.8
6	Memorial	Creeping	5.5	5.5	6.1	4.9	4.9
7	SRX 1WM	Creeping	5.4	6.1	5.5	4.4	3.9
8	RH 3-4	Creeping	5.3	5.8	5.2	5.1	6.0
9	MGD Comp	Colonial	5.3	5.5	5.5	5.0	6.2
10	Cobra 2	Creeping	5.3	5.5	4.7	5.6	6.1
11	Benchmark DSR	Creeping	5.2	5.6	5.7	4.5	3.8
12	CY-2	Creeping	5.2	5.6	4.9	5.3	3.9
13	Pin-Up	Creeping	5.2	6.2	5.6	3.9	4.4
14	Shark	Creeping	5.1	5.3	4.8	5.3	4.8
15	Tyee	Creeping	5.1	5.2	4.5	5.5	5.7
16	007/Mackenzie/Tyee	Creeping	5.0	5.3	4.5	5.3	5.4
17	007/SR 1150/Tyee	Creeping	5.0	5.6	4.7	4.7	5.3
18	007/SR 1150/Mackenzie	Creeping	5.0	5.9	4.1	5.1	5.3
19	RH 12-8	Creeping	5.0	5.2	4.2	5.5	5.8
20	Penneagle II	Creeping	4.9	4.8	4.4	5.6	4.4
21	Pennlinks II/Penneagle II	Creeping	4.9	5.1	4.5	5.4	5.1
22	Penn A-1	Creeping	4.9	5.2	4.5	5.1	5.2
23	EBM - FTO	Colonial	4.9	4.7	4.9	5.4	5.7
24	LS-44	Creeping	4.9	4.8	4.3	5.5	4.8
25	Sandhill	Creeping	4.9	5.0	4.5	5.1	3.8

(Continued)

Table 4 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2008-2010 Avg.	Turf Quality[1] 2008 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Turf Wear Quality[2] 2010
26	RH 13-4	Creeping	4.9	5.0	4.4	5.2	6.3
27	IS-AP 15	Creeping	4.8	5.9	4.7	3.8	6.4
28	IS-AT 8	Colonial	4.8	5.0	4.9	4.5	5.2
29	Mackenzie/Tyee	Creeping	4.8	5.1	3.9	5.4	5.5
30	T-1	Creeping	4.8	4.8	4.4	5.2	3.7
31	DSH Comp	Colonial	4.8	5.4	4.8	4.0	5.5
32	TDN1 Comp	Creeping	4.7	4.8	4.7	4.8	5.5
33	Penn G-1	Creeping	4.7	4.8	4.2	5.1	4.9
34	RH 5-24	Creeping	4.7	5.5	4.6	3.9	5.3
35	PCC Comp	Colonial	4.7	4.6	4.8	4.7	4.9
36	Independence	Creeping	4.6	5.2	3.8	4.9	6.1
37	Kingpin	Creeping	4.6	5.3	4.7	3.9	4.4
38	Runner	Creeping	4.6	4.9	4.2	4.8	5.4
39	PST-Syn-9DTM	Colonial	4.6	5.1	4.2	4.3	4.9
40	Penn A-4	Creeping	4.5	4.8	3.9	4.9	4.0
41	Mackenzie	Creeping	4.5	4.2	4.0	5.4	5.3
42	PST-9BNC	Colonial	4.5	4.2	4.8	4.6	5.4
43	PST-Syn-9HO	Colonial	4.5	4.8	4.3	4.2	5.3
44	DGD Comp	Colonial	4.4	5.2	3.9	4.2	5.4
45	SR 1150/SR 1119	Creeping	4.4	5.0	3.9	4.3	3.9
46	SR 1150	Creeping	4.2	5.1	3.6	3.9	3.6
47	Ninety-Six Two	Creeping	4.2	4.2	4.0	4.3	5.2
48	L-93	Creeping	4.2	4.3	3.9	4.5	4.2
49	Southshore	Creeping	4.2	4.2	3.7	4.7	4.0
50	PST-Syn-9DTE	Colonial	4.1	4.3	4.0	4.1	4.8

(Continued)

Table 4 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2008-2010 Avg.	Turf Quality[1] 2008 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Turf Wear Quality[2] 2010
51	Alister	Colonial	4.1	4.1	4.6	3.6	5.0
52	Glory	Colonial	4.1	4.4	4.0	3.9	4.2
53	SRX1CRCO	Colonial	4.1	4.4	3.6	4.4	3.1
54	SR 1119	Creeping	4.1	4.2	3.4	4.6	3.7
55	Tiger II	Colonial	4.0	4.3	3.9	3.8	3.6
56	Alpha	Creeping	3.9	4.0	3.5	4.4	3.4
57	Brighton	Creeping	3.9	3.7	3.7	4.3	4.2
58	PST-OETD Bulk	Creeping	3.8	3.6	4.1	3.7	4.4
59	Providence	Creeping	3.6	3.6	3.3	3.8	3.1
60	PRO AT-1 BCD	Colonial	3.5	4.2	3.5	2.8	2.9
61	SR 7100	Colonial	3.4	3.8	3.3	3.1	3.2
62	SRX7EE	Colonial	3.4	3.6	3.2	3.5	3.4
63	Penncross	Creeping	3.3	3.6	2.5	3.8	2.8
64	PST-OLTD Bulk	Creeping	3.1	3.0	3.0	3.4	3.7
65	SR 7150	Colonial	3.0	3.5	3.1	2.5	2.9
	LSD at 5% =		0.6	0.8	0.7	1.1	1.0

[1]9 = best turf quality
[2]9 = best turf quality under simulated wear conditions

Table 5. Performance of bentgrass cultivars in a putting green trial established in September 2008 at North Brunswick, NJ on a USGA sand green. (Includes all entries of the 2008 National Bentgrass Greens Test - NTEP.)

