

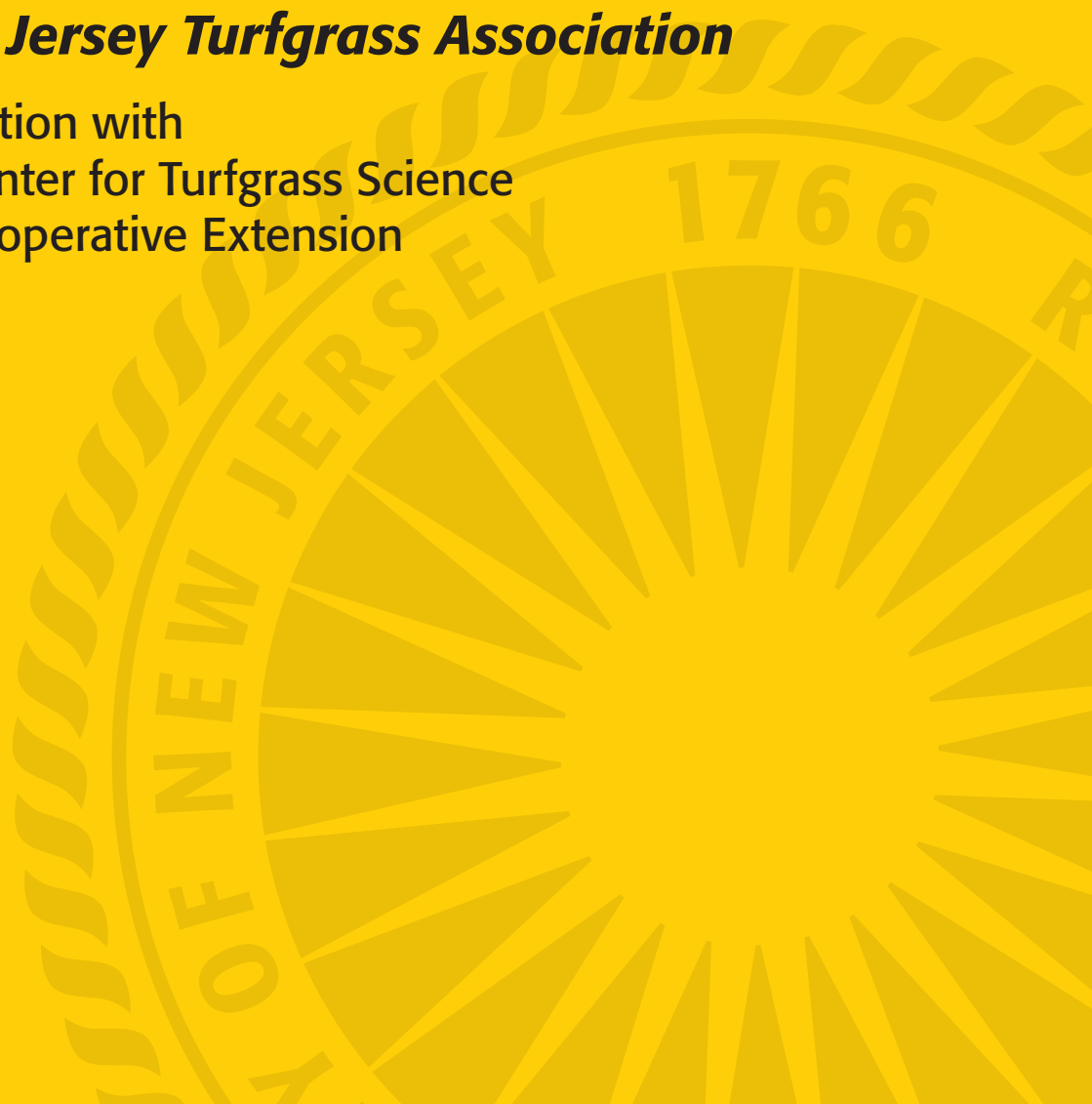
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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences, Rutgers, The State 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 2015 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.

Special thanks are given to those who have submitted papers for this proceedings, to the New Jersey Turfgrass Association for financial assistance, and to Barbara Fitzgerald, Anne Diglio, and Ann Jenkins for administrative and secretarial support.

Dr. Ann Brooks Gould, Editor
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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 options for turf in stressful areas, but these tend to be less commonly utilized because they are less attractive than the more common species when a high quality turf is needed. Due to an aggressive growth habit 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 bentgrasses respond best to a slightly higher height of cut, therefore these are 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 then, breeding efforts have markedly improved creeping bentgrasses to withstand the increasing demands of the game of golf including the need, when compared

to older varieties, for 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 (*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 bentgrasses, colonial bentgrasses have a finer leaf texture and a more upright and less aggressive spreading growth habit and are 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 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 turfs. Current breeding efforts include improving the 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 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 and the subsequent poor turf quality has given velvet bentgrass a poor reputation, but recent research showed 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 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 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 the British Isles, Norway, Sweden, Spain, Portugal, France, Finland, Switzerland, Scotland, Italy, Greece, Poland, Holland, Hungary, 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 2011 (Tables 1 and 2), 2012 (Tables 3 to 5), 2013 (Tables 6 to 8), and 2014 (Tables 9 to 13). Trials were established on a modified Nixon loam. Plot size was 3 x 5 ft for all trials except for the NTEP Greens (Table 9) and NTEP Fairway (Table 10) trials where plot size was 4 x 6 ft and 8 x 6 ft, respectively. Plots were hand-seeded at a rate of approximately 1.0 lb per 1000 ft². 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. The annual rate of nitrogen applied, mowing height, cultivation/topdressing practices, and pesticide applications for each test are presented in Table 14. 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 disease and insect damage). Turf quality (Tables 1 to 13), establishment (Tables 9 to 13), spring green-up (Tables 9 and 10), and disease were rated on a 1 to 9 scale, where 9 represented the most desirable turf characteristic. Disease ratings included dollar spot (Tables 1, 3, 5, 6, 8, 10 to 13), brown patch (Tables

5, 6, 8, 10, and 13), copper spot (Tables 2, 4, and 7), and root Pythium (Tables 11 and 12). 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 13 are ranked by the average turf quality for 2015. 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 (Tables 1, 3, 6, 9, and 11), 777, L-93XD, Piranha, Barracuda, Pure Distinction, and the experimental selections CMC Comp, PPG-AP 102 (B/C/D), PGF Comp, EBC Comp, PSD Comp, PPS Comp, UCE Comp, GSM Comp, 4759-7,8,10,12, 4738-7-12, and 4740-1-6 all performed very well, while Penncross, Southshore, Putter, Alpha, Crenshaw, Penn G-2, and SR 1119 were consistently among the poorest performers. At fairway height (Tables 5, 8, 10, and 13), Piranha, L-93XD, Flagstick, 777, and the experimental selections PPG-AP 102 (B/C), 11-CMC Comp, 11-EBC Comp, DPG Comp, UCE Comp, PPS Comp, PGF Comp, and PPS Comp creeping bentgrasses had excellent turf quality while the lowest scoring cultivars consisted of Penncross, Southshore, Sandhill, Imperial, Crenshaw, and SR 1119.

Overall turf quality for velvet bentgrasses was evaluated in the 2011 to 2014 trials (Tables 2, 4, 7, and 12) under greens height of cut. The variety Vitagreen and the experimental entries PPG-AC 101, PST-Syn-VH9, ESV Comp, and CDS Comp were among the top performing velvet bentgrasses within all trials. The cultivars SR 7200, Villa, and Greenwich displayed poor quality under these greens-type management conditions.

As mentioned previously, colonial bentgrasses perform better at a fairway cutting height and typically have poorer performance under putting green conditions. Nevertheless, there were several experimental colonials in putting green trials (Tables 1 and 6) that exhibited acceptable turf quality at greens height including CED Comp, CMD Comp, FDC Comp, CEM

Comp (Table 1), and PDC Comp (Table 6). Under fairway conditions however (Tables 5, 8, 10, and 13), Puritan and the experimental selections PPG-AT 103, Musket, AT 12-4, AT 12-9, AT 12-3, 11-FDC Comp, PRE Comp, PRE2 Comp, PDC Comp, 8197-8,10,12, SDR Comp, DLFPS-AT/3026, WLC Comp, DML, WMC Comp, and WEC Comp were the best performing colonial bentgrasses, while SR 7150, SR 7100, and Alister generally exhibited the poorest performance under fairway cutting heights when included in trials.

Dollar Spot

The causal agent of dollar spot, *S. homoeocarpa*, causes silver-dollar shaped spots of dead turf which can converge to form larger damaged areas (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 pathogen's resistance to fungicides, particularly 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 do creeping bentgrasses, however the results from recent trials (Tables 1, 3, 5, 6, 8, 10 to 13) indicate that significant improvements in creeping bentgrass have been made. Cultivars such as Declaration, Flagstick, L-93XD, Memorial, and 13M, as well as experimental entries 11-CMC Comp, EBC Comp, PPS Comp, PGT Comp, and DPG Comp all show a high resistance to this disease, while Independence, Ninety-Six Two, Crenshaw, Putter, SR 1119, Penn A-4, and experimental entries including MCT Comp and MCC Comp were more susceptible. Of note, in the 2012 fairway trial (Table 5), significant differences between colonial bentgrass entries were observed. Entries such as Capri and the experimental varieties PRE Comp, PRE2 Comp, and PPG-AT 103 performed comparably better than other colonials in that trial.

Brown Patch

Velvet bentgrass typically exhibits the greatest tolerance to brown patch among the bentgrass species used for turf, while colonial bentgrass is the most susceptible. In recent years, dramatic improvements

have been made in breeding colonial and creeping bentgrasses for improved brown patch resistance. Brown patch data is reported in Tables 5, 6, 8, 10, and 13. In 2015, creeping bentgrasses displayed acceptable tolerance to this disease, exhibiting little significant separation between entries, except in the 2013 putting green trial (Table 6) where, while most creeping bentgrasses were rather tolerant of brown patch, Putter and several experimental lines such as PST-0COL, AST-1-12-3006A, AST-1-12-3009A, and AP 15 were more susceptible.

Over the past few years, significant research has focused on improving brown patch resistance in colonial bentgrass. In recent fairway trials with assessable brown patch disease (Tables 5, 8, 10, and 13), gradual improvements in disease resistance is evident. In trials evaluated in 2015, the cultivars Puritan, Capri, Musket, and the experimental selections PRE Comp, PRE2 Comp, PPG-AT 103, DTT Comp, PDC Comp, SDR Comp, 8195-1-6, 8197-1-6, 8191-7-12, AT 12-16, WLC Comp, DML, and WMC Comp exhibited significantly improved brown patch resistance compared to entries such as SR 7150, Tiger 2, and several entries from New Zealand (PGGW-02, PGGW-03, PGGW-04, and G. Egmont). It should be noted that under greens height of cut (Table 6), the experimental entries PDC Comp, PSY Comp, and DTO Comp performed as well as or better than several of the creeping bentgrass entries in the trial.

