

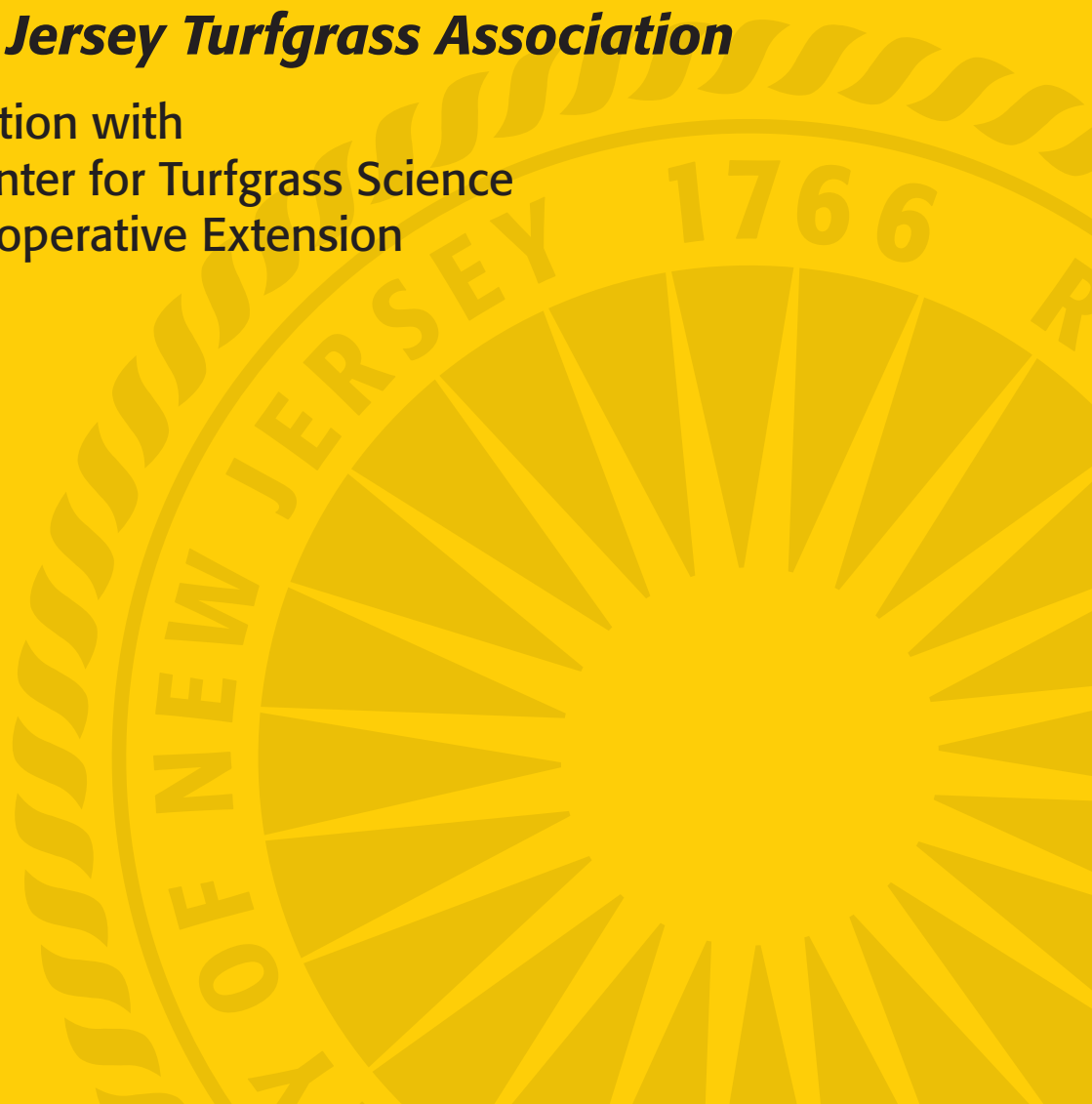
RUTGERS

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Rutgers Center for Turfgrass Science
Rutgers Cooperative Extension



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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 2014 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 including creeping bentgrass (*Agrostis palustris* Huds.; synonym = *A. stolonifera* L.), colonial bentgrass (*A. tenuis* L. or *A. capillaris* L.), and velvet bentgrass (*A. canina* L.). Additionally, highland or dryland bentgrass (*A. castellana* Boiss. & Reut.) can be options for turf in stressful areas but tend to be less attractive than the more common species when a high quality turf is needed and are, therefore, 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, therefore it is usually better suited for fairways in temperate areas of the United States.

Creeping bentgrasses are highly stoloniferous and have a prostrate growth habit, which allows for persistence under very low mowing heights. Cutting heights of 1/10 of an inch are not uncommon on many top tier golf courses. This species is highly adapted to both cool, temperate as well as warm, humid regions of the United States, making it the most popular species used on golf course putting greens in temperate areas. Its vigorous spreading growth habit also contributes to its ability to repair damaged areas quickly. In 1954, H. B. Musser released 'Penncross,' the first seeded synthetic variety of creeping bentgrass (Musser, 1959). Since that time, breeding efforts have markedly improved 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 2009 (Table 1), 2011 (Tables 2 to 4), 2012 (Tables 5 to 7), and 2013 (Tables 8 to 10). Trials were established on a modified Nixon loam. Plot size was 3 x 5 ft for all trials. 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 11. The putting green tests were mowed five to six times per week during periods of active growth with a triplex or walk-behind reel mower equipped to collect clippings. The fairway tests were mowed three times per week with a triplex reel mower and clippings were removed during periods of active growth. Soil pH was maintained in the range of 5.4 to 6.8 with agricultural limestone. All tests were irrigated to avoid drought stress.

Plots were evaluated frequently during the growing season for overall turf quality (i.e. turf density, texture, uniformity, color, growth habit, and presence of disease and insect damage). Turf quality (Tables 1 to 10), establishment (Tables 8 to 10), spring green-up (Tables 1 to 3), wear quality (Table 1), sod web worm and herbicide damage (Table 8), and disease were rated on a 1 to 9 scale, where 9 represented the most desirable turf characteristic. Disease ratings included dollar spot (Tables 2 to 5, and 7), brown patch (Tables 4, 7, 8, and 10), leaf spot (Tables 2 and 6), copper spot (Tables 5 and 9), and root *Pythium* (Table 8). All data

were subjected to analysis of variance. Means were separated using Fisher's protected least significant difference (LSD) means separation test.

RESULTS AND DISCUSSION

Turf Quality Evaluations

Entries in Tables 1 through 7 are ranked according to their overall multi-year quality average. Tables 8 through 10 are ranked by the average turf quality for 2014 only. Throughout all of the years that turf quality was assessed, a few varieties in each bentgrass species stood out as better performing entries. For creeping bentgrasses maintained at a putting green height of cut, Luminary, Barracuda, Pure Distinction, and the experimental selections CMC Comp, PPG-AP 102 (B/C/D), H05TP-300-1, PGC Comp, CAS2 Comp (CAS-2), 1HC, LQC Comp, EBC Comp, and PPS Comp all performed very well, while Penncross, Brighton, Southshore, Putter, and SR1119 were consistently among the poorest performers. At fairway height, Flagstick and the experimental selections PPG-AP 102 (B/C), CAS-2, CMC Comp, LUC Comp, EBC Comp, and PGF Comp creeping bentgrasses had excellent turf quality while the lowest scoring cultivars consisted of Penncross, Providence, Sandhill, Century, and SR1119.