	Cultivar or Selection	Species	Turf Quality[1] 2009-2010 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Spring Green-up[2] April 2010	Genetic Color[3] Oct. 2010	Turf Density[4] Oct. 2010	Leaf Texture[5] Oct. 2010	Anthrac-nose[6] 2010
1	A08-TDN2	Creeping	7.8	7.5	8.0	8.7	6.7	7.7	7.7	8.3
2	PST-OJO	Creeping	7.6	7.5	7.7	8.7	4.0	8.0	8.0	7.2
3	Legendary	Velvet	7.1	7.4	6.8	6.0	4.3	7.3	9.0	6.5
4	Villa	Velvet	6.7	7.2	6.3	6.7	4.3	7.7	9.0	6.7
5	Shark	Creeping	6.7	7.0	6.5	7.3	5.7	7.0	7.0	6.7
6	Barracuda	Creeping	6.7	7.1	6.3	7.3	5.0	7.3	7.0	5.8
7	V8	Creeping	6.5	6.8	6.2	7.3	5.7	6.7	6.0	6.5
8	SRP-1GMC	Creeping	6.3	6.8	6.0	7.0	6.0	6.3	6.0	5.7
9	Proclamation	Creeping	6.3	6.4	6.2	6.3	5.0	7.0	6.3	5.8
10	Greenwich	Velvet	6.1	6.9	5.2	5.0	4.0	7.0	8.3	4.8
11	Declaration	Creeping	5.9	6.4	5.5	7.0	4.0	6.0	5.7	4.7
12	OO7	Creeping	5.7	5.9	5.5	6.0	5.7	5.7	6.0	5.7
13	Authority	Creeping	5.7	6.5	4.9	5.7	6.3	5.0	5.7	5.2
14	Pin-Up	Creeping	5.7	5.8	5.5	6.7	6.7	5.0	5.7	5.5
15	SRP-1BLTR3	Creeping	5.4	5.6	5.2	4.7	6.0	5.7	7.0	4.5
16	Penneagle II	Creeping	5.4	6.2	4.7	5.3	7.0	5.3	4.7	5.2
17	T-1	Creeping	5.4	6.1	4.6	5.7	8.3	4.7	5.3	3.8
18	Kingpin	Creeping	5.3	5.7	4.9	6.0	6.7	4.7	4.7	5.2
19	Penn A-4	Creeping	5.1	6.1	4.2	5.0	6.3	4.3	4.3	4.3
20	AFM	Creeping	5.0	5.2	4.7	6.0	4.0	4.7	4.7	4.5
21	Alpha	Creeping	4.9	5.8	4.0	5.0	6.3	3.7	4.3	3.8
22	Penn A-1	Creeping	4.8	5.3	4.3	4.3	6.3	4.7	5.0	3.7
23	SR 7200	Velvet	4.6	5.8	3.3	4.3	2.3	6.0	7.7	4.2
24	13M	Creeping	4.4	5.1	3.7	5.0	4.0	3.0	4.3	3.3
25	Tyee	Creeping	4.3	4.5	4.0	4.0	6.3	3.3	5.0	4.2

(Continued)

Table 5 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2009-2010 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Spring Green-up[2] April 2010	Genetic Color[3] Oct. 2010	Turf Density[4] Oct. 2010	Leaf Texture[5] Oct. 2010	Anthrac-nose[6] 2010
26	Memorial	Creeping	4.3	4.7	3.8	5.0	5.0	4.3	4.0	3.8
27	Crenshaw	Creeping	4.0	4.8	3.2	3.3	6.7	2.7	3.0	3.2
28	Penn A-2	Creeping	4.0	4.3	3.8	4.3	5.7	4.3	5.0	3.3
29	Penn G-2	Creeping	3.8	3.8	3.7	4.7	5.0	4.0	5.3	4.5
30	Southshore	Creeping	3.5	4.0	3.1	3.0	5.0	2.0	3.0	3.5
31	L-93	Creeping	3.5	4.0	3.0	3.7	5.3	3.7	3.7	2.7
32	Penncross	Creeping	3.1	3.8	2.3	3.7	4.3	1.0	1.0	2.0
	LSD at 5% =		0.7	0.8	0.9	1.0	1.7	1.5	1.5	1.4

[1]9 = best turf quality
[2]9 = earliest spring green-up
[3]9 = darkest green color
[4]9 = highest shoot density
[5]9 = finest leaf texture
[6]9 = least disease (average of two rating dates)

Table 6. Performance of creeping and velvet bentgrass cultivars and selections in a putting green trial seeded on a USGA sand green in September 2008 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2009-2010 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Anthracnose[2] April 2010	Sod Webworm[3] July 2010	Brown Patch[4] 2010
1	Tyee	Creeping	6.3	6.5	6.2	7.3	7.3	6.0
2	DC1 Comp	Creeping	6.2	5.7	6.8	7.7	6.3	5.3
3	Shark	Creeping	5.9	5.8	6.0	5.7	7.3	6.9
4	SRP 7P2162	Creeping	5.9	5.8	5.9	8.0	6.5	5.7
5	SRP 7P21622	Creeping	5.7	5.6	5.7	7.5	5.5	5.2
6	Mackenzie	Creeping	5.5	4.9	6.0	5.7	6.0	5.8
7	GSV1 Comp	Velvet	5.4	5.2	5.8	6.7	8.7	8.2
8	CY-2	Creeping	5.4	5.6	5.1	5.0	7.0	6.9
9	SEC Comp	Creeping	5.4	5.2	5.5	5.0	6.3	5.8
10	PSG 1RHTAV3	Creeping	5.1	4.8	5.5	6.7	5.7	5.4
11	SRP 7P21463	Creeping	5.0	5.4	4.7	6.0	7.3	6.8
12	ESS Comp	Creeping	5.0	5.0	5.0	4.0	5.7	5.3
13	SR 1150	Creeping	4.9	4.7	5.1	4.3	7.3	6.1
14	Greenwich	Velvet	4.9	5.2	4.8	4.7	7.3	7.5
15	PSG 7PC2	Velvet	4.9	5.0	4.8	6.3	9.0	7.9
16	Cobra 2	Creeping	4.9	4.7	5.0	3.0	5.3	5.1
17	07-PC2 Comp	Velvet	4.9	5.2	4.6	5.0	8.0	8.0
18	SRP 721461	Creeping	4.9	4.9	4.9	4.0	7.0	6.0
19	OO7	Creeping	4.8	5.0	4.7	3.0	5.0	4.8
20	PSG 1RHG1	Creeping	4.8	4.6	5.1	4.7	7.7	7.0
21	PSG 1RHTAV2	Creeping	4.8	5.2	4.5	5.7	5.0	4.7
22	Legendary	Velvet	4.8	5.1	4.5	5.3	7.7	7.6
23	PST-ODJ Bulk	Creeping	4.7	5.1	4.3	5.7	6.7	6.0
24	SRP 7P2152	Creeping	4.7	4.9	4.6	5.0	7.7	6.3
25	LS-44	Creeping	4.7	4.8	4.5	4.7	6.7	5.3