Copper Spot

This disease is becoming an increasing concern in the Northeast during the summer due to the warm wet conditions when limited DMI fungicides are used. The causal agent of this disease, *G. sorghi*, is a fungus that produces 3- to 4-inch, red-brown patches on the turf. Currently, one of the major drawbacks in the use of velvet bentgrass continues to be the high susceptibility of this species to infection by this fungus. Therefore, selection of velvet bentgrass for resistance to copper spot is a major goal of the Rutgers Turfgrass Breeding Program.

During the 2015 growing season, copper spot disease was assessed on velvet bentgrass in the

2011 to 2013 trials (Tables 2, 4, and 7). The cultivars Vitagreen and the experimental lines CS1 Comp, ESV Comp, SPV Comp, DS2 Comp, and CANH9-1412 stood out as highly tolerant entries when compared to older varieties such as Villa, Greenwich, and Legendary, which were consistently poor.

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Table 1. Performance of creeping and colonial bentgrass cultivars and selections in a putting green trial seeded in September 2011 at North Brunswick, NJ.

	Cultivar or Selection	Species	Turf Quality ¹					Dollar Spot ² 2015
			2012-2015 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	
1	CMC Comp	Creeping	6.4	6.5	5.7	7.0	6.2	6.3
2	PPG-AP 102	Creeping	6.2	6.5	5.8	6.8	5.5	5.7
3	EBC Comp	Creeping	6.1	6.3	5.9	6.3	5.9	5.3
4	LUC Comp	Creeping	6.0	6.3	5.9	6.3	5.5	4.5
5	PCM Comp	Creeping	5.8	6.2	5.8	5.7	5.4	4.7
6	CEC Comp	Colonial	5.7	5.6	6.0	6.0	5.4	7.0
7	HDG-10 Comp	Creeping	5.6	5.9	5.6	5.6	5.2	4.5
8	CMD Comp	Colonial	5.5	5.4	5.7	5.7	5.3	7.7
9	PST-ORPA Bulk	Creeping	5.5	6.6	5.0	5.7	4.7	4.0
10	FDC Comp	Colonial	5.5	5.9	5.5	5.5	5.0	7.3
11	CEM Comp	Colonial	5.5	5.7	5.5	5.8	4.9	7.7
12	Barracuda	Creeping	5.5	5.6	5.4	5.8	5.0	4.5
13	Flagstick	Creeping	5.5	5.4	5.6	6.1	4.7	5.5
14	Luminary	Creeping	5.2	6.1	4.9	5.7	4.2	3.2
15	AP-18	Creeping	5.2	6.3	5.1	4.5	5.0	5.3
16	Proclamation	Creeping	5.1	5.4	5.4	5.3	4.2	4.2
17	SRP 1RH93	Creeping	5.0	5.6	5.0	5.0	4.2	4.5
18	PSG 10SLT	Creeping	4.9	5.3	5.4	4.9	4.2	4.3
19	GMCSLT	Creeping	4.9	4.8	5.2	5.5	4.2	4.5
20	Shark	Creeping	4.9	6.4	5.0	3.9	4.3	4.5
21	Pure Distinction	Creeping	4.8	5.9	4.3	4.6	4.5	3.5
22	PSG 1VAH10	Creeping	4.8	6.1	3.7	4.8	4.4	4.2
23	Flagstick+007	Creeping blend	4.8	5.1	5.2	4.6	4.2	4.5
24	Pure Select	Creeping	4.7	6.4	4.5	4.6	3.5	3.2
25	V-8	Creeping	4.7	5.6	5.1	4.0	4.1	4.3

(Continued)

Table 1. Creeping and colonial bentgrass putting green trial, 2011 (continued).

Cultivar or Selection	Species	Turf Quality ¹					Dollar Spot ² 2015
		2012-2015 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	
26 Authority	Creeping	4.7	5.5	4.2	4.8	4.1	4.0
27 Declaration	Creeping	4.6	4.9	4.7	5.4	3.4	5.2
28 RH931SLT	Creeping	4.6	5.9	4.5	4.6	3.3	3.7
29 PinUp	Creeping	4.5	5.1	4.2	4.0	4.6	4.8
30 PSG RH128M	Creeping	4.5	5.7	4.2	4.1	3.8	2.7
31 Cobra 2	Creeping	4.4	5.1	4.4	4.5	3.7	4.0
32 OO7	Creeping	4.4	5.8	4.2	4.0	3.7	3.7
33 Flagstick+Tyee	Creeping blend	4.4	4.5	3.9	4.9	4.1	4.0
34 Flagstick+Mackenzie	Creeping blend	4.3	4.6	4.3	4.3	3.9	4.3
35 FMM Comp	Creeping	4.3	5.2	4.6	3.6	3.9	3.3
36 13M	Creeping	4.2	4.8	3.5	4.8	3.9	5.5
37 SR 1150+OO7	Creeping blend	4.2	4.9	4.3	4.4	3.2	3.2
38 PSG 1RIL	Creeping	4.1	5.5	3.9	3.9	3.2	2.2
39 Benchmark DSR	Creeping	4.1	4.9	3.7	4.0	3.8	3.5
40 PSG RHN37	Creeping	4.1	6.0	3.3	3.9	3.2	2.8
41 PSG RHN42	Creeping	4.1	6.0	3.8	3.2	3.3	2.7
42 Capri	Colonial	4.1	3.5	4.1	4.7	4.1	7.0
43 PSG 1RJM	Creeping	4.0	5.9	3.6	3.3	3.4	3.0
44 Mackenzie+Tyee+OO7	Creeping blend	4.0	4.9	4.1	3.7	3.3	3.2
45 PSG RHN12	Creeping	4.0	5.4	3.3	3.3	3.9	4.2
46 A1/A4	Creeping	4.0	5.0	3.5	3.8	3.7	3.8
47 A08-FT12	Colonial	4.0	4.3	3.9	4.3	3.5	6.8
48 PSG RHN316	Creeping	4.0	5.5	3.4	3.9	3.2	3.3
49 PSG 1B158	Creeping	4.0	4.7	4.0	4.0	3.3	3.2
50 PSG RHN411	Creeping	4.0	5.5	3.3	3.4	3.6	3.3

(Continued)

Table 1. Creeping and colonial bentgrass putting green trial, 2011 (continued).

Cultivar or Selection	Species	Turf Quality ¹					Dollar Spot ² 2015
		2012-2015 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	
51 SR 1119+Tye	Creeping blend	4.0	5.1	3.6	3.8	3.4	3.2
52 Mackenzie+SR 1150+OO7	Creeping blend	4.0	4.7	3.9	3.8	3.5	3.2
53 Penn A-1	Creeping	4.0	4.8	4.0	3.9	3.1	4.5
54 PSG RHN48	Creeping	3.9	6.0	3.1	3.5	3.1	2.0
55 Penneagle II	Creeping	3.9	4.8	3.6	4.1	3.2	3.8
56 Penn A-4	Creeping	3.9	4.9	3.6	3.8	3.3	3.2
57 Crystal BlueLinks	Creeping	3.8	4.2	3.5	4.6	3.1	4.0
58 SR 1150	Creeping	3.8	4.4	3.8	4.0	3.1	3.5
59 PSG SLTZM3	Creeping	3.8	4.7	3.3	3.6	3.4	2.7
60 Tye	Creeping	3.8	4.7	3.5	3.8	3.0	3.0
61 Penn G-2	Creeping	3.7	3.5	3.5	4.4	3.6	3.3
62 PSG 1RHT33	Creeping	3.7	5.2	2.6	3.4	3.8	2.3
63 Independence	Creeping	3.7	5.2	3.1	3.2	3.2	2.3
64 Kingpin	Creeping	3.6	4.0	3.3	3.9	3.2	5.0
65 PSG SLTZM2	Creeping	3.6	5.1	2.8	3.3	3.4	3.5
66 PSG 1RHTAV3	Creeping	3.6	5.8	2.5	2.9	3.2	2.2
67 T-1	Creeping	3.5	4.6	3.4	3.1	2.9	3.5
68 L-93	Creeping	3.5	3.7	3.4	3.8	3.1	4.5
69 PSG 1RHTV	Creeping	3.5	5.5	2.6	2.9	2.9	2.0
70 Mackenzie+SR 1150	Creeping blend	3.4	4.0	3.9	3.3	2.5	3.7
71 Providence	Creeping	3.4	2.4	3.5	4.5	3.2	3.7
72 Mackenzie	Creeping	3.4	4.1	3.6	3.1	2.9	3.2
73 EBM	Colonial	3.4	3.6	3.4	3.5	3.1	6.5
74 Memorial	Creeping	3.4	3.7	2.8	3.9	3.1	5.3
75 PSG 1VAH1	Creeping	3.3	5.3	2.7	2.4	2.7	2.5

(Continued)

Table 1. Creeping and colonial bentgrass putting green trial, 2011 (continued).

Cultivar or Selection	Species	Turf Quality ¹					Dollar Spot ² 2015
		2012-2015 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	
76 Sandhill	Creeping	3.2	2.9	3.1	3.6	3.2	3.7
77 MacSLT	Creeping	3.2	4.0	2.9	3.4	2.6	3.3
78 PSG SLTzM1	Creeping	3.2	4.8	2.4	2.4	3.0	3.2
79 Ninety-Six Two	Creeping	3.2	4.5	2.9	2.8	2.5	2.5
80 PSG 1RIE	Creeping	3.1	4.3	3.0	2.5	2.4	2.5
81 Century	Creeping	3.0	2.9	2.9	3.1	3.2	4.3
82 Southshore	Creeping	2.8	3.5	2.5	2.6	2.6	3.2
83 SandSLT	Creeping	2.8	3.4	2.4	3.3	2.4	2.7
84 Pennlinks II	Creeping	2.8	3.5	2.8	2.8	2.1	4.2
85 Alpha	Creeping	2.8	3.9	2.6	2.2	2.4	3.5
86 ProvSLT	Creeping	2.8	3.2	2.5	2.7	2.7	3.7
87 SR 1119	Creeping	2.7	3.6	2.6	2.6	2.1	3.0
88 Putter	Creeping	2.7	3.9	2.5	2.5	1.9	2.7
89 Imperial	Creeping	2.7	3.6	2.2	2.6	2.4	2.7
90 BCD	Colonial	2.6	3.0	2.7	2.4	2.5	5.3
91 Brighton	Creeping	2.6	3.1	2.5	2.7	2.1	3.3
92 Penncross	Creeping	2.4	3.4	2.4	2.1	1.7	3.7
93 Crenshaw	Creeping	2.3	3.8	2.1	1.8	1.7	2.3
94 Tiger 2	Colonial	2.2	2.8	1.6	2.1	2.3	4.7
95 Alister	Colonial	2.0	2.6	1.8	1.6	1.9	5.2
LSD at 5% =		0.6	0.7	0.9	1.0	0.8	1.2

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

²Dollar spot rated on a 1 to 9 scale, where 9 = best disease resistance; data is an average of two rating dates

Table 2. Performance of velvet bentgrass cultivars and selections in a putting green trial seeded in September 2011 at North Brunswick, NJ.