Overall turf quality for velvet bentgrasses was evaluated in the 2009, 2011, 2012, and 2013 trials (Tables 1, 2, 6, and 9) under greens height of cut. The experimental entries PSG 7PC2, PPG-AC 101, IS-AC 4, IS-AC 5, PST-Syn-VH9, and Rutgers composite ESV have been among the top performing velvet bentgrasses within all trials. The cultivar SR 7200 and Villa displayed poor quality under these greens-type management conditions, along with several SRP/PSG-designated experimentals.

As mentioned previously, colonial bentgrasses perform better at a fairway cutting height and typically have poorer performance under putting green conditions as shown in Tables 1, 3, and 8. Nevertheless, there were several colonials in each trial that exhibited acceptable turf quality at greens height including BCQ Comp and WBM Comp (Table 1), CED Comp, CEM Comp, FDC Comp, and CMD Comp (Table 3), and Capri, PDC Comp, and PSY Comp (Table 8). Under fairway conditions however (Tables 4, 7, and 10), the experimental selections PSG NBC, PPG-AT 103, PPG-AT 101, PPG-AT 104, AT 12-4, AT 12-9, AT 12-19, FDC Comp, CED Comp, CMD Comp,

A08-FT12, PRE Comp, PRE2 Comp, PDC Comp, and 8197-8,10,12 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. homeocarpa*, 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). Additionally, 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 does creeping bentgrass, however the results from recent trials (Tables 2 to 5, and 7) indicate that significant improvements in creeping bentgrass have been made. Cultivars such as Barracuda, Declaration, Flagstick, Memorial, and Proclamation, as well as experimental entries CMC Comp, PPG-AP 102 (B/C), EBC Comp, PSD Comp, and PDD Comp were highly resistant to this disease, while Ninety-Six Two, Crenshaw, Putter, Alpha, Penn A-4, and PSG-TAV entries were more susceptible.

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 4, 7, 8, and 10. In 2014, creeping bentgrasses displayed acceptable tolerance to this disease, exhibiting little significant separation between entries.

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 4 and 7), gradual improvements in disease resistance is evi-

dent. In these trials evaluated in 2014, the experimental selections CMD Comp, CEM Comp, PPG-AT 101, PPG-AT 103, PST-0HFN Bulk, FDC Comp, and PRE2 Comp exhibited significantly improved brown patch resistance compared to entries such as SR 7100, Tiger 2, Alister, Glory, and SR 7100. It should be noted that under greens height of cut (Table 8), the experimental entry PDC 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 2014 growing season, copper spot disease was assessed on velvet bentgrass in the 2013 trial (Table 9). The experimental lines PPG-AC 101 and BSS Comp stood out as highly tolerant entries when compared to older varieties such as Villa, SR 7200, Greenwich, and Legendary.

While not typically considered a large problem on creeping bentgrass surfaces, it can be stated that some creeping bentgrass cultivars and selections were significantly affected by copper spot in the 2012 green trial (Table 5). In general the creeping bentgrasses, including PPG-AP 102B, GMC-12K, PSD Comp, and several of the P2IL series, showed acceptable levels of disease tolerance, and only a few entries proved unacceptable, including Proclamation, Pin-Up, and PGF Comp.

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 2009 (Table 1) greens trial by using a novel wear simulator (Bonos et al, 2001) which is an en-

gine-driven device with rotating rubber paddles that repeatedly hit the turf. Plots were then rated for their density and color comprising an overall wear quality rating under these conditions.

In this trial, creeping, velvet, and colonial bentgrasses were assessed, with the colonial and velvet bentgrasses typically exhibiting lower wear quality compared to the more variable creeping bentgrasses. None of the colonial bentgrasses exhibited acceptable wear quality, although there was more variability in the velvet and creeping entries. Among the velvet entries, IS-AC 5, PSG 7PC2, Villa, Legendary, and Greenwich performed better than SR 7200 and the experimental entries SRP 2186 and SRP 2148. Newer creeping bentgrass experimental entries such as CAS2, CAS1, H05TP-295-1, H05TP-295-12, RJM 26, RJM 56, and RJM 513 all performed significantly better than older cultivars such as Brighton, Penncross, Providence, SR 1119, Putter, Southshore, and L-93.

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Table 1. Performance of creeping, velvet, and colonial bentgrass cultivars and selections in a putting green trial seeded in sand in September 2009 at North Brunswick, NJ.

| | Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | -----Turf Wear Quality ² ----- | | | | Spring Green-up ³ April 2014 | |
|----|-----------------------|----------|--------------------------------------|-----------|-----------|-----------|---|-----------|-----------|-----------|--|-----|
| | | | 2010-2014 Avg. | 2010 Avg. | 2011 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | 2013 Avg. | 2014 Avg. | | |
| 1 | PGC Comp | Creeping | 6.8 | 7.0 | 7.1 | 6.4 | 7.0 | 6.6 | 6.5 | 6.5 | 6.3 | 7.7 |
| 2 | CAS2 Comp | Creeping | 6.8 | 7.0 | 6.8 | 6.2 | 6.9 | 6.8 | 7.8 | 8.0 | 7.5 | 7.0 |
| 3 | H05TP-300-1 | Creeping | 6.8 | 7.2 | 6.4 | 7.1 | 6.9 | 6.3 | 7.0 | 7.0 | 7.0 | 5.7 |
| 4 | LQC Comp | Creeping | 6.6 | 6.9 | 6.2 | 6.7 | 6.8 | 6.2 | 7.2 | 7.3 | 7.0 | 7.3 |
| 5 | H05TP-295-12 | Creeping | 6.5 | 7.0 | 6.2 | 6.3 | 7.2 | 5.9 | 8.2 | 8.5 | 7.8 | 7.7 |
| 6 | Luminary | Creeping | 6.5 | 7.2 | 6.5 | 6.2 | 7.0 | 5.4 | 5.7 | 6.2 | 5.2 | 6.7 |
| 7 | RJM 26 | Creeping | 6.5 | 6.9 | 5.4 | 4.9 | 7.7 | 7.7 | 8.9 | 9.0 | 8.8 | 8.5 |
| 8 | PSG 7PC2 | Velvet | 6.4 | 7.1 | 6.1 | 6.6 | 5.8 | 6.0 | 6.0 | 5.8 | 6.2 | 4.3 |
| 9 | H05TP-295-1 | Creeping | 6.3 | 6.8 | 6.2 | 5.7 | 6.7 | 6.3 | 7.5 | 7.8 | 7.2 | 5.7 |
| 10 | Barracuda | Creeping | 6.2 | 6.9 | 5.7 | 6.1 | 6.7 | 5.7 | 7.3 | 7.2 | 7.3 | 7.3 |
| 11 | DQC Comp | Creeping | 6.2 | 6.1 | 6.4 | 6.2 | 6.2 | 6.0 | 6.2 | 6.2 | 6.2 | 6.3 |
| 12 | IS-AC 5 | Velvet | 6.2 | 6.7 | 5.5 | 6.1 | 6.4 | 6.3 | 6.4 | 6.0 | 6.7 | 7.3 |
| 13 | RJM 513 | Creeping | 6.2 | 7.0 | 5.6 | 4.7 | 7.1 | 6.7 | 7.8 | 8.0 | 7.5 | 6.5 |
| 14 | IS-AP 18 | Creeping | 6.1 | 6.4 | 6.2 | 5.8 | 6.7 | 5.5 | 7.1 | 7.5 | 6.7 | 6.7 |
| 15 | CAS1 Comp | Creeping | 6.1 | 5.8 | 6.1 | 6.2 | 6.5 | 5.7 | 7.7 | 7.3 | 8.0 | 7.0 |
| 16 | IS-AC 4 | Velvet | 6.0 | 6.5 | 5.5 | 6.6 | 6.1 | 5.5 | 6.8 | 7.0 | 6.5 | 6.7 |
| 17 | IS-AP 15 | Creeping | 6.0 | 6.6 | 6.0 | 5.6 | 6.1 | 5.6 | 6.0 | 6.0 | 6.0 | 5.7 |
| 18 | Authority | Creeping | 6.0 | 6.6 | 5.5 | 5.6 | 6.3 | 6.1 | 6.7 | 6.7 | 6.7 | 6.7 |
| 19 | RJM 412 | Creeping | 6.0 | 6.7 | 4.5 | 5.0 | 7.4 | 6.2 | 7.9 | 8.5 | 7.3 | 8.0 |
| 20 | RH 0839 | Creeping | 5.9 | 6.5 | 4.6 | 4.7 | 7.0 | 6.4 | 7.7 | 7.3 | 8.0 | 7.7 |
| 21 | RH 931 | Creeping | 5.9 | 6.3 | 5.9 | 5.7 | 6.1 | 5.5 | 6.3 | 6.7 | 6.0 | 6.0 |
| 22 | Shark | Creeping | 5.8 | 6.3 | 5.2 | 5.2 | 6.4 | 6.0 | 6.3 | 6.8 | 5.8 | 6.3 |
| 23 | Pin-Up | Creeping | 5.7 | 6.4 | 5.2 | 5.8 | 6.1 | 4.8 | 5.8 | 5.3 | 6.2 | 6.3 |
| 24 | RJM 56 | Creeping | 5.7 | 6.4 | 4.3 | 4.6 | 7.0 | 6.3 | 8.4 | 8.8 | 8.0 | 8.0 |
| 25 | Focus | Creeping | 5.6 | 5.9 | 5.4 | 6.0 | 5.8 | 4.8 | 5.7 | 4.7 | 6.7 | 6.0 |