(Continued)

Table 6 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2009-2010 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Anthracnose[2] April 2010	Sod Webworm[3] July 2010	Brown Patch[4] 2010
26	Declaration	Creeping	4.7	4.9	4.4	3.7	5.3	5.5
27	Penn G-1	Creeping	4.6	4.6	4.6	3.7	6.7	6.3
28	PSG 1RHTAV1	Creeping	4.6	4.8	4.4	4.7	4.0	3.8
29	MSS Comp	Creeping	4.6	4.3	4.8	3.0	6.0	5.8
30	13M	Creeping	4.5	5.0	3.9	4.0	7.0	6.3
31	GSV4 Comp	Velvet	4.3	4.5	4.1	5.0	9.0	8.5
32	SRP 7P2102	Creeping	4.2	4.0	4.4	4.5	7.0	6.0
33	SRP 7P2166	Creeping	4.1	4.1	4.1	4.0	6.3	6.0
34	PSG 1RHG12	Creeping	3.9	3.8	4.1	3.7	7.7	7.0
35	Villa	Velvet	3.9	4.6	3.2	6.0	7.7	7.9
36	PST-Syn-VN4	Velvet	3.9	3.8	4.0	4.3	8.3	7.9
37	GSV3 Comp	Velvet	3.9	4.4	3.4	4.5	8.3	8.2
38	07-PC1 Comp	Velvet	3.9	4.4	3.3	4.3	7.3	7.2
39	GSV2 Comp	Velvet	3.8	4.1	3.5	3.3	8.0	8.2
40	Crenshaw	Creeping	3.8	4.0	3.6	2.3	7.3	6.2
41	PST-OPUF Bulk	Creeping	3.5	3.3	3.8	4.5	5.3	4.9
42	SR 1119	Creeping	3.4	3.7	3.1	1.7	7.3	6.8
43	Providence	Creeping	3.3	3.7	3.0	1.7	7.3	6.7
44	PSG 1RHG13	Creeping	3.3	2.7	3.9	4.0	7.0	6.7
45	PST-Syn-OPXS	Creeping	3.0	3.4	2.7	2.3	6.7	5.9
46	Brighton	Creeping	3.0	3.4	2.5	1.3	6.3	6.4
47	Penncross	Creeping	2.5	3.0	2.1	1.7	7.3	6.7
48	SR 7200	Velvet	2.1	1.9	2.3	3.3	7.7	7.3
49	Sandhill	Creeping	2.0	2.0	2.0	2.0	7.0	6.5

(Continued)

Table 6 (continued).

Cultivar or Selection	Species	Turf Quality[1] 2009-2010 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Anthracnose[2] April 2010	Sod Webworm[3] July 2010	Brown Patch[4] 2010
LSD at 5% =		0.9	1.1	1.2	1.8	1.8	1.5

[1]9 = best turf quality
[2]9 = least disease
[3]9 = least damage from sod webworm
[4]9 = least disease (average of three rating dates)

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

(Continued)

Table 7 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2009-2010 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Snow Mold[2] March 2010	Spring Green-up[3] April 2010	Brown Patch[2] Aug. 2010	Genetic Color[4] Oct. 2010	Turf Density[5] Oct. 2010	Leaf Texture[6] Oct. 2010
21	Memorial	Creeping	4.8	5.2	4.3	5.3	5.3	5.3	6.3	3.7	4.0
22	L-93	Creeping	4.6	4.9	4.3	7.0	3.7	5.7	6.0	4.3	5.0
23	Princeville	Creeping	3.6	3.9	3.3	3.7	3.0	6.0	2.7	2.0	2.7
24	PST-R9D7	Colonial	3.5	3.7	3.3	4.3	5.0	3.7	2.3	3.3	6.0
25	Penncross	Creeping	3.4	4.5	2.3	8.3	2.3	4.7	5.3	1.0	1.3
	LSD at 5% =		0.6	0.7	0.8	2.1	1.6	1.6	1.3	1.7	1.2

[1]9 = best turf quality
[2]9 = least disease
[3]9 = earliest spring green-up
[4]9 = darkest green color
[5]9 = highest shoot density
[6]9 = finest leaf texture

Table 8. 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] 2009-2010 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Brown Patch[2] 2010
1	DC1 Comp	Creeping	6.5	6.5	6.6	9.0
2	SEC Comp	Creeping	6.4	6.0	6.9	8.8
3	07-MGD Comp	Colonial	6.3	6.4	6.1	3.5
4	MSS Comp	Creeping	6.2	6.2	6.3	8.8
5	NBC Comp	Colonial	6.2	6.3	6.1	5.3
6	ESS Comp	Creeping	6.1	5.6	6.5	8.8
7	Tyee	Creeping	6.0	5.9	6.2	7.3
8	SDS Comp	Colonial	5.9	6.2	5.7	5.2
9	Shark	Creeping	5.9	5.8	6.1	8.5
10	Authority	Creeping	5.9	5.8	6.1	9.0
11	OO7	Creeping	5.8	5.7	5.9	8.5
12	BQC Comp	Colonial	5.5	5.5	5.5	5.5
13	Penn A-4	Creeping	5.5	5.5	5.4	7.2
14	PST-Syn-9HO	Colonial	5.4	5.8	5.1	3.2
15	Penneagle II	Creeping	5.4	5.4	5.5	8.3
16	Declaration	Creeping	5.4	5.9	4.9	9.0
17	Independence	Creeping	5.4	5.6	5.1	7.7
18	EBM	Colonial	5.3	5.7	4.8	3.7
19	PRO AT-1	Colonial	5.2	5.6	4.8	4.0
20	Mackenzie	Creeping	5.1	4.7	5.6	7.0
21	PST-Syn-9BC3	Colonial	5.0	5.4	4.7	3.2
22	PBP Comp	Colonial	5.0	5.1	4.9	4.7
23	Penn G-1	Creeping	5.0	4.8	5.2	7.5
24	13M	Creeping	5.0	5.2	4.7	8.3
25	Revere (EWTR)	Colonial	4.9	5.2	4.6	4.8