Cultivar or Selection	Species	Turf Quality ¹					Copper Spot ² July 2015
		2012-2015 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	
1 ESV Comp	Velvet	6.1	6.3	6.2	6.3	5.7	6.7
2 Vitagreen	Velvet	5.6	6.6	5.9	5.4	4.6	7.3
3 CDS Comp	Velvet	5.5	5.6	5.9	5.3	5.2	5.3
4 PST-Syn-VH9	Velvet	5.5	5.9	5.9	5.8	4.5	4.7
5 Legendary	Velvet	5.0	6.3	5.4	3.9	4.5	5.0
6 Villa	Velvet	4.9	5.9	5.3	4.5	4.0	3.3
7 Greenwich	Velvet	4.3	4.9	5.0	3.8	3.6	3.0
8 SR 7200	Velvet	3.9	5.2	4.0	3.8	2.8	7.0
9 PSG 7CL6	Creeping	3.2	3.8	3.1	3.5	2.2	8.0
10 PSG 7CL33	Creeping	2.9	3.9	3.1	2.7	2.0	8.0
11 PSG 7CL3	Creeping	2.9	3.9	3.0	2.4	2.4	7.7
LSD at 5% =		0.4	0.5	0.8	0.6	0.6	1.6

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

²Copper spot rated on a 1 to 9 scale, where 9 = best disease resistance

Table 3. Performance of creeping bentgrass cultivars and selections in a putting green trial seeded in September 2012 at North Brunswick, NJ.

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Oct. 2015	Genetic Color ³ Dec. 2015
	2013-2015 Avg.	2013 Avg.	2014 Avg.	2015 Avg.		
1 PSD Comp	6.7	6.0	7.2	7.1	7.0	7.0
2 PPG-AP 102B	6.4	6.3	6.4	6.5	6.7	7.3
3 PGF Comp	6.3	6.0	5.6	7.2	6.0	7.3
4 PPG-AP 102C	6.2	6.4	6.0	6.3	6.7	7.0
5 PDD Comp	6.1	6.2	5.9	6.1	7.0	5.7
6 11-CMC Comp	6.1	5.5	6.1	6.7	7.3	6.3
7 FPG Comp	6.1	6.2	5.1	6.7	7.0	6.0
8 AP-18	5.6	6.3	4.9	5.8	6.0	7.3
9 FSC Comp	5.6	6.0	5.2	5.4	6.0	4.3
10 11-EBC Comp	5.6	5.3	5.7	5.9	7.0	6.3
11 Barracuda	5.5	6.2	5.1	5.2	6.3	7.0
12 Luminary	5.4	5.6	5.0	5.5	6.7	7.0
13 Declaration	5.3	5.7	5.2	5.1	6.7	6.3
14 Flagstick	5.3	5.2	5.4	5.4	7.0	3.3
15 Center Cut II	5.3	5.3	5.2	5.3	6.7	6.0
16 Pure Distinction	5.1	6.1	3.7	5.5	4.7	7.0
17 Center Cut III Blend	5.1	5.1	5.1	5.1	6.3	7.0
18 Proclamation	5.0	6.0	4.8	4.3	5.3	3.7
19 PST-SYN-R0PS	4.9	5.4	3.9	5.6	5.0	6.3
20 OO7	4.9	5.6	4.1	4.8	5.3	4.7
21 Pure Select	4.8	5.5	4.2	4.8	4.0	5.3
22 PinUp	4.8	5.9	4.1	4.6	5.7	5.0
23 Authority	4.7	5.7	4.0	4.6	5.7	5.0
24 Shark	4.7	5.6	4.1	4.5	6.7	4.7
25 GMC-12K	4.7	5.4	4.4	4.4	5.3	6.7

(Continued)

Table 3. Creeping bentgrass putting green trial, 2012 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Oct. 2015	Genetic Color ³ Dec. 2015
	2013-2015 Avg.	2013 Avg.	2014 Avg.	2015 Avg.		
26 DKH8-25	4.6	5.4	3.8	4.8	5.0	5.3
27 P21-4	4.6	5.5	4.0	4.3	5.7	5.7
28 RH93-12	4.6	4.9	3.9	5.0	4.7	7.0
29 RH 931	4.5	5.2	3.5	4.7	4.7	6.0
30 DKH8-11	4.4	5.5	2.7	4.9	3.7	1.3
31 P21-3	4.4	5.4	3.3	4.4	5.0	5.7
32 DKH8-35	4.3	5.5	3.0	4.5	4.5	4.5
33 Benchmark DSR	4.2	4.7	3.9	4.1	5.7	5.7
34 Independence	4.2	5.5	3.1	4.1	4.7	4.0
35 SR 1150/OO7	4.2	4.6	4.1	4.2	5.0	4.7
36 Tye	4.2	5.2	3.7	4.0	5.0	4.7
37 P21-7	4.2	4.4	4.3	4.1	4.7	5.3
38 Memorial	4.2	4.8	4.5	3.3	6.3	3.3
39 13M	4.2	4.4	4.2	4.0	5.7	4.3
40 DKH8-33	4.2	5.2	2.9	4.5	4.3	5.3
41 Tye/OO7	4.1	4.2	4.2	3.9	5.0	4.3
42 7 PC2/Tye	4.1	4.7	4.1	3.6	7.0	3.3
43 P21L2-627	4.1	4.4	4.4	3.6	6.0	3.7
44 P21-5	4.1	5.3	3.3	3.7	4.7	4.0
45 DKH8-22	4.1	5.0	3.2	4.2	4.3	2.3
46 PST-OKPS Bulk	4.0	3.8	3.7	4.6	4.3	4.3
47 Mackenzie/Focus	4.0	4.4	3.7	3.9	4.7	4.7
48 P21L2-31	4.0	4.9	3.9	3.2	5.3	2.7
49 V-8	4.0	4.4	3.7	3.8	5.7	4.3
50 P21L2-619	4.0	4.1	3.8	4.0	4.7	4.0

(Continued)

Table 3. Creeping bentgrass putting green trial, 2012 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Oct. 2015	Genetic Color ³ Dec. 2015
	2013-2015 Avg.	2013 Avg.	2014 Avg.	2015 Avg.		
51 P21-6	4.0	4.9	3.9	3.2	4.7	4.0
52 P21-8	4.0	4.5	3.9	3.6	5.3	4.3
53 PSG-1TAVH08-3	4.0	4.7	2.2	5.0	3.3	4.7
54 P21-1	3.9	4.7	3.0	4.1	4.3	4.0
55 Penneagle II	3.9	4.9	3.2	3.5	4.3	4.0
56 L-93	3.9	4.1	4.0	3.5	4.7	5.7
57 Mackenzie/Tyee	3.9	4.4	3.3	3.9	5.3	3.3
58 DKH8-13	3.8	4.5	2.9	4.0	4.3	5.0
59 AZH9-4257	3.8	4.9	2.7	3.9	4.0	5.3
60 P21L2-315	3.8	4.4	3.7	3.5	4.3	3.7
61 DKH8-31	3.8	5.0	3.0	3.4	4.3	2.7
62 P21-2	3.8	4.5	3.4	3.4	4.3	5.0
63 PSG-1TAVH08-2	3.7	4.8	1.9	4.6	3.3	5.0
64 PSG-1TAVH08-1	3.7	4.7	2.0	4.3	3.7	4.7
65 SR 1150	3.6	4.2	3.4	3.5	4.7	3.7
66 CANH9-73	3.6	4.6	3.0	3.3	4.0	2.7
67 T-1	3.6	3.9	3.4	3.5	5.3	4.3
68 CANH9-7	3.5	4.5	2.7	3.3	4.3	1.3
69 P21L2-22	3.5	3.7	3.5	3.5	5.3	3.7
70 Kingpin	3.5	3.7	3.7	3.2	7.0	4.7
71 CANH9-722	3.5	4.5	2.4	3.6	3.5	2.0
72 P21L2-1311	3.5	3.8	3.1	3.5	5.0	5.0
73 P21L2-167	3.5	4.1	3.1	3.1	6.0	4.7
74 A-4	3.4	4.7	2.8	2.9	4.7	3.7
75 Ninety-Six Two	3.3	4.3	2.6	3.0	4.7	3.0

(Continued)

Table 3. Creeping bentgrass putting green trial, 2012 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Oct. 2015	Genetic Color ³ Dec. 2015
	2013-2015 Avg.	2013 Avg.	2014 Avg.	2015 Avg.		
76 CANH9-720	3.3	4.5	2.6	3.0	4.0	1.3
77 Imperial	3.3	4.2	2.9	2.7	4.3	3.7
78 Mackenzie	3.3	3.8	3.0	3.1	5.3	4.0
79 Penncross	3.2	3.8	2.8	3.1	5.7	4.0
80 Southshore	3.0	3.5	2.5	2.9	5.3	4.3
81 SR 1119	2.9	3.8	2.2	2.7	4.7	4.0
82 Putter	2.9	3.6	2.5	2.6	4.7	4.3
83 Alpha	2.9	3.9	2.4	2.5	4.3	5.0
84 Providence	2.7	3.5	2.5	2.0	5.0	3.7
85 Penn G-2	2.5	1.7	2.6	3.2	5.7	5.7
86 Sandhill	2.5	1.9	2.5	3.0	5.3	4.7
LSD at 5% =	0.6	0.8	0.9	0.9	1.7	1.5

¹Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
²Dollar spot rated on a 1 to 9 scale, where 9 = best disease resistance
³Genetic color rated on a 1 to 9 scale, where 9 = darkest green color

Table 4. Performance of velvet bentgrass cultivars and selections in a putting green trial seeded in September 2012 at North Brunswick, NJ.