(Continued)

Table 1. Creeping, velvet, and colonial bentgrass putting green trial, 2009 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | | -----Turf Wear Quality ² ----- | | | Spring Green-up ³ April 2014 | |
|------------------------------|----------|--------------------------------------|-----------|-----------|-----------|-----------|---|----------------|-----------|--|-----------|
| | | 2010-2014 Avg. | 2010 Avg. | 2011 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | 2013-2014 Avg. | 2013 Avg. | | 2014 Avg. |
| 21 RH 931 | Creeping | 5.9 | 6.3 | 5.9 | 5.7 | 6.1 | 5.5 | 6.3 | 6.7 | 6.0 | 6.0 |
| 22 Shark | Creeping | 5.8 | 6.3 | 5.2 | 5.2 | 6.4 | 6.0 | 6.3 | 6.8 | 5.8 | 6.3 |
| 23 Pin-Up | Creeping | 5.7 | 6.4 | 5.2 | 5.8 | 6.1 | 4.8 | 5.8 | 5.3 | 6.2 | 6.3 |
| 24 RJM 56 | Creeping | 5.7 | 6.4 | 4.3 | 4.6 | 7.0 | 6.3 | 8.4 | 8.8 | 8.0 | 8.0 |
| 25 Focus | Creeping | 5.6 | 5.9 | 5.4 | 6.0 | 5.8 | 4.8 | 5.7 | 4.7 | 6.7 | 6.0 |
| 26 MDV Comp | Velvet | 5.6 | 5.8 | 5.0 | 5.5 | 6.0 | 5.7 | 4.9 | 4.8 | 5.0 | 4.3 |
| 27 MDS Comp | Velvet | 5.6 | 5.6 | 5.4 | 6.1 | 5.4 | 5.4 | 5.4 | 5.8 | 5.0 | 4.3 |
| 28 Villa | Velvet | 5.4 | 6.1 | 5.0 | 5.8 | 5.4 | 4.9 | 5.9 | 5.8 | 6.0 | 5.3 |
| 29 Greenwich | Velvet | 5.4 | 6.4 | 5.2 | 5.6 | 5.2 | 4.6 | 5.8 | 5.2 | 6.3 | 5.0 |
| 30 SR 1150 | Creeping | 5.3 | 5.9 | 4.6 | 5.1 | 5.8 | 5.3 | 6.7 | 6.8 | 6.5 | 7.0 |
| 31 H05TP-276-2 | Creeping | 5.3 | 5.2 | 4.8 | 4.9 | 5.9 | 5.7 | 7.3 | 7.0 | 7.5 | 6.7 |
| 32 Legendary | Velvet | 5.3 | 6.4 | 4.6 | 5.8 | 4.9 | 5.1 | 5.9 | 5.7 | 6.2 | 5.3 |
| 33 VDE Comp | Velvet | 5.3 | 5.7 | 4.7 | 5.7 | 5.4 | 5.2 | 4.6 | 4.7 | 4.5 | 3.7 |
| 34 Tye/007 | Creeping | 5.3 | 6.1 | 4.0 | 4.9 | 6.1 | 5.4 | 6.6 | 6.0 | 7.2 | 6.3 |
| 35 007 | Creeping | 5.3 | 6.2 | 4.8 | 5.1 | 5.3 | 5.1 | 6.1 | 5.2 | 7.0 | 6.0 |
| 36 Tye | Creeping | 5.3 | 4.6 | 4.9 | 5.5 | 6.0 | 5.5 | 6.8 | 6.0 | 7.5 | 6.7 |
| 37 RH 081 | Creeping | 5.3 | 5.9 | 4.6 | 4.5 | 6.2 | 5.2 | 7.0 | 6.3 | 7.7 | 7.0 |
| 38 SSS Comp | Velvet | 5.2 | 5.5 | 4.9 | 5.6 | 4.9 | 5.2 | 4.3 | 4.0 | 4.5 | 4.7 |
| 39 Luminary/A-1 | Creeping | 5.2 | 5.9 | 5.0 | 5.2 | 5.4 | 4.3 | 4.5 | 5.2 | 3.8 | 5.0 |
| 40 Luminary/A-1/ Memorial | Creeping | 5.2 | 5.4 | 4.7 | 5.4 | 5.5 | 4.9 | 5.0 | 5.2 | 4.8 | 5.3 |
| 41 Runner | Creeping | 5.2 | 5.5 | 4.9 | 4.9 | 6.0 | 4.6 | 5.6 | 6.5 | 4.7 | 5.0 |
| 42 H04TP-211-7-9 | Creeping | 5.1 | 5.9 | 5.4 | 5.0 | 4.6 | 5.0 | 6.6 | 5.5 | 7.7 | 6.7 |
| 43 H05TP-269-8 | Creeping | 5.1 | 5.4 | 4.5 | 4.8 | 5.6 | 5.3 | 5.1 | 5.0 | 5.2 | 7.7 |
| 44 BCQ Comp | Colonial | 5.1 | 6.0 | 5.6 | 5.0 | 4.4 | 4.6 | 4.2 | 4.2 | 4.2 | 5.0 |
| 45 SL TAZ3 | Creeping | 5.1 | 5.0 | 3.5 | 4.4 | 6.6 | 5.9 | 6.5 | 7.2 | 5.8 | 7.0 |

(Continued)