(Continued)

Table 8 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2009-2010 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Brown Patch[2] 2010
26	SR 1150	Creeping	4.9	4.7	5.1	8.0
27	PSG 1RHG1	Creeping	4.9	5.1	4.7	8.3
28	PST-Syn-9NCS	Colonial	4.8	4.8	4.9	2.8
29	Kingpin	Creeping	4.8	5.1	4.4	7.3
30	Tiger II	Colonial	4.6	5.0	4.3	2.2
31	PST-Syn-9MS	Colonial	4.6	5.1	4.2	3.0
32	PST-920 Bulk	Colonial	4.6	4.8	4.4	3.3
33	Putter	Creeping	4.6	4.9	4.3	7.5
34	PST-9NCS Bulk	Colonial	4.6	4.7	4.4	2.8
35	Memorial	Creeping	4.6	4.9	4.3	7.2
36	T-1	Creeping	4.5	4.8	4.2	7.3
37	Alpha	Creeping	4.5	4.6	4.4	8.2
38	Alister	Colonial	4.4	4.8	4.1	2.2
39	07-PCC Comp	Colonial	4.4	4.3	4.6	4.5
40	L-93	Creeping	4.4	4.6	4.2	8.0
41	PST-OPUF Bulk	Creeping	4.4	4.0	4.8	8.5
42	Crenshaw	Creeping	4.3	4.5	3.9	7.3
43	SR 7100	Colonial	4.1	4.3	3.9	2.5
44	Penn G-2	Creeping	4.1	3.7	4.5	7.2
45	PSG 1RHG12	Creeping	4.0	4.2	3.8	8.3
46	Glory	Colonial	4.0	4.5	3.5	3.0
47	Southshore	Creeping	4.0	4.4	3.6	7.8
48	SR 1119	Creeping	3.9	3.9	3.8	7.2
49	SR 7150	Colonial	3.7	4.1	3.2	2.7
50	PSG 1RHG13	Creeping	3.7	3.7	3.7	8.0

(Continued)

Table 8 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2009-2010 Avg.	Turf Quality[1] 2009 Avg.	Turf Quality[1] 2010 Avg.	Brown Patch[2] 2010
51	PST-Syn-OPXS	Creeping	3.6	3.6	3.5	7.3
52	PST-ODJ Bulk	Creeping	3.5	4.0	3.0	7.5
53	Brighton	Creeping	3.4	3.9	3.0	6.5
54	Providence	Creeping	3.3	3.5	3.1	7.2
55	Penncross	Creeping	3.0	3.7	2.3	5.8
56	Sandhill	Creeping	2.9	2.5	3.3	7.0
57	PST-9TO Bulk	Colonial	1.9	1.7	2.0	4.7
58	Exeter	Colonial	1.4	1.4	1.5	4.2
	LSD at 5% =		0.7	0.7	0.9	1.2

[1]9 = best turf quality
[1]9 = least disease (average of two rating dates)

Table 9. Performance of creeping, velvet, and colonial bentgrass cultivars and selections in a putting green trial seeded on a USGA sand green in September 2009 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Anthracnose[3] Sept. 2010	Dollar Spot[4] 2010	Copper Spot[4] 2010
1	TDN2	Creeping	7.2	8.0	7.0	7.3	7.2	7.7
2	H05TP-300-1	Creeping	7.2	7.0	7.7	7.3	8.7	7.2
3	PSG 7PC2	Velvet	7.1	6.3	9.0	7.3	8.5	7.5
4	CAS2 Comp	Creeping	7.0	4.0	7.3	8.3	8.3	7.8
5	RJM 513	Creeping	7.0	7.5	6.5	9.0	6.5	7.5
6	PGC Comp	Creeping	7.0	5.0	7.0	8.7	7.5	7.5
7	H05TP-295-12	Creeping	7.0	6.3	6.3	7.0	7.8	6.5
8	Barracuda	Creeping	6.9	7.7	5.7	7.0	7.3	8.2
9	LQC Comp	Creeping	6.9	5.0	6.0	8.3	7.2	7.0
10	RJM 26	Creeping	6.9	7.5	6.0	8.5	7.5	7.8
11	H05TP-295-1	Creeping	6.8	5.3	6.3	7.0	7.7	5.8
12	RJM 412	Creeping	6.7	5.5	6.0	9.0	6.5	7.3
13	IS-AC 5	Velvet	6.7	7.3	9.0	5.7	8.3	5.8
14	SRP 1WM	Creeping	6.7	8.5	5.5	4.5	8.5	7.5
15	IS-AP 15	Creeping	6.6	7.7	6.3	7.0	7.8	4.0
16	Authority	Creeping	6.6	7.3	7.7	7.3	7.2	6.0
17	RH 0839	Creeping	6.5	7.3	5.0	6.7	6.8	7.0
18	IS-AC 4	Velvet	6.5	6.7	9.0	5.7	8.8	8.2
19	Legendary	Velvet	6.4	8.0	9.0	4.3	8.7	7.2
20	IS-AP 18	Creeping	6.4	8.7	5.0	6.7	6.7	4.5
21	Pin-Up	Creeping	6.4	6.7	6.0	4.7	8.0	6.5
22	Greenwich	Velvet	6.4	7.7	7.7	4.3	8.3	6.3
23	RJM 56	Creeping	6.4	8.5	6.5	9.0	5.5	8.3
24	Shark	Creeping	6.3	6.7	5.7	7.3	5.8	7.7
25	RH 931	Creeping	6.3	7.3	7.7	7.7	6.0	8.0

(Continued)