Cultivar or Selection	-----Turf Quality ¹ -----				Copper Spot ² July 2015
	2013-2015 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	
1 PPG-AC 101	6.1	6.1	6.5	5.9	5.0
2 CS1 Comp	5.0	4.6	5.2	5.1	7.0
3 SPV Comp	4.9	4.8	5.5	4.3	5.7
4 Legendary	4.7	4.9	5.4	3.9	4.7
5 DCS Comp	4.5	4.7	4.6	4.2	5.0
6 Vitagreen	4.4	4.9	4.7	3.7	5.3
7 DS2 Comp	4.4	3.8	4.9	4.6	5.7
8 CS2 Comp	4.1	3.6	4.3	4.4	5.0
9 Greenwich	3.9	4.3	4.2	3.1	3.3
10 DS1 Comp	3.7	3.3	3.8	4.1	5.7
11 Villa	3.5	3.7	3.8	3.2	3.7
12 CANH9-1412	3.2	4.7	3.1	1.8	6.5
13 SR 7200	2.9	4.0	2.4	2.3	5.0
LSD at 5% =	0.6	0.9	0.8	0.6	1.7

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

²Copper spot rated on a 1 to 9 scale, where 9 = best disease resistance

Table 5. Performance of creeping and colonial bentgrass cultivars and selections in a fairway trial seeded in September 2012 at North Brunswick, NJ.

Cultivar or Selection	-----Turf Quality ¹ -----				Brown Patch ² July 2015	Dollar Spot ³ 2015
	2013-2015 Avg.	2013 Avg.	2014 Avg.	2015 Avg.		
1 11-CMC Comp	7.2	7.7	7.4	6.5	9.0	5.7
2 PRE2 Comp	7.2	6.7	7.9	6.9	6.3	6.7
3 Flagstick	7.1	7.5	7.2	6.4	8.7	6.0
4 PPG-AP 102B	6.8	7.6	6.5	6.2	9.0	5.0
5 PPG-AP 102C	6.5	7.9	6.5	5.1	9.0	4.8
6 11-EBC Comp	6.5	7.3	6.4	5.9	8.7	6.0
7 PPG-AT-103	6.5	6.7	7.2	5.5	6.3	6.2
8 PRE Comp	6.4	6.1	6.9	6.3	6.7	6.2
9 11-FDC Comp	6.4	6.3	7.0	5.9	5.7	5.5
10 PSD Comp	6.4	7.3	6.6	5.3	8.3	5.2
11 PGF Comp	6.2	7.7	6.5	4.2	8.3	4.3
12 Capri	6.0	5.9	5.9	6.1	7.3	6.0
13 FPG Comp	5.9	7.4	6.0	4.4	8.7	4.0
14 Puritan	5.8	6.9	4.9	5.7	7.0	5.8
15 Center Cut II	5.8	6.8	5.9	4.8	9.0	4.3
16 GMC-12K	5.8	6.6	5.5	5.4	9.0	4.7
17 Center Cut III Blend	5.7	6.4	5.8	4.8	9.0	4.5
18 PDD Comp	5.5	7.3	5.8	3.5	8.7	4.2
19 Vitagreen/Tyee	5.4	5.2	4.8	6.2	8.3	5.7
20 Declaration	5.4	7.0	4.8	4.4	8.7	5.5
21 FSC Comp	5.4	6.6	5.5	3.9	8.7	3.8
22 13M	5.3	6.0	5.0	4.8	8.3	4.8
23 Proclamation	5.0	6.4	4.9	3.9	9.0	3.7
24 Mackenzie/Focus	5.0	5.2	4.8	5.0	8.3	4.3
25 AP-18	5.0	6.5	4.0	4.3	8.7	4.0

(Continued)

Table 5. Creeping and colonial bentgrass fairway trial, 2012 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				Brown Patch ² July 2015	Dollar Spot ³ 2015	
	2013-2015 Avg.	2013 Avg.	2014 Avg.	2015 Avg.			
26 Crystal BlueLinks	Creeping	4.9	5.6	4.7	4.4	8.0	4.3
27 Shark	Creeping	4.8	6.2	4.1	4.2	9.0	3.2
28 Authority	Creeping	4.8	6.4	3.9	4.0	8.3	3.8
29 PST-Syn-ROPS	Creeping	4.8	6.3	4.6	3.4	8.0	3.3
30 EBM	Colonial	4.7	5.4	4.8	4.0	6.0	4.8
31 Kingpin	Creeping	4.7	5.1	4.4	4.7	8.3	4.2
32 V-8	Creeping	4.7	5.6	4.1	4.5	8.3	3.5
33 Memorial	Creeping	4.7	5.2	4.9	4.1	7.7	5.2
34 PinUp	Creeping	4.7	6.1	3.9	4.0	8.7	3.8
35 RH 931	Creeping	4.7	5.4	4.3	4.4	8.7	4.0
36 Tye	Creeping	4.5	5.3	4.0	4.4	8.7	3.2
37 Tye/007	Creeping	4.5	5.5	3.7	4.4	8.7	4.2
38 SR 1150/007	Creeping	4.5	5.4	3.3	4.7	8.7	5.0
39 SR 1150	Creeping	4.4	4.8	3.3	5.1	9.0	5.8
40 Glory	Colonial	4.4	4.6	3.8	4.7	5.7	5.7
41 PST-OKPS Bulk	Creeping	4.4	4.6	4.0	4.5	8.3	5.3
42 Pure Select	Creeping	4.3	6.2	3.7	3.1	7.7	3.8
43 007	Creeping	4.3	5.8	3.3	3.9	8.0	4.0
44 PureFormance Blend	Creeping	4.3	5.2	4.1	3.5	7.7	3.8
45 Barracuda	Creeping	4.2	5.2	3.5	3.9	8.3	4.5
46 Independence	Creeping	4.1	5.5	2.8	4.1	9.0	3.5
47 P21L2-315	Creeping	4.1	4.7	4.0	3.7	8.0	4.0
48 L-93	Creeping	4.1	4.3	3.5	4.3	8.7	4.8
49 Penn A-4	Creeping	4.0	4.8	3.3	4.0	8.3	2.8
50 Col 1	Colonial	4.0	4.4	4.1	3.6	5.7	4.8

(Continued)

Table 5. Creeping and colonial bentgrass fairway trial, 2012 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				Brown Patch ² July 2015	Dollar Spot ³ 2015	
	2013-2015 Avg.	2013 Avg.	2014 Avg.	2015 Avg.			
51 Mackenzie/Tyee	Creeping	4.0	4.9	3.3	3.9	8.0	3.0
52 Benchmark DSR	Creeping	4.0	5.5	3.3	3.1	8.3	3.7
53 Ninety-Six Two	Creeping	3.9	4.4	2.5	4.7	9.0	4.0
54 Putter	Creeping	3.8	4.1	3.2	4.2	8.3	3.8
55 Tiger II	Colonial	3.8	4.8	3.5	3.0	4.3	4.2
56 T-1	Creeping	3.7	5.5	2.5	3.3	8.3	4.0
57 Mackenzie	Creeping	3.7	4.4	3.0	3.9	7.3	3.2
58 Col 2	Colonial	3.5	3.9	3.0	3.7	5.0	4.0
59 Alpha	Creeping	3.5	4.1	2.5	3.9	8.0	3.7
60 Imperial	Creeping	3.5	4.1	2.7	3.6	8.7	2.7
61 Southshore	Creeping	3.4	4.1	2.6	3.5	7.7	3.8
62 Providence	Creeping	3.4	4.0	2.9	3.3	8.0	4.2
63 Penn G-2	Creeping	3.3	2.6	3.9	3.5	7.3	4.7
64 Sandhill	Creeping	3.3	2.3	4.0	3.9	7.3	5.0
65 SR 1119	Creeping	3.3	3.8	2.9	3.2	8.7	5.0
66 SR 7150	Colonial	3.1	3.7	2.9	2.9	4.7	4.7
67 AZH9-4257	Creeping	3.1	4.7	1.8	2.8	8.3	3.0
68 Penncross	Creeping	2.9	3.2	2.5	3.1	8.0	3.5
69 SR 7100	Colonial	2.8	2.8	2.7	2.9	4.0	4.3
70 PSG 7DB	Dryland	2.1	2.0	2.0	2.2	4.7	4.7
LSD at 5% =		1.0	1.0	1.1	1.5	1.2	1.1

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

²Brown patch rated on a 1 to 9 scale, where 9 = best disease resistance

³Dollar spot rated on a 1 to 9 scale, where 9 = best disease resistance; data is an average of two rating dates

Table 6. Performance of creeping and colonial bentgrass cultivars and selections in a putting green trial seeded in September 2013 at North Brunswick, NJ.

Cultivar or Selection	Species	Turf Quality ¹			Brown Patch ² July 2015	Dollar Spot ² Oct. 2015
		2014-2015 Avg.	2014 Avg.	2015 Avg.		
1 777	Creeping	6.6	6.6	6.6	5.0	7.3
2 PPS Comp	Creeping	6.5	6.2	6.8	6.0	8.3
3 PPG-AP 102D	Creeping	6.5	6.3	6.7	5.0	7.3
4 PPG-AP 102B	Creeping	6.1	6.4	5.9	7.0	7.0
5 Luminary	Creeping	6.0	6.2	5.8	6.0	7.0
6 Barracuda	Creeping	5.9	6.1	5.8	5.3	8.0
7 DPG Comp	Creeping	5.9	5.6	6.3	6.0	8.0
8 AST-1-12-3023	Creeping	5.9	6.3	5.6	5.0	7.7
9 Pure Distinction	Creeping	5.9	6.0	5.8	4.7	6.0
10 FWT Comp	Creeping	5.9	5.6	6.1	5.7	7.0
11 L93XD	Creeping	5.8	5.3	6.4	5.7	8.0
12 AP 23	Creeping	5.7	5.9	5.6	4.3	8.0
13 Pin Up 2	Creeping	5.6	5.5	5.7	6.7	6.7
14 PGT Comp	Creeping	5.6	5.7	5.6	6.3	8.7
15 Shark	Creeping	5.6	5.7	5.5	4.7	6.3
16 Declaration	Creeping	5.6	5.8	5.4	4.0	7.0
17 AP 16	Creeping	5.5	5.9	5.2	4.3	7.3
18 AST-1-12-3008A	Creeping	5.5	5.9	5.1	4.3	7.0
19 OO7	Creeping	5.5	5.5	5.5	6.0	7.0
20 Pure Select	Creeping	5.4	5.9	4.9	4.7	6.7
21 FTP Comp	Creeping	5.4	5.2	5.6	5.7	7.7
22 FSM Comp	Creeping	5.4	5.3	5.5	6.0	8.3
23 Flagstick + OO7	Creeping	5.3	5.2	5.5	6.3	6.0
24 Focus	Creeping	5.2	5.4	5.1	4.7	6.7
25 Pin Up	Creeping	5.2	5.2	5.3	5.0	6.3

(Continued)

Table 6. Creeping and colonial bentgrass putting green trial, 2013 (continued).