Table 1. Creeping, velvet, and colonial bentgrass putting green trial, 2009 (continued).

| | Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | -----Turf Wear Quality ² ----- | | | | Spring Green-up ³ April 2014 | |
|----|-----------------------|----------|--------------------------------------|-----------|-----------|-----------|---|-----------|----------------|-----------|--|-----------|
| | | | 2010-2014 Avg. | 2010 Avg. | 2011 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | 2013-2014 Avg. | 2013 Avg. | | 2014 Avg. |
| 41 | Runner | Creeping | 5.2 | 5.5 | 4.9 | 4.9 | 6.0 | 4.6 | 5.6 | 6.5 | 4.7 | 5.0 |
| 42 | H04TP-211-7-9 | Creeping | 5.1 | 5.9 | 5.4 | 5.0 | 4.6 | 5.0 | 6.6 | 5.5 | 7.7 | 6.7 |
| 43 | H05TP-269-8 | Creeping | 5.1 | 5.4 | 4.5 | 4.8 | 5.6 | 5.3 | 5.1 | 5.0 | 5.2 | 7.7 |
| 44 | BCQ Comp | Colonial | 5.1 | 6.0 | 5.6 | 5.0 | 4.4 | 4.6 | 4.2 | 4.2 | 4.2 | 5.0 |
| 45 | SL TAZ3 | Creeping | 5.1 | 5.0 | 3.5 | 4.4 | 6.6 | 5.9 | 6.5 | 7.2 | 5.8 | 7.0 |
| 46 | Cobra 2 | Creeping | 5.0 | 5.9 | 4.3 | 5.4 | 5.0 | 4.3 | 4.1 | 4.0 | 4.2 | 3.3 |
| 47 | DPAZ7 | Creeping | 5.0 | 5.1 | 3.5 | 4.5 | 6.5 | 5.5 | 6.9 | 7.0 | 6.8 | 6.3 |
| 48 | OO7/SR 1150 | Creeping | 5.0 | 5.8 | 4.7 | 4.8 | 5.4 | 4.4 | 5.0 | 5.3 | 4.7 | 6.3 |
| 49 | SL TAZ1 | Creeping | 5.0 | 4.4 | 4.2 | 4.4 | 6.1 | 6.1 | 5.7 | 5.5 | 5.8 | 6.0 |
| 50 | WBM Comp | Colonial | 5.0 | 5.6 | 5.5 | 4.9 | 4.5 | 4.7 | 4.0 | 3.7 | 4.3 | 3.3 |
| 51 | RH TAV34 | Creeping | 5.0 | 5.3 | 4.3 | 4.0 | 5.6 | 5.5 | 7.8 | 7.8 | 7.7 | 6.0 |
| 52 | PSG RHG12 | Creeping | 5.0 | 5.5 | 4.4 | 4.5 | 5.4 | 5.0 | 4.3 | 3.7 | 5.0 | 4.7 |
| 53 | A-1 | Creeping | 4.9 | 5.8 | 4.2 | 5.0 | 5.0 | 4.8 | 5.2 | 4.3 | 6.0 | 5.0 |
| 54 | OO7/Mackenzie/ Tye | Creeping | 4.9 | 5.5 | 4.2 | 4.6 | 5.2 | 5.5 | 6.3 | 6.2 | 6.3 | 5.7 |
| 55 | RH TAV318 | Creeping | 4.9 | 5.4 | 3.5 | 4.4 | 6.0 | 5.1 | 7.3 | 7.3 | 7.2 | 5.7 |
| 56 | H05TP-290-2 | Creeping | 4.9 | 5.2 | 4.9 | 4.7 | 5.0 | 5.0 | 5.9 | 5.8 | 6.0 | 5.3 |
| 57 | RH TAV317 | Creeping | 4.9 | 5.4 | 4.0 | 4.3 | 6.1 | 4.8 | 6.4 | 6.5 | 6.2 | 4.7 |
| 58 | SL TAZ2 | Creeping | 4.9 | 5.1 | 3.8 | 3.9 | 5.9 | 5.8 | 5.7 | 5.7 | 5.7 | 5.0 |
| 59 | SRP 1BLTR3 | Creeping | 4.9 | 6.0 | 4.2 | 4.4 | 5.3 | 4.6 | 4.9 | 4.8 | 5.0 | 5.7 |
| 60 | RH TAV36 | Creeping | 4.9 | 4.6 | 3.5 | 4.6 | 5.8 | 5.8 | 6.3 | 5.5 | 7.0 | 5.0 |
| 61 | CY-2 | Creeping | 4.8 | 5.1 | 4.7 | 4.9 | 5.1 | 4.5 | 5.3 | 5.2 | 5.3 | 4.7 |
| 62 | RH TAV327 | Creeping | 4.8 | 5.3 | 4.0 | 4.1 | 5.7 | 4.8 | 5.0 | 5.7 | 4.3 | 4.3 |
| 63 | Flagstick | Creeping | 4.8 | 6.7 | 4.5 | 5.1 | 3.7 | 4.2 | 4.2 | 3.3 | 5.0 | 5.5 |
| 64 | WBE Comp | Colonial | 4.8 | 5.3 | 5.0 | 4.7 | 4.1 | 4.9 | 4.3 | 4.2 | 4.3 | 3.3 |
| 65 | Declaration | Creeping | 4.8 | 6.1 | 4.4 | 5.0 | 4.5 | 4.0 | 3.8 | 3.0 | 4.5 | 5.7 |

(Continued)