Table 9 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Anthracnose[3] Sept. 2010	Dollar Spot[4] 2010	Copper Spot[4] 2010
26	OO7	Creeping	6.2	9.0	6.0	4.7	7.5	6.3
27	DQC Comp	Creeping	6.1	4.7	6.7	7.0	7.5	7.0
28	Tyee/OO7	Creeping	6.1	7.7	6.7	6.3	7.0	7.7
29	Declaration	Creeping	6.1	9.0	5.7	3.7	8.0	5.7
30	Villa	Velvet	6.1	7.7	9.0	4.3	8.5	5.5
31	BCQ Comp	Colonial	6.0	5.3	6.0	8.3	8.5	9.0
32	SRP 1BLTR3	Creeping	6.0	7.3	4.3	6.3	5.3	6.3
33	TDN2/A-1	Creeping	5.9	8.3	7.7	5.7	6.3	7.5
34	Cobra 2	Creeping	5.9	8.0	6.3	5.0	7.7	6.8
35	RH 081	Creeping	5.9	8.3	6.0	6.7	7.2	7.0
36	SR 1150	Creeping	5.9	7.7	4.3	6.7	7.3	7.7
37	SRP 1GMC	Creeping	5.9	7.0	4.3	6.3	8.3	6.8
38	H04TP-211-7-9	Creeping	5.9	5.7	6.7	5.7	7.5	6.0
39	MDV Comp	Velvet	5.8	3.3	9.0	7.3	7.5	8.7
40	OO7/SR 1150	Creeping	5.8	7.7	5.0	5.0	6.8	7.2
41	CAS1 Comp	Creeping	5.8	3.3	7.3	7.0	7.0	7.7
42	A-1	Creeping	5.8	7.7	6.3	3.7	7.3	7.8
43	PST-Syn-VR05	Velvet	5.8	4.3	9.0	5.3	9.0	7.8
44	SR 7200	Velvet	5.7	7.0	6.7	4.0	8.8	7.2
45	VDE Comp	Velvet	5.7	3.7	9.0	6.7	8.7	8.7
46	MDS Comp	Velvet	5.6	3.0	8.7	6.3	8.7	8.7
47	WBM Comp	Colonial	5.6	5.0	6.7	8.0	7.3	9.0
48	SSS Comp	Velvet	5.5	2.3	9.0	7.3	8.5	8.3
49	PST-Syn-VH5	Velvet	5.5	5.0	9.0	7.7	8.5	7.3
50	Runner	Creeping	5.5	8.3	6.7	5.0	4.7	6.8

(Continued)

Table 9 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Anthracnose[3] Sept. 2010	Dollar Spot[4] 2010	Copper Spot[4] 2010
51	PSG RHG12	Creeping	5.5	7.7	6.7	4.7	6.2	6.7
52	OO7/Mackenzie/Tyee	Creeping	5.5	7.7	4.7	5.0	6.3	8.0
53	RH TAV318	Creeping	5.4	7.7	5.7	7.3	5.2	6.5
54	H05TP-269-8	Creeping	5.4	4.7	5.3	5.0	7.2	4.3
55	TDN2/A-1/Memorial	Creeping	5.4	8.3	5.0	4.3	6.2	7.5
56	RH TAV317	Creeping	5.4	7.0	5.3	5.3	5.5	5.2
57	FWC Comp	Colonial	5.4	4.7	7.0	7.7	7.5	9.0
58	RH TAV327	Creeping	5.3	7.7	5.3	5.3	5.7	4.3
59	OO7/Mackenzie	Creeping	5.3	8.0	5.7	4.3	5.8	7.2
60	SRP 2117	Velvet	5.3	6.7	6.0	4.0	7.0	8.3
61	WBE Comp	Colonial	5.3	5.0	5.7	7.0	8.5	9.0
62	Penn A-1/Penn A-4	Creeping	5.3	7.0	6.3	5.0	6.2	8.3
63	RH TAV34	Creeping	5.3	7.0	5.3	7.0	6.2	5.8
64	OO7/SR1119	Creeping	5.3	7.7	4.3	3.3	6.0	6.8
65	Crystal Bluelinks	Creeping	5.2	7.3	6.3	3.0	7.2	8.0
66	H05TP-276-2	Creeping	5.2	3.0	6.3	8.0	6.8	7.3
67	H05TP-290-2	Creeping	5.2	2.3	7.3	6.7	7.5	7.3
68	PST-ODJ Bulk	Creeping	5.2	4.3	6.3	3.3	7.8	8.0
69	DPAZ1	Creeping	5.2	7.0	4.3	3.3	6.8	5.3
70	DPAZ7	Creeping	5.1	6.7	5.3	7.3	5.8	8.0
71	Mackenzie	Creeping	5.1	8.7	5.0	6.0	5.2	6.5
72	Penn G-1	Creeping	5.1	8.0	6.0	3.7	6.2	7.5
73	Independence	Creeping	5.1	4.7	6.3	6.3	5.7	7.8
74	CY-2	Creeping	5.1	8.3	5.7	4.0	6.5	7.3
75	SL TAZ2	Creeping	5.1	7.3	3.3	3.3	5.8	5.2

(Continued)

Table 9 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Anthracnose[3] Sept. 2010	Dollar Spot[4] 2010	Copper Spot[4] 2010
76	13M	Creeping	5.0	8.0	4.7	3.3	8.2	7.2
77	SL TAZ3	Creeping	5.0	7.0	4.3	5.3	4.8	4.8
78	SRP 72P2	Velvet	5.0	8.0	5.0	5.3	5.7	6.8
79	Penn G-6	Creeping	5.0	5.7	5.3	4.3	5.8	7.5
80	T-1	Creeping	5.0	7.7	5.0	3.3	6.2	8.2
81	RH TAV524	Creeping	5.0	7.0	5.7	4.7	5.0	5.3
82	SRP 2163	Velvet	5.0	6.3	5.7	5.3	7.7	8.5
83	Pennlinks II/Penneagle II	Creeping	4.9	7.3	6.0	3.7	6.7	8.3
84	Penn A-4	Creeping	4.9	6.7	4.7	2.3	6.8	8.3
85	LS-44	Creeping	4.9	8.0	5.7	3.7	6.7	7.2
86	Penneagle II	Creeping	4.9	7.7	4.7	3.7	7.3	7.0
87	96-2	Creeping	4.8	8.7	5.3	4.3	5.2	8.0
88	H05TP-207-4	Creeping	4.8	7.3	5.3	3.3	8.0	4.7
89	SRP 2161	Velvet	4.8	8.0	5.0	3.3	6.0	7.7
90	WLC Comp	Colonial	4.8	3.3	6.7	6.7	8.8	9.0
91	SRP 72P4	Velvet	4.8	7.7	6.3	3.3	6.0	8.2
92	SRP 2169	Velvet	4.8	7.5	7.5	3.5	4.5	7.5
93	Kingpin	Creeping	4.8	7.7	4.3	2.7	7.7	7.3
94	Penn A-2	Creeping	4.7	6.3	5.7	3.0	6.2	7.3
95	Penn G-1	Creeping	4.7	6.0	5.0	5.0	6.8	8.0
96	SR 1150/SR 1119	Creeping	4.7	7.7	4.3	3.7	6.3	8.2
97	BCD	Colonial	4.7	5.7	5.7	2.7	8.0	9.0
98	Memorial	Creeping	4.6	7.7	6.0	3.0	7.7	6.8
99	Mackenzie/Penn G-1	Creeping	4.6	7.0	5.0	5.0	6.0	8.7
100	Tyee	Creeping	4.6	7.0	5.7	6.0	5.5	7.3