Cultivar or Selection	Species	Turf Quality ¹			Brown Patch ² July 2015	Dollar Spot ² Oct. 2015
		2014-2015 Avg.	2014 Avg.	2015 Avg.		
26 Authority	Creeping	5.2	5.2	5.3	5.0	7.7
27 PDC Comp	Colonial	5.2	5.8	4.6	5.0	8.7
28 AST-1-12-3010A	Creeping	5.2	5.6	4.8	4.7	7.7
29 AST-1-12-8001A	Creeping	5.1	5.8	4.5	4.0	6.0
30 AP 18	Creeping	5.1	5.2	5.0	5.3	6.7
31 Flagstick	Creeping	5.0	4.9	5.2	6.7	7.7
32 AST-1-12-3004A	Creeping	5.0	5.0	5.0	4.3	6.3
33 MCT Comp	Creeping	5.0	5.1	5.0	6.0	4.3
34 PSY Comp	Colonial	4.9	5.3	4.6	5.0	8.7
35 SDR Comp	Colonial	4.8	5.1	4.6	4.3	8.7
36 AST-1-12-3001A	Creeping	4.8	5.0	4.5	4.3	6.3
37 Proclamation	Creeping	4.8	4.7	4.9	5.7	7.0
38 V-8	Creeping	4.7	5.3	4.2	4.0	6.3
39 Runner	Creeping	4.7	5.0	4.4	6.0	6.3
40 AST-1-12-3006A	Creeping	4.7	5.3	4.1	3.7	8.3
41 TPD Comp	Creeping	4.7	5.1	4.3	5.7	7.3
42 AST-1-12-3007A	Creeping	4.7	5.1	4.3	3.0	6.7
43 Benchmark DSR	Creeping	4.7	4.8	4.5	4.7	7.7
44 MCC Comp	Creeping	4.7	5.2	4.2	7.0	3.7
45 PST-0CVR Bulk	Creeping	4.6	4.9	4.3	5.0	6.0
46 Flagstick + Tye	Creeping	4.6	5.0	4.2	4.3	6.3
47 DTT Comp	Colonial	4.6	4.4	4.7	4.7	8.3
48 Tye	Creeping	4.5	4.7	4.2	4.3	7.0
49 AST-1-12-3024	Creeping	4.5	4.5	4.4	5.0	6.3
50 DTO Comp	Colonial	4.5	4.8	4.2	5.3	8.3

(Continued)

Table 6. Creeping and colonial bentgrass putting green trial, 2013 (continued).

Cultivar or Selection	Species	Turf Quality ¹			Brown Patch ² July 2015	Dollar Spot ² Oct. 2015
		2014-2015 Avg.	2014 Avg.	2015 Avg.		
51 Focus + 96-2	Creeping	4.4	4.8	4.1	5.0	5.0
52 AST-1-12-3026	Creeping	4.4	4.6	4.3	6.3	6.0
53 AP 15	Creeping	4.4	4.6	4.1	3.7	6.3
54 Independence	Creeping	4.3	4.5	4.2	4.0	5.3
55 PST-0CV6	Creeping	4.3	4.8	3.8	4.7	5.7
56 FT12	Colonial	4.3	5.1	3.5	3.0	8.3
57 Capri	Colonial	4.3	5.3	3.3	3.7	8.7
58 SR 1150	Creeping	4.3	4.7	3.8	4.0	7.0
59 13M	Creeping	4.3	4.4	4.1	5.3	7.7
60 Flagstick + Mackenzie	Creeping	4.2	4.3	4.1	4.3	6.7
61 T-1	Creeping	4.2	4.7	3.8	5.3	5.3
62 96-2	Creeping	4.2	4.9	3.4	5.7	4.3
63 Focus + Mackenzie	Creeping	4.2	4.2	4.1	4.3	6.3
64 EBM	Colonial	4.1	4.9	3.4	3.0	8.0
65 Mackenzie + Tyee	Creeping	4.0	4.4	3.6	3.7	5.7
66 Tiger 2	Colonial	3.8	4.7	3.0	3.7	8.3
67 Greentime	Colonial	3.7	4.0	3.4	4.0	8.0
68 AST-1-12-3009A	Creeping	3.5	4.2	3.0	3.7	7.0
69 Mackenzie	Creeping	3.5	3.9	3.2	4.0	6.0
70 Kingpin	Creeping	3.5	3.6	3.4	6.0	7.0
71 L-93	Creeping	3.4	3.7	3.2	4.7	7.0
72 Crenshaw	Creeping	3.3	3.5	3.2	6.3	5.3
73 Alpha	Creeping	3.3	3.7	3.0	4.7	7.3
74 Memorial	Creeping	3.2	3.5	3.0	4.7	8.3
75 PST-0COL	Creeping	3.2	4.2	2.2	2.0	8.0

(Continued)

Table 6. Creeping and colonial bentgrass putting green trial, 2013 (continued).

Cultivar or Selection	Species	Turf Quality ¹			Brown Patch ² July 2015	Dollar Spot ² Oct. 2015
		2014-2015 Avg.	2014 Avg.	2015 Avg.		
76 Penn A-4	Creeping	3.2	3.7	2.8	4.3	7.0
77 Putter	Creeping	3.1	3.7	2.6	3.7	5.0
78 Imperial	Creeping	3.1	3.5	2.7	4.7	5.3
79 Glory	Colonial	3.1	3.9	2.3	2.0	8.3
80 Century	Creeping	3.0	2.6	3.5	5.0	6.0
81 Penn G-2	Creeping	2.8	2.4	3.2	4.3	7.3
82 Southshore	Creeping	2.7	2.9	2.5	6.0	6.0
83 Penncross	Creeping	2.6	3.0	2.2	6.3	6.0
84 SR 7100	Colonial	2.6	3.1	2.1	4.3	8.0
85 SR 1119	Creeping	2.4	2.0	2.7	5.5	5.0
LSD at 5% =		0.9	0.9	1.2	2.1	1.8

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

²Disease rated on a 1 to 9 scale, where 9 = best disease resistance

Table 7. Performance of velvet bentgrass cultivars and selections in a putting green trial seeded in September 2013 at North Brunswick, NJ.

Cultivar or Selection	-----Turf Quality ¹ -----			Copper Spot ² July 2015
	2014-2015 Avg.	2014 Avg.	2015 Avg.	
1 PPG-AC 101	6.2	7.3	5.0	3.3
2 Vitagreen	5.5	6.3	4.7	5.0
3 V10 Comp	4.9	5.0	4.8	4.3
4 SCT Comp	4.8	5.1	4.5	4.3
5 SHV Comp	4.8	4.9	4.6	4.3
6 Greenwich	4.7	6.1	3.4	2.0
7 BSS Comp	4.7	4.5	4.8	4.3
8 DPI Comp	4.7	4.7	4.6	4.3
9 Legendary	4.5	5.4	3.5	3.0
10 PIN Comp	4.4	4.4	4.3	3.3
11 Vesper	4.2	5.7	2.7	2.3
12 Villa	3.8	4.7	3.0	3.0
13 SR 7200	2.5	2.5	2.5	2.7
LSD at 5% =	0.8	1.0	0.8	1.6

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

²Copper spot rated on a 1 to 9 scale, where 9 = best disease resistance

Table 8. Performance of creeping and colonial bentgrass cultivars and selections in a fairway trial seeded in September 2013 at North Brunswick, NJ.

Cultivar or Selection	Species	Turf Quality ¹			Brown Patch ² July 2015	Dollar Spot ² July 2015
		2014-2015 Avg.	2014 Avg.	2015 Avg.		
1 PDC Comp	Colonial	7.4	7.4	7.4	7.3	8.7
2 8197-8,10,12	Colonial	7.1	7.3	6.9	5.7	8.7
3 PPG-AT-103	Colonial	7.0	7.3	6.8	7.0	8.0
4 AT 12-4	Colonial	7.0	7.1	7.0	6.0	8.7
5 AT 12-3	Colonial	6.8	6.7	6.9	5.3	9.0
6 8189-7,8,11,12	Colonial	6.8	6.2	7.4	6.7	9.0
7 Musket	Colonial	6.8	7.1	6.5	6.7	7.0
8 AT 12-2	Colonial	6.7	6.7	6.8	6.3	8.3
9 SDR Comp	Colonial	6.7	6.6	6.8	7.3	8.0
10 8197-1-6	Colonial	6.7	6.6	6.9	7.0	8.7
11 Puritan	Colonial	6.7	7.3	6.1	7.0	7.7
12 AT 12-9	Colonial	6.7	6.9	6.5	5.7	9.0
13 AT 12-8	Colonial	6.6	6.7	6.5	6.3	9.0
14 AT 12-16	Colonial	6.6	6.5	6.9	7.0	8.7
15 8191-7-12	Colonial	6.6	6.5	6.8	7.3	8.7
16 AT 12-17	Colonial	6.6	6.7	6.5	6.0	8.3
17 AT 12-19	Colonial	6.5	6.9	6.1	6.0	9.0
18 8195-1-6	Colonial	6.5	6.4	6.7	7.7	9.0
19 AT 12-5	Colonial	6.5	6.6	6.3	5.7	8.7
20 AT 12-11	Colonial	6.5	6.4	6.5	6.3	8.7
21 Heritage	Colonial	6.5	6.8	6.1	6.0	8.0
22 L93XD	Creeping	6.4	7.1	5.8	6.7	6.7
23 AT 12-1	Colonial	6.4	6.7	6.1	5.3	9.0
24 AT 12-10	Colonial	6.4	6.6	6.2	6.3	8.3
25 DPG Comp	Creeping	6.4	6.9	5.9	8.0	6.7

(Continued)

Table 8. Creeping and colonial bentgrass fairway trial, 2013 (continued).