Table 1. Creeping, velvet, and colonial bentgrass putting green trial, 2009 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | -----Turf Wear Quality ² ----- | | | | Spring Green-up ³ April 2014 | |
|-----------------------|------------------------|--------------------------------------|-----------|-----------|-----------|---|-----------|----------------|-----------|--|-----------|
| | | 2010-2014 Avg. | 2010 Avg. | 2011 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | 2013-2014 Avg. | 2013 Avg. | | 2014 Avg. |
| 66 | PST-Syn-VH5 | 4.8 | 5.5 | 3.9 | 4.9 | 4.4 | 5.2 | 5.4 | 5.2 | 5.5 | 4.0 |
| 67 | RH TAV524 | 4.7 | 5.0 | 3.2 | 3.9 | 5.7 | 5.7 | 6.8 | 7.0 | 6.7 | 5.3 |
| 68 | Independence | 4.7 | 5.1 | 4.2 | 4.7 | 4.9 | 4.6 | 5.8 | 5.3 | 6.2 | 5.7 |
| 69 | DPAZ1 | 4.6 | 5.2 | 3.7 | 4.1 | 5.5 | 4.5 | 5.9 | 6.7 | 5.0 | 4.7 |
| 70 | PST-Syn-VR05 | 4.6 | 5.8 | 4.1 | 5.2 | 4.0 | 4.1 | 4.4 | 3.8 | 4.8 | 4.0 |
| 71 | OO7/Mackenzie | 4.5 | 5.3 | 4.0 | 4.3 | 4.6 | 4.4 | 5.5 | 4.7 | 6.3 | 5.0 |
| 72 | FWC Comp | 4.5 | 5.4 | 4.8 | 4.7 | 3.6 | 4.2 | 3.9 | 3.5 | 4.2 | 3.0 |
| 73 | Penn G-1 | 4.5 | 5.1 | 3.7 | 4.5 | 4.7 | 4.2 | 4.1 | 3.7 | 4.5 | 5.3 |
| 74 | Penn G-1 | 4.4 | 4.7 | 4.5 | 4.5 | 4.4 | 4.0 | 3.0 | 3.0 | 2.8 | 5.0 |
| 75 | Mackenzie | 4.4 | 5.1 | 4.3 | 4.4 | 4.0 | 3.8 | 4.3 | 4.3 | 4.2 | 4.0 |
| 76 | SR 1150/SR 1119 | 4.3 | 4.7 | 4.1 | 4.0 | 4.5 | 4.2 | 4.2 | 4.0 | 4.3 | 6.0 |
| 77 | SRP 72P2 | 4.3 | 5.0 | 4.2 | 4.0 | 4.5 | 3.7 | 3.7 | 4.0 | 3.3 | 5.3 |
| 78 | Penn A-2 | 4.3 | 4.7 | 4.1 | 4.2 | 4.3 | 3.9 | 3.6 | 3.2 | 4.0 | 4.3 |
| 79 | Penneagle II | 4.2 | 4.9 | 4.1 | 4.5 | 3.6 | 4.1 | 4.1 | 3.3 | 4.8 | 4.0 |
| 80 | SRP 2163 | 4.2 | 5.0 | 4.9 | 4.3 | 3.9 | 3.3 | 3.0 | 3.0 | 3.0 | 5.0 |
| 81 | OO7/SR1119 | 4.2 | 5.3 | 3.7 | 4.1 | 4.3 | 3.7 | 4.8 | 4.7 | 4.8 | 4.7 |
| 82 | WQD Comp | 4.2 | 4.1 | 4.7 | 4.2 | 3.8 | 4.3 | 3.9 | 4.0 | 3.8 | 3.3 |
| 83 | SRP 2169 | 4.2 | 4.8 | 3.8 | 3.5 | 4.6 | 4.3 | 2.9 | 3.0 | 2.8 | 5.5 |
| 84 | Mackenzie/ Penn G-1 | 4.1 | 4.6 | 3.6 | 4.1 | 4.5 | 4.0 | 4.6 | 4.3 | 4.8 | 4.7 |
| 85 | WLC Comp | 4.1 | 4.8 | 4.8 | 4.0 | 3.4 | 3.6 | 2.5 | 3.0 | 1.8 | 3.7 |

Table 1. Creeping, velvet, and colonial bentgrass putting green trial, 2009 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | -----Turf Wear Quality ² ----- | | | | Spring Green-up ³ April 2014 | | |
|-----------------------------------|----------|--------------------------------------|-----------|-----------|-----------|---|-----------|----------------|-----------|--|-----------|-----|
| | | 2010-2014 Avg. | 2010 Avg. | 2011 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | 2013-2014 Avg. | 2013 Avg. | | 2014 Avg. | |
| 86 Pennlinks III/ Penneagle II | Creeping | 4.1 | 4.9 | 3.8 | 4.2 | 3.8 | 3.7 | 3.7 | 4.4 | 3.8 | 5.0 | 4.0 |
| 87 RH TAV37 | Creeping | 4.1 | 4.4 | 2.4 | 3.8 | 5.2 | 4.7 | 4.7 | 5.9 | 4.8 | 6.8 | 5.0 |
| 88 SR 7200 | Velvet | 4.1 | 5.7 | 3.8 | 4.3 | 3.4 | 3.2 | 3.2 | 2.6 | 2.3 | 2.8 | 3.7 |
| 89 Penn A-1/ Penn A-4 | Creeping | 4.0 | 5.3 | 3.4 | 3.6 | 3.8 | 3.8 | 3.8 | 4.5 | 3.5 | 5.5 | 4.3 |
| 90 Penn G-6 | Creeping | 4.0 | 5.0 | 4.0 | 4.1 | 3.7 | 3.2 | 3.2 | 3.8 | 2.5 | 5.0 | 4.7 |
| 91 13M | Creeping | 3.9 | 5.0 | 3.7 | 4.0 | 3.7 | 3.3 | 3.3 | 3.9 | 3.5 | 4.3 | 4.3 |
| 92 Penn A-4 | Creeping | 3.9 | 4.9 | 3.1 | 3.6 | 3.7 | 4.0 | 4.0 | 4.5 | 2.8 | 6.0 | 4.3 |
| 93 PST-Syn-0R56 | Creeping | 3.9 | 4.3 | 4.0 | 4.2 | 3.5 | 3.2 | 3.2 | 4.1 | 3.8 | 4.3 | 4.0 |
| 94 96-2 | Creeping | 3.9 | 4.8 | 3.6 | 3.5 | 4.0 | 3.4 | 3.4 | 3.9 | 3.3 | 4.3 | 4.7 |
| 95 SRP 2117 | Velvet | 3.9 | 5.3 | 3.4 | 3.4 | 3.8 | 3.5 | 3.5 | 3.5 | 3.2 | 3.8 | 5.0 |
| 96 SRP 2161 | Velvet | 3.8 | 4.8 | 3.9 | 3.7 | 3.6 | 3.1 | 3.1 | 3.8 | 3.3 | 4.2 | 4.3 |
| 97 T-1 | Creeping | 3.8 | 5.0 | 3.3 | 3.7 | 3.7 | 3.3 | 3.3 | 4.0 | 3.7 | 4.3 | 4.3 |
| 98 SRP 2127 | Velvet | 3.8 | 4.6 | 4.0 | 3.7 | 3.7 | 3.0 | 3.0 | 2.9 | 3.0 | 2.8 | 3.5 |
| 99 Pure Select | Creeping | 3.8 | 5.2 | 3.4 | 3.4 | 3.5 | 3.1 | 3.1 | 4.6 | 3.3 | 5.8 | 3.3 |
| 100 SRP 72P4 | Velvet | 3.8 | 4.8 | 3.6 | 3.5 | 3.9 | 3.1 | 3.1 | 3.1 | 2.5 | 3.7 | 5.7 |
| 101 Crystal Blueinks | Creeping | 3.7 | 5.2 | 3.5 | 3.5 | 3.3 | 3.2 | 3.2 | 4.0 | 2.7 | 5.3 | 3.7 |
| 102 SRP 72P1 | Velvet | 3.7 | 4.2 | 3.4 | 3.4 | 3.8 | 3.6 | 3.6 | 2.4 | 2.5 | 2.2 | 4.7 |
| 103 SRP 2186 | Velvet | 3.7 | 4.5 | 3.9 | 3.6 | 3.5 | 2.9 | 2.9 | 1.6 | 1.5 | 1.5 | 3.0 |
| 104 SRP 2145 | Velvet | 3.7 | 4.3 | 3.8 | 3.4 | 3.8 | 3.3 | 3.3 | 3.6 | 3.0 | 4.2 | 3.7 |
| 105 SRP 2145 | Velvet | 3.7 | 4.4 | 3.9 | 3.8 | 3.8 | 2.4 | 2.4 | 3.5 | 3.0 | 4.0 | 3.5 |

(Continued)