(Continued)

Table 9 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Anthracnose[3] Sept. 2010	Dollar Spot[4] 2010	Copper Spot[4] 2010
101	RH TAV36	Creeping	4.6	8.0	6.5	4.0	4.0	6.8
102	SRP 2127	Velvet	4.6	5.5	4.5	3.5	6.8	6.8
103	Pennlinks II	Creeping	4.5	8.0	5.3	2.3	7.2	7.8
104	SRP 2186	Velvet	4.5	5.5	7.5	4.0	5.8	6.8
105	Penn G-2	Creeping	4.5	7.3	5.0	2.3	5.2	8.0
106	SRP 72P3	Velvet	4.5	6.3	5.3	4.3	5.2	7.0
107	RH TAV37	Creeping	4.4	7.7	5.7	2.3	3.5	3.5
108	Alpha	Creeping	4.4	8.3	3.7	2.3	6.7	7.3
109	Sandhill	Creeping	4.4	8.3	4.7	2.0	6.8	7.5
110	SL TAZ1	Creeping	4.4	3.0	3.5	4.5	5.0	7.3
111	SRP 2145	Velvet	4.4	4.0	5.0	3.5	6.8	7.8
112	PST-Syn-0R56	Creeping	4.3	3.3	5.3	3.3	7.2	6.8
113	SR 1119	Creeping	4.3	8.3	3.3	2.0	5.7	8.0
114	SRP 2168	Velvet	4.3	6.0	4.7	4.0	5.0	7.5
115	SRP 2145	Velvet	4.3	6.7	4.7	3.3	4.8	8.3
116	Century	Creeping	4.2	8.3	4.7	3.0	3.2	6.5
117	SRP 72P1	Velvet	4.2	8.0	5.3	3.3	4.8	7.5
118	Southshore	Creeping	4.2	8.7	5.0	2.3	5.7	8.0
119	Putter	Creeping	4.2	8.3	3.7	2.0	5.0	8.7
120	WQD Comp	Colonial	4.1	4.0	5.7	4.3	8.7	9.0
121	Providence	Creeping	4.1	7.7	4.7	2.0	6.8	8.5
122	SRP 2148	Velvet	4.1	8.0	5.3	2.3	5.3	5.0
123	Crenshaw	Creeping	3.9	9.0	5.0	2.7	3.7	6.8
124	L-93	Creeping	3.9	8.7	3.7	2.3	7.7	7.2
125	Seaside II	Creeping	3.8	7.7	5.3	2.3	7.5	7.8

(Continued)

Table 9 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Anthracnose[3] Sept. 2010	Dollar Spot[4] 2010	Copper Spot[4] 2010
126	Brighton	Creeping	3.4	8.0	3.7	1.3	6.2	7.3
127	SRP 2164	Velvet	3.4	4.0	3.0	1.0	7.8	6.8
128	PST-OPUF Bulk	Creeping	3.2	1.3	6.3	3.7	7.0	8.3
129	Penncross	Creeping	2.9	7.0	6.0	1.0	6.3	7.3
	LSD at 5% =		0.9	1.8	1.9	2.2	1.9	2.2

[1]9 = best turf quality
[2]9 = best establishment after seeding
[3]9 = least disease
[4]9 = least disease (average of two rating dates)

Table 10. Performance of colonial, creeping and velvet bentgrass cultivars and selections in a fairway trial seeded in September 2009 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Copper Spot[4] July 2010	Dollar Spot[3] Sept. 2010
1	BCQ Comp	Colonial	6.9	8.0	5.7	.	8.7
2	WBM Comp	Colonial	6.8	7.3	5.3	.	9.0
3	WBE Comp	Colonial	6.7	7.7	4.7	.	8.7
4	WLC Comp	Colonial	6.3	7.0	6.0	.	9.0
5	CAS2 Comp	Creeping	6.3	8.0	8.7	7.3	6.3
6	SRP 1GMC	Creeping	6.2	7.7	8.3	8.0	7.3
7	MDV Comp	Velvet	6.1	5.3	8.3	7.7	8.3
8	Barracuda	Creeping	6.0	9.0	6.7	7.0	7.0
9	SRP 1WM	Creeping	6.0	7.0	8.0	7.7	8.0
10	IS-AC 5	Velvet	6.0	6.3	7.7	5.3	8.0
11	A08-FT12	Colonial	5.9	7.7	5.3	.	8.0
12	WQD Comp	Colonial	5.9	6.7	4.0	.	8.7
13	LQC Comp	Creeping	5.9	7.3	8.3	7.3	6.7
14	IS-AP 15	Creeping	5.9	9.0	8.3	4.3	6.0
15	VDE Comp	Velvet	5.9	5.7	7.0	6.3	8.7
16	IS-AC 4	Velvet	5.8	7.0	7.7	4.3	9.0
17	IS-AP 18	Creeping	5.8	8.3	8.3	6.0	7.3
18	PSG 7PC2	Velvet	5.8	5.0	7.0	6.3	8.0
19	TDN2	Creeping	5.7	8.0	8.7	7.7	5.7
20	PST-Syn-9HO	Colonial	5.6	8.0	5.3	.	6.0
21	Shark	Creeping	5.6	8.7	7.3	4.0	5.7
22	IS-AT 10	Colonial	5.6	9.0	4.3	.	7.7
23	MDS Comp	Velvet	5.6	5.0	8.0	7.7	7.7
24	Greentime	Colonial	5.5	9.0	4.0	.	8.0
25	CAS1 Comp	Creeping	5.5	6.0	7.3	7.3	6.3