Cultivar or Selection	Species	Turf Quality ¹			Brown Patch ² July 2015	Dollar Spot ² July 2015
		2014-2015 Avg.	2014 Avg.	2015 Avg.		
26 DTO Comp	Colonial	6.4	5.9	6.8	7.0	8.7
27 FT12	Colonial	6.3	6.9	5.8	5.0	8.7
28 PSY Comp	Colonial	6.3	6.2	6.5	6.7	8.3
29 DTT Comp	Colonial	6.3	6.3	6.3	8.3	8.3
30 PPS Comp	Creeping	6.3	6.4	6.1	8.0	7.0
31 AT 12-6	Colonial	6.2	6.4	6.1	6.7	9.0
32 AT 12-13	Colonial	6.2	6.7	5.8	6.3	8.7
33 AT 12-18	Colonial	6.2	6.3	6.2	6.0	8.0
34 AT 12-14	Colonial	6.2	6.3	6.0	6.3	9.0
35 TPD Comp	Creeping	6.0	6.9	5.2	7.7	6.3
36 8200-2,4-6	Colonial	5.9	5.8	6.1	7.7	8.3
37 FSM Comp	Creeping	5.9	6.7	5.2	8.3	6.7
38 FWT Comp	Creeping	5.9	6.8	5.0	8.3	5.0
39 Capri	Colonial	5.8	6.0	5.6	6.0	8.3
40 Flagstick	Creeping	5.8	6.1	5.3	7.3	7.3
41 8190-8-10,12	Colonial	5.7	5.4	6.0	5.0	9.0
42 AT 12-12	Colonial	5.7	5.9	5.4	6.0	8.7
43 PPG-AP 102B	Creeping	5.7	6.8	4.5	7.3	6.3
44 PGT Comp	Creeping	5.6	6.1	5.2	7.0	7.0
45 PPG-AP 102D	Creeping	5.6	6.4	4.8	6.3	6.3
46 8191-2,4,6	Colonial	5.5	5.1	5.9	5.3	8.7
47 AP18	Creeping	5.4	6.3	4.4	6.7	6.0
48 EBM	Colonial	5.3	5.5	5.1	4.7	8.3
49 007	Creeping	5.3	6.6	4.0	7.3	5.3
50 Flagstick + 007	Creeping blend	5.3	6.4	4.2	6.3	7.0

(Continued)

Table 8. Creeping and colonial bentgrass fairway trial, 2013 (continued).

Cultivar or Selection	Species	Turf Quality ¹			Brown Patch ² July 2015	Dollar Spot ² July 2015
		2014-2015 Avg.	2014 Avg.	2015 Avg.		
51 FTP Comp	Creeping	5.3	5.8	4.8	8.3	6.3
52 Luminary	Creeping	5.1	6.5	3.9	7.7	5.0
53 Focus	Creeping	5.1	6.1	4.0	6.3	5.7
54 AT 8	Colonial	5.0	5.9	4.2	5.3	7.3
55 Barracuda	Creeping	4.9	5.6	4.2	7.3	5.0
56 Shark	Creeping	4.8	5.7	4.0	8.0	4.3
57 Authority	Creeping	4.8	5.9	3.8	7.7	4.0
58 Declaration	Creeping	4.8	5.9	3.7	5.0	7.7
59 PST-OCOL	Creeping	4.7	5.1	4.4	5.3	6.3
60 Flagstick + Mackenzie	Creeping blend	4.7	5.6	3.8	7.3	6.0
61 Proclamation	Creeping	4.6	5.9	3.3	7.0	5.0
62 Pin Up 2	Creeping	4.6	5.9	3.3	8.0	5.3
63 PGGW-06	Colonial	4.6	4.8	4.3	5.7	8.0
64 AT 10	Colonial	4.6	4.7	4.4	5.7	8.0
65 Greentime	Colonial	4.5	5.1	4.0	5.3	7.7
66 Pin Up	Creeping	4.5	5.9	3.2	7.7	5.7
67 Tiger 2	Colonial	4.4	5.3	3.6	4.0	6.7
68 Pure Select	Creeping	4.4	5.5	3.4	7.3	4.0
69 PGGW-03	Colonial	4.4	5.1	3.8	4.0	8.0
70 Focus + 96-2	Creeping blend	4.4	5.1	3.6	7.3	4.7
71 PGGW-01	Colonial	4.3	4.9	3.8	5.0	7.7
72 PGGW-05	Colonial	4.3	5.0	3.6	4.3	5.7
73 Manor	Colonial	4.3	4.0	4.5	4.7	7.0
74 PGGW-07	Colonial	4.2	4.9	3.5	5.7	6.7
75 Greenspeed	Colonial	4.2	4.4	4.0	4.0	8.0

(Continued)

Table 8. Creeping and colonial bentgrass fairway trial, 2013 (continued).

Cultivar or Selection	Species	Turf Quality ¹			Brown Patch ² July 2015	Dollar Spot ² July 2015
		2014-2015 Avg.	2014 Avg.	2015 Avg.		
76 PGGW-02	Colonial	4.2	4.7	3.7	3.7	8.0
77 V-8	Creeping	4.2	5.2	3.1	7.7	3.7
78 PST-OCV6	Creeping	4.2	5.4	2.9	7.0	2.7
79 13M	Creeping	4.2	4.8	3.5	5.7	7.0
80 SR 7100	Colonial	4.1	4.6	3.6	5.3	8.0
81 PST-OCVR Bulk	Creeping	4.1	4.9	3.3	7.3	3.3
82 Benchmark DSR	Creeping	4.1	4.7	3.4	6.7	5.3
83 G. Egmont	Colonial	4.1	4.4	3.7	3.3	7.7
84 Focus + Mackenzie	Creeping blend	4.0	4.5	3.6	7.0	4.7
85 Flagstick +Tye	Creeping blend	4.0	5.0	3.1	7.0	5.7
86 PST-Syn-R911	Colonial	4.0	4.4	3.7	3.0	7.7
87 MCT Comp	Creeping	4.0	5.0	3.0	7.7	3.3
88 SR 1150	Creeping	4.0	4.4	3.5	6.3	5.0
89 Glory	Colonial	3.9	4.5	3.3	4.7	7.0
90 PGGW-04	Colonial	3.9	4.0	3.7	3.3	8.0
91 G. Sefton	Colonial	3.9	4.0	3.7	4.3	7.3
92 MCC Comp	Creeping	3.7	4.6	2.8	7.3	2.7
93 Independence	Creeping	3.6	4.6	2.6	9.0	3.7
94 Memorial	Creeping	3.4	3.9	3.0	7.3	6.3
95 PGGW-08	Colonial	3.4	4.1	2.7	4.0	6.0
96 PureFormance Blend	Creeping	3.4	4.3	2.5	6.7	4.7
97 Alister	Colonial	3.3	3.6	3.0	4.3	7.0
98 Tye	Creeping	3.3	3.9	2.7	6.7	3.7
99 Mackenzie	Creeping	3.3	3.7	2.8	7.3	4.3
100 Penn A-4	Creeping	3.3	3.4	3.1	7.3	4.0

(Continued)

Table 8. Creeping and colonial bentgrass fairway trial, 2013 (continued).

Cultivar or Selection	Species	Turf Quality ¹				Brown Patch ² July 2015	Dollar Spot ² July 2015
		2014-2015 Avg.	2014 Avg.	2015 Avg.	2015 Avg.		
101 Kingpin	Creeping	3.2	3.6	2.8	7.0	5.0	
102 T-1	Creeping	3.2	4.3	2.1	7.0	3.0	
103 Alpha	Creeping	3.2	4.2	2.2	7.7	3.7	
104 SR 7150	Colonial	3.1	3.5	2.8	3.7	7.7	
105 96-2	Creeping	3.1	4.1	2.1	6.5	3.7	
106 Mackenzie + Tye	Creeping blend	3.1	3.5	2.6	7.0	3.7	
107 Putter	Creeping	3.0	3.6	2.4	6.7	3.3	
108 Century	Creeping	2.9	2.2	3.7	8.3	6.3	
109 Crenshaw	Creeping	2.9	3.7	2.1	6.7	2.3	
110 L-93	Creeping	2.9	3.3	2.4	6.3	4.7	
111 Southshore	Creeping	2.9	3.5	2.2	7.3	4.0	
112 Imperial	Creeping	2.7	3.2	2.1	6.5	3.7	
113 SR 1119	Creeping	2.6	2.1	3.1	6.7	6.3	
114 Golfstar	ID Bent	2.5	3.0	2.1	2.3	7.7	
115 Penncross	Creeping	2.5	2.7	2.2	6.7	5.0	
116 PSG 7DB	Dryland	2.2	2.6	1.8	4.3	7.3	
117 Exeter	Colonial	2.1	2.3	1.9	5.0	6.7	
LSD at 5% =		0.9	1.0	1.0	1.8	1.5	

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

²Disease rated on a 1 to 9 scale, where 9 = best disease resistance

Table 9. Performance of creeping bentgrass cultivars in a putting green trial established in September 2014 at North Brunswick, NJ. (Includes all entries of the 2014 National Bentgrass Greens Test - NTEP.)

Cultivar or Selection	Turf Quality ¹ 2015	Turf Establishment ² Oct. 2014	Green Tissue ³ (%) Oct. 2014	Spring Green-up ⁴ April 2015	Turf Density ⁵ Nov. 2015	Leaf Texture ⁶ Nov. 2015
1 777	7.6	6.0	80.0	6.0	7.3	8.3
2 L-93XD	7.6	5.3	73.3	6.3	8.3	8.7
3 Piranha	6.9	5.3	65.0	6.0	7.3	7.7
4 DLFPS-AP/3058	6.8	5.7	68.3	6.3	7.3	7.0
5 DLFPS-AP/3018	6.7	4.7	66.7	6.7	7.3	8.3
6 PST-ROPS	6.6	3.3	55.0	5.0	7.7	8.3
7 GDE	6.5	6.3	75.0	6.7	6.3	7.7
8 DLFPS-AP/3056	6.3	6.7	83.3	5.7	6.3	7.3
9 Shark	6.2	7.0	81.7	7.0	6.0	7.3
10 Pure Select	6.0	5.7	81.7	6.0	5.7	8.0
11 Luminary	6.0	5.3	66.7	7.3	5.7	7.0
12 V-8	6.0	4.7	63.3	6.3	6.3	8.0
13 Nightlife	5.7	5.7	73.3	3.3	6.3	7.0
14 Kingdom	5.6	4.7	55.0	3.3	5.7	6.0
15 Barracuda	5.6	7.0	83.3	7.0	5.7	7.3
16 Armor	4.9	4.0	53.3	4.0	5.7	6.3
17 DLFPS-AP/3059	4.9	6.3	71.7	6.3	4.3	5.3
18 Declaration	4.7	6.7	78.3	7.0	4.3	6.3
19 Penn A-1	4.0	5.3	66.7	6.3	4.0	5.7
20 Penncross	2.2	5.0	66.7	5.7	1.7	3.0

Table 9. Creeping bentgrass putting green trial, 2014, NTEP (continued).