Table 1. Creeping, velvet, and colonial bentgrass putting green trial, 2009 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | -----Turf Wear Quality ² ----- | | | | Spring Green-up ³ April 2014 | |
|-----------------------|----------|--------------------------------------|-----------|-----------|-----------|---|-----------|----------------|-----------|--|-----------|
| | | 2010-2014 Avg. | 2010 Avg. | 2011 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | 2013-2014 Avg. | 2013 Avg. | | 2014 Avg. |
| 106 LS-44 | Creeping | 3.6 | 4.9 | 3.7 | 3.9 | 3.2 | 2.6 | 2.7 | 2.5 | 2.8 | 4.0 |
| 107 H05TP-207-4 | Creeping | 3.6 | 4.8 | 3.5 | 3.8 | 3.4 | 2.5 | 4.4 | 4.0 | 4.8 | 6.0 |
| 108 PST-OPUF Bulk | Creeping | 3.6 | 3.2 | 3.1 | 3.0 | 4.4 | 4.1 | 5.8 | 5.3 | 6.3 | 2.7 |
| 109 SRP 2168 | Velvet | 3.5 | 4.3 | 3.0 | 3.4 | 3.6 | 3.2 | 3.9 | 3.2 | 4.5 | 3.7 |
| 110 SRP 72P3 | Velvet | 3.5 | 4.5 | 3.7 | 3.2 | 3.2 | 3.1 | 3.0 | 2.3 | 3.7 | 4.0 |
| 111 BCD | Colonial | 3.5 | 4.7 | 4.3 | 3.3 | 2.4 | 2.8 | 1.9 | 1.8 | 2.0 | 3.3 |
| 112 Kingpin | Creeping | 3.4 | 4.8 | 3.0 | 3.2 | 3.4 | 2.8 | 3.8 | 3.3 | 4.2 | 6.0 |
| 113 Memorial | Creeping | 3.3 | 4.6 | 3.4 | 3.2 | 2.9 | 2.7 | 3.2 | 2.0 | 4.3 | 4.7 |
| 114 Penn G-2 | Creeping | 3.3 | 4.5 | 3.2 | 3.4 | 2.7 | 2.8 | 3.3 | 2.3 | 4.2 | 4.3 |
| 115 Century | Creeping | 3.3 | 4.2 | 2.6 | 3.0 | 3.3 | 3.5 | 4.1 | 4.0 | 4.2 | 5.0 |
| 116 L-93 | Creeping | 3.2 | 3.9 | 3.2 | 3.6 | 2.9 | 2.6 | 2.5 | 2.2 | 2.7 | 4.0 |
| 117 Alpha | Creeping | 3.2 | 4.4 | 2.8 | 2.8 | 2.9 | 3.1 | 3.3 | 2.7 | 3.8 | 3.7 |
| 118 SRP 2148 | Velvet | 3.1 | 4.1 | 2.7 | 2.9 | 3.2 | 2.8 | 2.3 | 2.0 | 2.5 | 3.3 |
| 119 Southshore | Creeping | 3.0 | 4.2 | 2.7 | 3.3 | 2.5 | 2.4 | 2.3 | 2.7 | 2.0 | 3.7 |
| 120 Seaside II | Creeping | 2.9 | 3.8 | 2.6 | 2.9 | 2.6 | 2.7 | 3.8 | 2.2 | 5.3 | 3.3 |
| 121 Sandhill | Creeping | 2.9 | 4.4 | 2.6 | 2.8 | 2.8 | 2.2 | 2.9 | 1.5 | 4.2 | 3.7 |
| 122 Providence | Creeping | 2.9 | 4.1 | 2.6 | 3.1 | 2.6 | 2.2 | 1.8 | 1.3 | 2.2 | 4.3 |
| 123 Crenshaw | Creeping | 2.9 | 3.9 | 2.3 | 2.7 | 2.8 | 2.6 | 3.3 | 2.7 | 3.8 | 3.3 |
| 124 SRP 2164 | Velvet | 2.9 | 3.4 | 2.9 | 2.6 | 3.1 | 2.4 | 3.6 | 2.3 | 4.8 | 6.0 |
| 125 SR 1119 | Creeping | 2.8 | 4.3 | 2.7 | 2.6 | 2.4 | 2.1 | 2.0 | 1.3 | 2.7 | 3.0 |
| 126 Pennlinks II | Creeping | 2.8 | 4.5 | 2.9 | 2.9 | 1.7 | 2.0 | 2.2 | 1.3 | 3.0 | 4.0 |
| 127 Putter | Creeping | 2.7 | 4.2 | 2.5 | 2.4 | 2.2 | 2.0 | 2.0 | 1.5 | 2.5 | 2.7 |
| 128 Brighton | Creeping | 2.4 | 3.4 | 2.5 | 2.4 | 2.1 | 1.7 | 1.3 | 1.2 | 1.3 | 2.7 |
| 129 Penncross | Creeping | 2.0 | 2.9 | 2.1 | 2.0 | 1.5 | 1.4 | 1.6 | 1.2 | 2.0 | 3.3 |

(Continued)

Table 1. Creeping, velvet, and colonial bentgrass putting green trial, 2009 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | -----Turf Wear Quality ² ----- | | | Spring Green-up ³ April 2014 | | |
|-----------------------|---------|--------------------------------------|-----------|-----------|-----------|---|-----------|----------------|--|-----|-----|
| | | 2010-2014 Avg. | 2010 Avg. | 2011 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | 2013-2014 Avg. | | | |
| LSD at 5% = | | 0.6 | 0.9 | 1.0 | 0.9 | 0.9 | 1.0 | 1.4 | 1.6 | 2.0 | 1.6 |

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

²Turf quality wear rated on a 1 to 9 scale, where 9 = best turf quality observed under simulated wear machine stress

³Spring green-up rated on a 1 to 9 scale, where 9 = earliest spring green-up

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

| Cultivar or Selection | Species | Turf Quality ¹ | | | | Spring Green-up ² April 2014 | Dollar Spot ³ 2014 | Bipolaris Leaf Spot ⁴ 2014 |
|-----------------------|----------|---------------------------|-----------|-----------|-----------|--|----------------------------------|--|
| | | 2012-2014 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | | | |
| 1 ESV Comp | Velvet | 6.3 | 6.3 | 6.2 | 6.3 | 5.7 | 7.4 | 8.5 |
| 2 PSG 7PC2 | Velvet | 5.9 | 6.6 | 5.9 | 5.4 | 5.3 | 7.1 | 8.3 |
| 3 PST-Syn-VH9 | Velvet | 5.9 | 5.9 | 5.9 | 5.8 | 6.7 | 7.9 | 6.7 |
| 4 CDS Comp | Velvet | 5.6 | 5.6 | 5.9 | 5.3 | 6.3 | 7.5 | 5.5 |
| 5 Villa | Velvet | 5.2 | 5.9 | 5.3 | 4.5 | 6.0 | 7.0 | 5.5 |
| 6 Legendary | Velvet | 5.2 | 6.3 | 5.4 | 3.9 | 7.0 | 4.4 | 8.3 |
| 7 Greenwich | Velvet | 4.5 | 4.9 | 5.0 | 3.8 | 5.3 | 4.7 | 8.5 |
| 8 SR 7200 | Velvet | 4.3 | 5.2 | 4.0 | 3.8 | 7.0 | 6.6 | 5.3 |
| 9 PSG 7CL6 | Creeping | 3.5 | 3.8 | 3.1 | 3.5 | 7.5 | 5.8 | 9.0 |
| 10 PSG 7CL33 | Creeping | 3.2 | 3.9 | 3.1 | 2.7 | 7.0 | 5.6 | 9.0 |
| 11 PSG 7CL3 | Creeping | 3.1 | 3.9 | 3.0 | 2.4 | 7.3 | 5.4 | 9.0 |
| LSD at 5% = | | 0.3 | 0.5 | 0.8 | 0.6 | 1.9 | 1.0 | 1.1 |