(Continued)

Table 10 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Copper Spot[4] July 2010	Dollar Spot[3] Sept. 2010
26	Runner	Creeping	5.5	9.0	8.0	5.3	6.0
27	Villa	Velvet	5.5	7.7	6.7	2.7	8.7
28	CY-2	Creeping	5.5	8.7	6.0	4.0	7.7
29	Pin-Up	Creeping	5.5	8.7	6.7	7.3	7.0
30	SR 7200	Velvet	5.4	6.7	7.0	5.0	7.7
31	SSS Comp	Velvet	5.4	4.0	7.7	7.3	8.3
32	Authority	Creeping	5.4	8.0	7.3	6.0	3.7
33	Tiger 2	Colonial	5.4	8.0	4.0	.	6.7
34	Pennlinks II/Penneagle II	Creeping	5.3	8.3	6.7	5.0	5.0
35	FWC Comp	Colonial	5.3	7.0	5.0	.	5.0
36	Declaration	Creeping	5.3	8.7	5.7	8.0	8.3
37	OO7	Creeping	5.3	9.0	5.7	6.7	6.0
38	Cobra 2	Creeping	5.2	8.3	7.7	2.7	5.7
39	Memorial	Creeping	5.2	9.0	5.3	5.7	7.7
40	TDN2/Memorial	Creeping	5.2	9.0	7.0	6.7	5.3
41	PST-Syn-0COL	Creeping	5.1	7.3	3.3	.	7.7
42	BCD	Colonial	5.1	7.3	3.7	.	7.0
43	Crystal Bluelinks	Creeping	4.9	8.7	5.7	4.7	6.3
44	RH 931	Creeping	4.9	8.0	7.0	5.3	5.3
45	OO7/SR 1150	Creeping	4.9	9.0	6.7	4.3	7.0
46	A-1	Creeping	4.8	8.3	6.0	6.0	5.3
47	Penneagle II	Creeping	4.8	9.0	6.7	4.7	4.7
48	PST-9NCS-Bulk	Colonial	4.8	7.3	4.0	.	5.7
49	Penn G-1	Creeping	4.8	8.0	6.0	5.0	4.7
50	SRP 1BLTR3	Creeping	4.8	7.3	6.0	5.7	5.7

(Continued)

Table 10 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Copper Spot[4] July 2010	Dollar Spot[3] Sept. 2010
51	OO7/Mackenzie	Creeping	4.7	9.0	6.0	3.7	5.3
52	SR 7100	Colonial	4.7	6.3	3.3	.	7.3
53	SR 1150/SR 1119	Creeping	4.7	8.0	5.7	5.7	7.0
54	PST-Syn-9BNC	Colonial	4.6	6.3	3.3	.	5.7
55	Penn G-1	Creeping	4.6	8.7	7.0	3.3	4.3
56	Glory	Colonial	4.6	8.3	3.7	.	5.3
57	Kingpin	Creeping	4.6	8.3	5.3	6.7	7.0
58	PST-Syn-0R56	Creeping	4.5	8.7	6.7	6.7	4.7
59	SR 7150	Colonial	4.5	7.7	3.0	.	5.0
60	13M	Creeping	4.5	8.7	4.3	5.0	8.0
61	PSG RHG12	Creeping	4.5	7.7	6.7	5.7	6.0
62	Tyee/OO7	Creeping	4.5	8.7	5.7	4.3	5.3
63	Penn A-1/Penn A-4	Creeping	4.5	9.0	7.3	4.3	4.0
64	PST-Syn-9DR5	Colonial	4.4	7.0	4.7	.	7.0
65	SR 1150	Creeping	4.4	9.0	6.0	4.7	5.7
66	Penn G-2	Creeping	4.4	8.7	5.7	4.0	3.7
67	OO7/Mackenzie/Tyee	Creeping	4.4	8.7	6.0	4.0	3.7
68	L-93	Creeping	4.3	9.0	5.7	6.0	5.0
69	OO7/SR 1119	Creeping	4.3	8.3	4.7	6.3	6.3
70	Penn G-6	Creeping	4.2	8.7	7.3	4.7	4.7
71	Penn A-2	Creeping	4.1	8.7	7.0	4.3	4.0
72	Alpha	Creeping	4.1	8.3	4.7	6.0	5.3
73	Alister	Colonial	4.1	6.7	3.3	.	4.0
74	T-1	Creeping	4.0	9.0	5.0	6.0	4.3
75	Independence	Creeping	3.9	7.0	7.0	5.3	2.7

(Continued)

Table 10 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2010	Turf Establishment[2] Oct. 2009	Brown Patch[3] July 2010	Copper Spot[4] July 2010	Dollar Spot[3] Sept. 2010
76	Sandhill	Creeping	3.9	7.7	5.7	6.3	4.7
77	Penn A-4	Creeping	3.8	8.7	6.3	3.7	2.0
78	Pennlinks II	Creeping	3.8	7.7	5.0	5.3	4.3
79	Mackenzie/Penn G-1	Creeping	3.7	8.0	4.0	4.3	3.7
80	Tyee	Creeping	3.7	8.3	5.0	5.7	3.7
81	Seaside II	Creeping	3.6	9.0	4.7	6.0	6.0
82	Southshore	Creeping	3.5	8.7	4.3	6.3	4.3
83	Ninety-Six Two	Creeping	3.5	9.0	5.0	3.7	2.0
84	Providence	Creeping	3.5	9.0	4.0	5.0	5.3
85	Mackenzie	Creeping	3.5	8.7	3.0	5.3	3.3
86	Penncross	Creeping	3.4	8.7	4.3	5.3	3.0
87	Crenshaw	Creeping	3.3	9.0	6.0	4.3	1.3
88	Putter	Creeping	3.3	8.3	4.3	7.0	2.7
89	SR 1119	Creeping	3.2	8.3	3.7	7.3	4.0
90	Century	Creeping	3.1	9.0	5.0	4.3	1.3
91	Brighton	Creeping	3.0	9.0	3.0	5.3	5.7
	LSD at 5% =		0.8	1.3	1.7	2.3	1.9

[1]9 = best turf quality
[2]9 = best establishment after seeding
[3]9 = least disease
[4]9 = least disease (colonial bentgrass entries were not assessed for copper spot)

Table 11. Maintenance practices performed in 2010 on bentgrass trials at North Brunswick, NJ.