Cultivar or Selection	Turf Quality ¹ 2015	Turf Establishment ² Oct. 2014	Green Tissue ³ (%) Oct. 2014	Spring Green-up ⁴ April 2015	Turf Density ⁵ Nov. 2015	Leaf Texture ⁶ Nov. 2015
LSD at 5% =	0.8	1.5	15.1	1.3	1.6	0.9

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

²Turf establishment rated on a 1 to 9 scale, where 9 = quickest establishment of turf canopy

³Green tissue (%) rated on a 1 to 100 scale, where 100 = complete turf cover within plot

⁴Spring green-up rated on a 1 to 9 scale, where 9 = earliest spring green-up

⁵Turf density rated on a 1 to 9 scale, where 9 = highest shoot density

⁶Leaf texture rated on a 1 to 9 scale, where 9 = finest leaf texture

Table 10. Performance of creeping and colonial bentgrass cultivars in a fairway trial established in September 2014 at North Brunswick, NJ. (Includes all entries of the 2014 National Bentgrass Fairway Test - NTEP.)

Cultivar or Selection	Species	Turf Quality ¹ 2015	Turf Establishment ² Oct. 2014	Root Pythium ³ Oct. 2014	Green Tissue ⁴ (%) Oct. 2014	Spring Green-up ⁵ April 2015	Brown Patch ⁶ 2015	Dollar Spot ⁶ 2015	Turf Density ⁷ Nov. 2015	Leaf Texture ⁸ Nov. 2015
1	Piranha	7.6	7.3	6.0	68.3	6.7	7.2	7.5	7.0	8.0
2	L-93XD	7.1	6.3	8.7	58.3	6.3	7.7	8.2	6.7	8.0
3	OO7	6.9	6.3	8.0	60.0	6.7	6.8	7.8	6.3	8.3
4	Barracuda	6.4	9.0	7.3	81.7	5.7	6.5	8.0	6.3	7.0
5	Luminary	6.3	7.3	8.3	61.7	5.7	8.0	7.5	7.3	7.3
6	Chinook	6.1	7.0	6.3	65.0	5.0	7.2	8.2	5.7	7.7
7	V-8	6.1	7.0	8.7	63.3	6.7	6.7	7.7	5.7	7.3
8	Puritan	6.0	5.3	3.3	45.0	7.7	5.0	8.7	7.0	8.3
9	Shark	5.8	8.0	8.0	65.0	6.0	6.3	6.2	6.0	7.3
10	DLFPS-AT/3026	5.8	5.7	3.0	45.0	7.7	4.5	8.8	7.0	7.7
11	Crystal BlueLinks	5.5	9.0	6.0	76.7	6.3	6.0	6.8	4.3	7.7
12	Declaration	5.5	7.3	7.3	66.7	5.3	6.3	8.2	6.0	7.3
13	Nightlife	5.4	6.0	8.7	58.3	3.7	7.0	7.0	6.0	6.7
14	PST-DCV6	5.4	6.0	6.0	45.0	5.0	6.7	6.5	5.0	7.3
15	PST-ORBS	5.1	4.7	6.0	45.0	5.3	5.8	6.8	5.0	7.0
16	Musket	5.0	6.0	3.0	40.0	7.0	4.0	8.5	4.7	7.0
17	Greentime	4.7	4.7	3.7	45.0	5.0	3.8	8.5	4.7	7.7
18	Kingdom	4.6	5.3	8.3	51.7	3.3	6.7	5.8	5.3	5.7
19	Armor	4.3	6.0	8.7	56.7	3.7	7.2	4.2	4.0	6.3
20	Penncross	3.0	7.0	7.0	70.0	5.0	5.3	5.8	2.3	3.3
LSD at 5% =		0.8	1.7	1.5	16.0	1.2	0.9	1.0	1.7	1.1

(Continued)

Table 10. Creeping and colonial bentgrass fairway trial, 2014, NTEP (continued).

- ¹Turf quality rated on a 1 to 9 scale, where 9 = best turf quality
- ²Turf establishment rated on a 1 to 9 scale, where 9 = quickest establishment of turf canopy
- ³Root Pythium disease rated on a 1 to 9 scale, where 9 = best disease resistance
- ⁴Green tissue (%) rated on a 1 to 100 scale, where 100 = complete turf cover within plot
- ⁵Spring green-up rated on a 1 to 9 scale, where 9 = earliest spring green-up
- ⁶Disease rated on a 1 to 9 scale, where 9 = best disease resistance; data is an average of two rating dates
- ⁷Turf density rated on a 1 to 9 scale, where 9 = highest shoot density
- ⁸Leaf texture rated on a 1 to 9 scale, where 9 = finest leaf texture

Table 11. Performance of creeping bentgrass cultivars and selections in a putting green trial seeded in September 2014 at North Brunswick, NJ.

	Cultivar or Selection	Turf Quality ¹ 2015	Dollar Spot ² 2015	Turf Establishment ³ Oct. 2014	Root Pythium ⁴ Oct. 2014
1	4759-7,8,10,12	7.0	7.0	4.7	8.0
2	4738-7-12	6.9	7.2	4.7	8.7
3	GSM Comp	6.6	7.5	4.7	9.0
4	4740-1-6	6.5	7.0	5.3	8.7
5	777	6.4	5.9	7.3	9.0
6	UCE Comp	6.3	7.1	5.7	8.7
7	4757-8-12	6.2	7.5	5.0	9.0
8	Pin-Up	6.1	6.4	6.3	9.0
9	LSC Comp	6.1	7.1	4.7	8.7
10	PYR Comp	6.1	6.9	6.7	8.3
11	4739-7-12	6.1	7.9	5.0	8.3
12	Piranha	6.0	6.5	4.3	8.7
13	4741-8,10,12	6.0	6.2	4.0	8.3
14	Proclamation	5.9	4.9	6.0	9.0
15	4749-7-10,12	5.9	7.2	4.3	9.0
16	PST-ROPS	5.9	6.1	4.0	8.3
17	4733-7-9,11	5.8	7.8	6.7	9.0
18	4756-7-9,12	5.8	7.0	5.3	8.3
19	4787-4-6	5.8	6.3	6.3	8.3
20	TLP Comp	5.7	6.2	4.7	9.0
21	4767-2-6	5.7	6.6	4.3	8.7
22	4760-1-6	5.7	7.7	7.0	9.0
23	Luminary	5.7	6.8	5.7	9.0
24	PDM Comp	5.7	6.5	4.3	8.7
25	Pure Select	5.6	6.3	6.3	8.0
26	KAC Comp	5.6	7.7	4.0	8.7
27	4726-1-4	5.6	6.5	4.0	8.3
28	4764-1-5	5.6	7.0	4.0	8.7
29	4779-1-6	5.5	6.8	5.0	9.0
30	4782-3-6	5.5	7.2	4.3	8.7
31	Barracuda	5.3	5.4	8.0	9.0
32	Pin-Up 2	5.3	6.2	4.3	8.7
33	Shark	5.3	5.2	8.7	9.0
34	Pure Distinction	5.2	4.6	5.7	8.0
35	Pureformance	5.2	5.6	6.3	8.3

(Continued)

Table 11. Creeping bentgrass putting green trial, 2014 (continued).

	Cultivar or Selection	Turf Quality ¹ 2015	Dollar Spot ² 2015	Turf Establishment ³ Oct. 2014	Root Pythium ⁴ Oct. 2014
36	V-8	5.1	6.1	6.3	9.0
37	4744-1-6	5.0	6.4	4.7	9.0
38	Memorial	4.9	8.3	5.3	7.3
39	Declaration	4.9	7.1	6.0	9.0
40	Independence	4.9	5.5	5.7	9.0
41	OO7	4.9	5.4	6.0	9.0
42	Authority	4.8	5.8	5.3	7.7
43	Centercut 3	4.8	7.0	5.7	8.7
44	A-1/A-4	4.7	5.6	6.0	8.0
45	DSC Comp	4.7	5.8	4.0	8.7
46	FGL Comp	4.6	7.8	2.3	9.0
47	PST-0RBS	4.6	5.1	4.0	8.3
48	AP-18	4.5	4.9	3.0	8.7
49	PST-Syn-0CBX	4.2	4.5	4.0	8.3
50	Benchmark DSR	4.2	4.9	5.7	8.3
51	PST-0CV6	4.0	4.4	4.0	8.0
52	13M	4.0	7.1	5.7	8.0
53	Crystal BlueLinks	3.9	6.7	6.7	7.7
54	T-1	3.8	5.3	5.0	8.7
55	King Pin	3.8	6.2	6.3	8.3
56	Alpha	3.1	6.0	6.0	8.3
57	Southshore	2.7	6.0	6.3	8.7
58	L-93	2.7	6.2	7.0	9.0
59	Crenshaw	2.7	4.3	6.0	8.7
60	Penncross	2.2	5.6	7.0	8.7
	LSD at 5% =	0.9	1.7	1.6	1.0

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

²Dollar spot rated on a 1 to 9 scale, where 9 = best disease resistance; data is an average of three rating dates

³Turf establishment rated on a 1 to 9 scale, where 9 = quickest establishment of turf canopy

⁴Root Pythium disease rated on a 1 to 9 scale, where 9 = best disease resistance

Table 12. Performance of velvet bentgrass cultivars and selections in a putting green trial seeded in September 2014 at North Brunswick, NJ.

Cultivar or Selection	Turf Quality ¹ 2015	Dollar Spot ² 2015	Turf Establishment ³ Oct. 2014	Root Pythium ² Oct. 2014
1 PPG-AC 101	6.0	8.0	4.0	4.0
2 PST-Syn-VH9	4.7	7.4	3.0	3.0
3 Villa	4.6	7.5	4.7	3.0
4 Legendary	4.5	6.8	3.7	3.3
5 Greenwich	4.0	7.1	2.7	5.3
6 PST-VR01	3.5	7.2	1.3	4.7
7 SR 7200	2.6	6.3	2.3	4.3
LSD at 5% =	0.9	1.7	1.6	1.0

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

²Dollar spot rated on a 1 to 9 scale, where 9 = best disease resistance; data is an average of three rating dates

³Turf establishment rated on a 1 to 9 scale, where 9 = quickest establishment of turf canopy

²Root Pythium disease rated on a 1 to 9 scale, where 9 = best disease resistance

Table 13. Performance of creeping and colonial bentgrass cultivars and selections in a fairway trial seeded in September 2014 at North Brunswick, NJ.