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

²Spring green-up rated on a 1 to 9 scale, where 9 = earliest spring green-up

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

⁴Leaf spot rated on a 1 to 9 scale, where 9 = best disease resistance; data is an average of two rating dates

Table 3. 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 ----- | | | | Spring Green-up ² April 2014 | Dollar Spot ³ 2014 |
|-----------------------|----------------|--------------------------------------|-----------|-----------|-----------|--|----------------------------------|
| | | 2012-2014 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | | |
| 1 CMC Comp | Creeping | 6.4 | 6.5 | 5.7 | 7.0 | 6.3 | 8.2 |
| 2 PPG-AP 102 | Creeping | 6.4 | 6.5 | 5.8 | 6.8 | 5.7 | 7.9 |
| 3 EBC Comp | Creeping | 6.2 | 6.3 | 5.9 | 6.3 | 6.3 | 7.7 |
| 4 LUC Comp | Creeping | 6.2 | 6.3 | 5.9 | 6.3 | 6.7 | 7.6 |
| 5 PCM Comp | Creeping | 5.9 | 6.2 | 5.8 | 5.7 | 7.3 | 6.3 |
| 6 CED Comp | Colonial | 5.8 | 5.6 | 6.0 | 6.0 | 7.7 | 8.0 |
| 7 PST-ORPA Bulk | Creeping | 5.8 | 6.6 | 5.0 | 5.7 | 5.7 | 6.3 |
| 8 Flagstick | Creeping | 5.7 | 5.4 | 5.6 | 6.1 | 7.3 | 7.7 |
| 9 HDG-10 Comp | Creeping | 5.7 | 5.9 | 5.6 | 5.6 | 6.0 | 6.7 |
| 10 CEM Comp | Colonial | 5.7 | 5.7 | 5.5 | 5.8 | 7.0 | 8.4 |
| 11 FDC Comp | Colonial | 5.6 | 5.9 | 5.5 | 5.5 | 6.3 | 8.0 |
| 12 Barracuda | Creeping | 5.6 | 5.6 | 5.4 | 5.8 | 5.3 | 7.3 |
| 13 CMD Comp | Colonial | 5.6 | 5.4 | 5.7 | 5.7 | 8.0 | 7.8 |
| 14 Luminary | Creeping | 5.6 | 6.1 | 4.9 | 5.7 | 7.3 | 6.5 |
| 15 Proclamation | Creeping | 5.4 | 5.4 | 5.4 | 5.3 | 5.3 | 7.0 |
| 16 AP-18 | Creeping | 5.3 | 6.3 | 5.1 | 4.5 | 6.7 | 6.0 |
| 17 SRP 1RH93 | Creeping | 5.2 | 5.6 | 5.0 | 5.0 | 7.0 | 6.2 |
| 18 Pure Select | Creeping | 5.2 | 6.4 | 4.5 | 4.6 | 5.0 | 5.9 |
| 19 PSG 10SLT | Creeping | 5.2 | 5.3 | 5.4 | 4.9 | 6.7 | 5.9 |
| 20 GMCSLT | Creeping | 5.2 | 4.8 | 5.2 | 5.5 | 7.0 | 6.6 |
| 21 Shark | Creeping | 5.1 | 6.4 | 5.0 | 3.9 | 6.7 | 4.8 |
| 22 Declaration | Creeping | 5.1 | 4.9 | 4.7 | 5.4 | 7.0 | 7.2 |
| 23 RH931SLT | Creeping | 5.0 | 5.9 | 4.5 | 4.6 | 6.7 | 5.9 |
| 24 Pure Distinction | Creeping | 4.9 | 5.9 | 4.3 | 4.6 | 5.3 | 4.9 |
| 25 Flagstick+007 | Creeping blend | 4.9 | 5.1 | 5.2 | 4.6 | 6.7 | 6.1 |

(Continued)

Table 3. Creeping and colonial bentgrass putting green trial, 2011 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | Spring Green-up ² April 2014 | Dollar Spot ³ 2014 |
|------------------------|----------------|--------------------------------------|-----------|-----------|-----------|---|-------------------------------|
| | | 2012-2014 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | | |
| 26 V-8 | Creeping | 4.9 | 5.6 | 5.1 | 4.0 | 5.3 | 4.7 |
| 27 PSG 1VAH10 | Creeping | 4.9 | 6.1 | 3.7 | 4.8 | 4.3 | 6.8 |
| 28 Authority | Creeping | 4.8 | 5.5 | 4.2 | 4.8 | 5.3 | 6.5 |
| 29 OO7 | Creeping | 4.7 | 5.8 | 4.2 | 4.0 | 5.0 | 5.3 |
| 30 PSG RH128M | Creeping | 4.7 | 5.7 | 4.2 | 4.1 | 6.0 | 5.1 |
| 31 Cobra 2 | Creeping | 4.7 | 5.1 | 4.4 | 4.5 | 4.3 | 6.0 |
| 32 SR 1150+OO7 | Creeping blend | 4.5 | 4.9 | 4.3 | 4.4 | 5.7 | 5.8 |
| 33 PinUp | Creeping | 4.5 | 5.1 | 4.2 | 4.0 | 6.3 | 5.1 |
| 34 FMM Comp | Creeping | 4.5 | 5.2 | 4.6 | 3.6 | 4.7 | 4.4 |
| 35 Flagstick+Mackenzie | Creeping blend | 4.4 | 4.6 | 4.3 | 4.3 | 5.7 | 5.6 |
| 36 Flagstick+Tyee | Creeping blend | 4.4 | 4.5 | 3.9 | 4.9 | 4.3 | 6.3 |
| 37 PSG RHN37 | Creeping | 4.4 | 6.0 | 3.3 | 3.9 | 5.3 | 4.6 |
| 38 PSG 1RIL | Creeping | 4.4 | 5.5 | 3.9 | 3.9 | 4.7 | 4.6 |
| 39 13M | Creeping | 4.4 | 4.8 | 3.5 | 4.8 | 6.0 | 6.9 |
| 40 PSG RHN42 | Creeping | 4.3 | 6.0 | 3.8 | 3.2 | 4.7 | 4.3 |
| 41 PSG 1RJM | Creeping | 4.3 | 5.9 | 3.6 | 3.3 | 3.3 | 4.4 |
| 42 PSG RHN316 | Creeping | 4.3 | 5.5 | 3.4 | 3.9 | 4.7 | 5.4 |
| 43 PSG 1B158 | Creeping | 4.3 | 4.7 | 4.0 | 4.0 | 6.3 | 5.5 |
| 44 Mackenzie+Tyee+OO7 | Creeping blend | 4.2 | 4.9 | 4.1 | 3.7 | 5.3 | 5.2 |
| 45 Penn A-1 | Creeping | 4.2 | 4.8 | 4.0 | 3.9 | 5.0 | 5.7 |
| 46 PSG RHN48 | Creeping | 4.2 | 6.0 | 3.1 | 3.5 | 4.0 | 4.5 |
| 47 A08-FT12 | Colonial | 4.2 | 4.3 | 3.9 | 4.3 | 5.3 | 8.3 |
| 48 Benchmark DSR | Creeping | 4.2 | 4.9 | 3.7 | 4.0 | 6.3 | 5.4 |
| 49 SR 1119+Tyee | Creeping blend | 4.2 | 5.1 | 3.6 | 3.8 | 5.3 | 5.3 |
| 50 Penneagle II | Creeping | 4.1 | 4.8 | 3.6 | 4.1 | 5.3 | 6.1 |

(Continued)