Table	Test	Fertility[1]	Mowing Height (inches)	Cultivation/ Top Dress	Fungicides	Insecticides	Herbicides
1	2006 Greens	0.5	1/8	April/May/ June/July–top dressed May/June/ July/Sept.– Tricure AD (wetting agent)	May–Subdue Maxx; Daconil Ultrex June–Daconil Ultrex/Signature; Emerald/Spectro 90 July–Chipco 26GT/Curalan/ Signature Sept.–Docket DF/Bayleton Flo/Segway Oct.–Daconil Ultrex/Chipco 26GT	June–Merit (grubs) Sept.–Talstar (cutworms)	June–Dimension (pre-emergence weeds)
2	2006 Fairway	1.0	3/8	May/June/ July/Sept.– Tricure AD (wetting agent)	May–Subdue Maxx; Daconil Ultrex June–Daconil Ultrex/Signature; Emerald/Spectro 90 July–Chipco 26GT/Curalan/ Signature Sept.–Docket DF/Bayleton Flo/Segway Oct.–Daconil Ultrex/Chipco 26GT	June–Merit (grubs)	June–Dimension (pre-emergence weeds)

(Continued)

Table 11 (continued).

Table	Test	Fertility[1]	Mowing Height (inches)	Cultivation/ Top Dress	Fungicides	Insecticides	Herbicides
3	2007 Greens	0.45	1/8	April/May–top dressed April/June/ July–Tricure AD (wetting agent)	April–Subdue Maxx May–ProStar/Emerald June–Curalan EG/Heritage WG; Emerald/ProStar 70WDG July–Heritage WG/Curalan EG Aug.–ProStar 70WDG; Emerald Oct.–Curalan EG	June–Merit (grubs)	June–Dimension (pre-emergence weeds)
4	2007 Fairway/ Tee	2.98	3/8	April/June/ July/Aug./ Sept.–Tricure AD (wetting agent)	June–Signature/Daconil Ultrex July–Signature/Daconil Ultrex; Segway Aug.–Bayleton Flo/Disarm 480SC Sept.–Docket DF/Bayleton Flo/Segway Oct.–Daconil Ultrex/Chipco 26GT	June–Merit (grubs) July–Wisdom (cut-worm/sod webworms)	April/June–Dimension (pre-emergence weeds) May–Weedar 64 (broad-leaf weeds)/Banvel/ Lontrel (post emergence weeds)

(Continued)

Table 11 (continued).

Table	Test	Fertility[1]	Mowing Height (inches)	Cultivation/ Top Dress	Fungicides	Insecticides	Herbicides
5	2008 Greens (NTEP)	2.89 + Micro-green[2]	1/8	April/May/ June/July/ Oct.–top dressed July/Aug/ Sept.–Tricure AD (wetting agent)	April–Subdue Maxx May–Daconil Ultrex; Subdue Maxx June–Daconil Ultrex/Signa-ture; Subdue Maxx; Bayleton Flo; Segway/Emerald/Spectro 90 July–Chipco 26GT/Signature/ Curalan Sept.–Subdue Maxx/Docket DF/Torque Oct.–Chipco 26GT/Subdue Maxx/Daconil Ultrex; Banner Maxx	July–Wisdom (cut-worm/sod webworms)	None
6	2008 Greens	2.39 + Micro-green[2]	1/8	April/May/ June/July/ Oct.–top dressed July/Aug./ Sept.–Tricure AD (wetting agent)	April–Subdue Maxx May–Daconil Ultrex Oct.–Daconil Ultrex/Banner Maxx	July–Wisdom (cut-worm/sod webworms)	None

(Continued)

Table 11 (continued).

Table	Test	Fertility[1]	Mowing Height (inches)	Cultivation/ Top Dress	Fungicides	Insecticides	Herbicides
7	2008 Fairway (NTEP)	3.75	3/8	April/May/ June/July/ Aug./Sept.– Tricure AD (wetting agent)	May–Subdue Maxx; Daconil Ultrex June–Subdue Maxx; Daconil Ultrex/Signature; Emerald/Spectro 90 July–Segway; Chipco 26GT/Curalan EG/ Signature Oct.–Daconil Ultrex/Chipco 26GT/Subdue Maxx; Banner Maxx	June–Merit (grubs) July–Wisdom (cutworm/sod webworms)	April/May–Dimension (pre-emergence weeds)
8	2008 Fairway/ Tee	2.47	3/8	May/June/ July/Aug.–Tricure AD (wetting agent)	May–Subdue Maxx July–Signature/Daconil Ultrex; Segway; Chipco 26GT/Curalan EG/ Signature	July–Wisdom (cutworm/sod webworms)	April/June–Dimension (pre-emergence weeds) June–Velocity 80SP (*Poa* control)
9	2009 Greens	3.01	1/8	July/Oct.–top dressed June/July/ Aug./Sept.– Tricure AD (wetting agent)	Aug.–Curalan EG;Emerald Oct.–Daconil Ultrex/Banner Maxx	July–Wisdom (cutworm/sod webworms)	None

(Continued)

Table 11 (continued).

Table	Test	Fertility[1]	Mowing Height (inches)	Cultivation/ Top Dress	Fungicides	Insecticides	Herbicides
10	2009 Fairway	4.57	3/8	April–rolled April/June/ July/Aug./ Sept.–Tricure AD (wetting agent)	July–Segway Sept.–Docket DF/Bayleton Flo/Segway	June–Merit (grubs) July–Wisdom (cut-worm/sod webworms)	May–Weedar 64 (broa-dleaf weeds)/Banvel/ Lontrel (post emergence weeds) June–Dimension (pre-emergence weeds)

[1]Annual nitrogen applied (lb/1000 ft^2)
[2]Microgreen applied at 2 g/1000 ft^2 (July)