Cultivar or Selection	Species	Turf Quality ¹ 2015	Brown Patch ² 2015	Dollar Spot ³ 2015	Turf Establishment ⁴ Oct. 2014
1 UCE Comp	Creeping	6.5	8.8	6.0	5.7
2 Piranha	Creeping	6.5	8.5	5.2	6.5
3 WLC Comp	Colonial	6.2	6.7	6.3	5.0
4 LSC Comp	Creeping	6.1	8.7	5.3	4.7
5 PYR Comp	Creeping	5.9	8.0	5.7	5.7
6 DML	Colonial	5.8	6.8	6.3	6.3
7 WMC Comp	Colonial	5.8	5.5	6.5	6.0
8 DSC Comp	Creeping	5.8	8.0	4.9	5.7
9 WEC Comp	Colonial	5.8	5.2	6.2	4.7
10 GSM Comp	Creeping	5.8	8.3	5.5	4.3
11 KAC Comp	Creeping	5.8	7.8	5.1	5.7
12 Barracuda	Creeping	5.8	7.7	4.1	8.7
13 Puritan	Colonial	5.7	5.2	6.2	6.3
14 777	Creeping	5.7	8.3	4.2	6.7
15 Pin-Up	Creeping	5.7	8.0	4.8	7.7
16 PDM Comp	Creeping	5.7	8.2	5.4	4.3
17 OO7	Creeping	5.5	8.0	4.5	7.7
18 Musket	Colonial	5.5	4.5	6.7	6.7
19 FT12	Colonial	5.5	5.7	6.9	4.7
20 Capri	Colonial	5.5	4.8	6.7	6.3

Table 13. Creeping and colonial bentgrass fairway trial, 2014 (continued).

Cultivar or Selection	Species	Turf Quality ¹ 2015	Brown Patch ² 2015	Dollar Spot ³ 2015	Turf Establishment ⁴ Oct. 2014
21 FGL Comp	Creeping	5.5	9.0	5.0	3.7
22 TLP Comp	Creeping	5.4	8.5	4.8	4.3
23 Proclamation	Creeping	5.4	8.0	4.3	6.0
24 Luminary	Creeping	5.2	7.7	4.8	7.0
25 Declaration	Creeping	5.1	7.3	5.9	6.7
26 Pureformance	Creeping	5.1	7.8	3.3	8.3
27 Pin-Up 2	Creeping	5.1	7.5	4.8	5.0
28 Shark	Creeping	4.9	7.3	3.5	8.0
29 Tiger 2	Colonial	4.8	5.0	5.8	6.3
30 Authority	Creeping	4.8	6.2	4.8	6.7
31 T-1	Creeping	4.8	8.0	3.6	5.7
32 PST-ROPS	Creeping	4.8	7.7	4.1	6.0
33 13M	Creeping	4.7	6.7	5.3	7.3
34 PST-Syn-0ERP	Creeping	4.7	7.7	3.9	5.3
35 Memorial	Creeping	4.6	7.2	4.8	7.0
36 King Pin	Creeping	4.5	7.2	4.5	6.7
37 PST-0CV6	Creeping	4.5	6.8	3.4	6.0
38 PST-Syn-9DR5	Colonial	4.5	5.2	5.7	5.0
39 V-8	Creeping	4.5	5.5	4.3	6.7
40 Independence	Creeping	4.5	7.7	2.9	5.0
41 Pure Select	Creeping	4.4	6.0	4.3	7.0
42 PST-0RBS	Creeping	4.4	8.2	4.1	4.0
43 Pure Distinction	Creeping	4.4	6.5	3.8	6.3
44 Crystal BlueLinks	Creeping	4.2	5.7	4.0	8.3
45 PST-9FR10 Bulk	Colonial	4.1	5.2	5.0	4.3

(Continued)

Table 13. Creeping and colonial bentgrass fairway trial, 2014 (continued).

Cultivar or Selection	Species	Turf Quality ¹ 2015	Brown Patch ² 2015	Dollar Spot ³ 2015	Turf Establishment ⁴ Oct. 2014
46 A-1/A-4	Creeping	4.1	6.3	3.3	7.0
47 PST-9HID Bulk	Colonial	4.1	5.7	4.5	5.3
48 Alpha	Creeping	4.0	6.2	3.4	7.7
49 Glory	Colonial	4.0	3.2	5.9	6.7
50 SR 7100	Colonial	3.8	5.0	5.0	4.3
51 PST-Syn-0CBX	Creeping	3.7	5.5	3.0	4.7
52 Benchmark DSR	Creeping	3.7	7.0	4.1	3.0
53 PST-Syn-9EFR	Colonial	3.6	3.8	5.5	4.3
54 L-93	Creeping	3.4	6.5	4.1	8.0
55 AP-18	Creeping	3.4	7.0	4.7	1.7
56 Crenshaw	Creeping	3.3	6.3	3.2	6.0
57 SR 7150	Colonial	3.3	5.7	4.8	2.0
58 Penncross	Creeping	3.0	4.3	3.1	8.0
59 Southshore	Creeping	2.9	5.0	3.2	7.7
60 Penn A-4	Creeping	2.8	5.8	3.2	3.0
61 Alister	Colonial	2.5	6.8	4.2	1.3
LSD at 5% =		0.9	1.4	1.0	2.1

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

²Brown patch rated on a 1 to 9 scale, where 9 = best disease resistance; data is an average of two rating dates

³Dollar spot rated on a 1 to 9 scale, where 9 = best disease resistance; data is an average of three rating dates

⁴Turf establishment rated on a 1 to 9 scale, where 9 = quickest establishment of turf canopy

Table 14. Maintenance practices performed in 2015 on bentgrass trials at North Brunswick, NJ.

Table	Test	Fertility ¹	Mowing Height (inches)	Cultivation/Top Dress	Fungicides	Insecticides	Herbicides
1	2011 Greens	1.10(N); 0.48 lb P ₂ O ₅ ; 0.4 lb K ₂ O	0.110	May to July–top-dressed	none	none	none
2	2011 Velvet Greens	1.10(N); 0.48 lb P ₂ O ₅ ; 0.4 lb K ₂ O	0.110	May to July–top-dressed	none	none	none
3	2012 Greens	2.15(N); 1.09 lb P ₂ O ₅ ; 1.03 lb K ₂ O	0.110	May to Oct.–top-dressed	none	Aug.–Talstar P (sod webworm)	none
4	2012 Velvet Greens	2.15(N); 1.09 lb P ₂ O ₅ ; 1.03 lb K ₂ O	0.110	May to Oct.–top-dressed	none	Aug.–Talstar P (sod webworm)	none
5	2012 Fairway	2.05(N); 20 fl oz Micrel Total 5-0-0; 0.05 lb P ₂ O ₅ ; 0.72 lb K ₂ O	0.375	Oct.–Tricure AD (wetting agent)	Sept.–Banner Maxx	Sept.–Arena 50 WDG (white grubs)	June to Aug.–Acclaim Extra (crabgrass) Sept.–Diablo (broadleaf weeds)
6	2013 Greens	2.16(N); 12 fl oz Micrel Total 5-0-0; 8 fl oz Harrell's MAX Minors; 0.97 lb P ₂ O ₅ ; 0.91 lb K ₂ O	0.110	May to Oct.–top-dressed	none	Aug.–Talstar P (sod webworm)	July, Aug.–Acclaim Extra (crabgrass)

(Continued)

Table 14. Bentgrass maintenance practices, 2015 (continued).

Table	Test	Fertility ¹	Mowing Height (inches)	Cultivation/Top Dress	Fungicides	Insecticides	Herbicides
7	2013 Velvet Greens	1.86 (N); 4 fl oz Micrel Total 5-0-0; 0; 0.85 lb P ₂ O ₅ ; 0.76 lb K ₂ O	0.110	May to Sept.–top-dressed Oct.–Tricure AD (wetting agent)	none	Aug.–Talstar P (sod webworm)	June–Acclaim Extra (crabgrass)
8	2013 Fairway	2.05(N); 20 fl oz Micrel Total 5-0-0; 0; 0.05 lb P ₂ O ₅ ; 0.72 lb K ₂ O	0.375	Oct.–Tricure AD (wetting agent)	July–Emerald	Sept.–Arena 50 WDG (white grubs)	none
9	2014 Greens, NTEP	1.30(N); 18 fl oz Magnesium 4%; 24 fl oz Harrell's MAX Minors; 12 fl oz Mg Chelate 5%; 1.25 lb P ₂ O ₅ ; 0.78 lb K ₂ O	0.110	May to Sept.–top dressed	May, June–26 GT May, July, Sept., Oct.–Daconil Ultrex Aug.–Curalan Nov.–Insignia SC	Aug.–Talstar P (sod webworm)	none
10	2014 Fairway, NTEP	1.9(N); 0.67 lb K ₂ O	0.375	Nov.–Tricure AD (wetting agent)	Aug.–Medallion SC + Banner MAXX; Emerald + Banner MAXX Sept.–Banner MAXX Oct.–Emerald	Aug.–Talstar P (sod webworm)	July–Confront (broadleaf weeds)

(Continued)

Table 14. Bentgrass maintenance practices, 2015 (continued).

Table	Test	Fertility ¹	Mowing Height (inches)	Cultivation/Top Dress	Fungicides	Insecticides	Herbicides
11	2014 Greens	0.98 (N); 15 fl oz Magnesium 4%; 20 fl oz Harrell's MAX Minors; 0.75 lb P ₂ O ₅ ; 0.72 lb K ₂ O	110	May to Sept.–top dressed Nov.–Tricure AD (wetting agent)	Oct.–Daconil Ultrex	none	July–Lontrel (clover, post-emergence)
12	2014 Velvet Greens	0.98 (N); 15 fl oz Magnesium 4%; 20 fl oz Harrell's MAX Minors; 0.75 lb P ₂ O ₅ ; 0.72 lb K ₂ O	0.110	May to Sept.–top dressed Nov.–Tricure AD (wetting agent)	Oct.–Daconil Ultrex	none	July–Lontrel (clover, post-emergence)
13	2014 Fairway	1.80 (N); 0 lb P ₂ O ₅ ; 0.35 lb K ₂ O	0.375	Nov.–Tricure AD (wetting agent)	Oct.–Daconil Ultrex	Aug.–Talstar P (sod webworm)	July–Confront (broadleaf weeds)

¹Annual nitrogen applied (lb/1000 ft²). Additional fertilizers as noted (per 1000 ft²)