Table 3. Creeping and colonial bentgrass putting green trial, 2011 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | Spring Green-up ² April 2014 | Dollar Spot ³ 2014 |
|--------------------------|----------------|--------------------------------------|-----------|-----------|-----------|--|----------------------------------|
| | | 2012-2014 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | | |
| 51 Mackenzie+SR 1150+O07 | Creeping blend | 4.1 | 4.7 | 3.9 | 3.8 | 4.3 | 5.8 |
| 52 Penn A-4 | Creeping | 4.1 | 4.9 | 3.6 | 3.8 | 5.0 | 4.8 |
| 53 PSG RHN411 | Creeping | 4.1 | 5.5 | 3.3 | 3.4 | 3.3 | 4.8 |
| 54 Crystal BlueLinks | Creeping | 4.1 | 4.2 | 3.5 | 4.6 | 5.3 | 6.4 |
| 55 A1/A4 | Creeping | 4.1 | 5.0 | 3.5 | 3.8 | 5.7 | 5.0 |
| 56 PSG RHN12 | Creeping | 4.0 | 5.4 | 3.3 | 3.3 | 4.3 | 5.3 |
| 57 SR 1150 | Creeping | 4.0 | 4.4 | 3.8 | 4.0 | 6.3 | 5.6 |
| 58 Capri | Colonial | 4.0 | 3.5 | 4.1 | 4.7 | 6.0 | 8.4 |
| 59 Tye | Creeping | 4.0 | 4.7 | 3.5 | 3.8 | 6.0 | 5.2 |
| 60 PSG SLTzM3 | Creeping | 3.9 | 4.7 | 3.3 | 3.6 | 4.3 | 5.2 |
| 61 Independence | Creeping | 3.8 | 5.2 | 3.1 | 3.2 | 5.3 | 4.6 |
| 62 Penn G-2 | Creeping | 3.8 | 3.5 | 3.5 | 4.4 | 5.3 | 5.9 |
| 63 Kingpin | Creeping | 3.7 | 4.0 | 3.3 | 3.9 | 6.0 | 6.4 |
| 64 PSG 1RHT33 | Creeping | 3.7 | 5.2 | 2.6 | 3.4 | 4.0 | 4.1 |
| 65 Mackenzie+SR 1150 | Creeping blend | 3.7 | 4.0 | 3.9 | 3.3 | 6.3 | 4.9 |
| 66 T-1 | Creeping | 3.7 | 4.6 | 3.4 | 3.1 | 5.7 | 5.2 |
| 67 PSG SLTzM2 | Creeping | 3.7 | 5.1 | 2.8 | 3.3 | 5.0 | 4.0 |
| 68 PSG 1RHTAV3 | Creeping | 3.7 | 5.8 | 2.5 | 2.9 | 3.7 | 3.8 |
| 69 PSG 1RHTV | Creeping | 3.7 | 5.5 | 2.6 | 2.9 | 3.3 | 3.8 |
| 70 L-93 | Creeping | 3.6 | 3.7 | 3.4 | 3.8 | 5.7 | 5.9 |
| 71 Mackenzie | Creeping | 3.6 | 4.1 | 3.6 | 3.1 | 5.0 | 4.8 |
| 72 PSG 1VAH1 | Creeping | 3.5 | 5.3 | 2.7 | 2.4 | 4.0 | 3.4 |
| 73 Memorial | Creeping | 3.5 | 3.7 | 2.8 | 3.9 | 5.0 | 7.7 |
| 74 EBM | Colonial | 3.5 | 3.6 | 3.4 | 3.5 | 5.0 | 7.6 |
| 75 Providence | Creeping | 3.4 | 2.4 | 3.5 | 4.5 | 5.7 | 6.4 |

(Continued)

Table 3. Creeping and colonial bentgrass putting green trial, 2011 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | Spring Green-up ² April 2014 | Dollar Spot ³ 2014 |
|-----------------------|----------|--------------------------------------|-----------|-----------|-----------|--|----------------------------------|
| | | 2012-2014 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | | |
| 76 MacSLT | Creeping | 3.4 | 4.0 | 2.9 | 3.4 | 5.7 | 5.7 |
| 77 Ninety-Six Two | Creeping | 3.4 | 4.5 | 2.9 | 2.8 | 4.3 | 3.9 |
| 78 Sandhill | Creeping | 3.3 | 2.9 | 3.1 | 3.6 | 5.0 | 5.3 |
| 79 PSG 1RIE | Creeping | 3.3 | 4.3 | 3.0 | 2.5 | 4.0 | 4.6 |
| 80 PSG SLTZM1 | Creeping | 3.2 | 4.8 | 2.4 | 2.4 | 3.7 | 3.7 |
| 81 SandSLT | Creeping | 3.1 | 3.4 | 2.4 | 3.3 | 5.7 | 4.9 |
| 82 Pennlinks II | Creeping | 3.1 | 3.5 | 2.8 | 2.8 | 4.7 | 6.3 |
| 83 Putter | Creeping | 3.0 | 3.9 | 2.5 | 2.5 | 5.0 | 4.5 |
| 84 Century | Creeping | 2.9 | 2.9 | 2.9 | 3.1 | 5.3 | 4.9 |
| 85 SR 1119 | Creeping | 2.9 | 3.6 | 2.6 | 2.6 | 4.0 | 5.4 |
| 86 Alpha | Creeping | 2.9 | 3.9 | 2.6 | 2.2 | 5.0 | 3.7 |
| 87 Southshore | Creeping | 2.9 | 3.5 | 2.5 | 2.6 | 4.3 | 5.3 |
| 88 Imperial | Creeping | 2.8 | 3.6 | 2.2 | 2.6 | 3.3 | 3.9 |
| 89 ProvSLT | Creeping | 2.8 | 3.2 | 2.5 | 2.7 | 4.7 | 4.5 |
| 90 Brighton | Creeping | 2.7 | 3.1 | 2.5 | 2.7 | 5.0 | 5.5 |
| 91 BCD | Colonial | 2.7 | 3.0 | 2.7 | 2.4 | 4.3 | 6.4 |
| 92 Penncross | Creeping | 2.6 | 3.4 | 2.4 | 2.1 | 5.0 | 4.8 |
| 93 Crenshaw | Creeping | 2.5 | 3.8 | 2.1 | 1.8 | 3.0 | 3.5 |
| 94 Tiger 2 | Colonial | 2.2 | 2.8 | 1.6 | 2.1 | 3.0 | 6.0 |
| 95 Alister | Colonial | 2.0 | 2.6 | 1.8 | 1.6 | 4.0 | 5.7 |
| LSD at 5% = | | 0.6 | 0.7 | 0.9 | 1.0 | 1.6 | 1.4 |

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

²Spring green-up rated on a 1 to 9 scale, where 9 = earliest spring green-up

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

Table 4. Performance of creeping and colonial bentgrass cultivars and selections in a fairway trial seeded in September 2011 at North Brunswick, NJ.

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | Brown Patch ² July 2014 | Dollar Spot ³ 2014 |
|-----------------------|----------|--------------------------------------|-----------|-----------|-----------|---------------------------------------|----------------------------------|
| | | 2012-2014 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | | |
| 1 CMC Comp | Creeping | 6.8 | 7.6 | 6.6 | 6.4 | 6.7 | 6.5 |
| 2 FDC Comp | Colonial | 6.6 | 6.9 | 6.1 | 6.6 | 7.0 | 7.7 |
| 3 EBC Comp | Creeping | 6.5 | 7.6 | 6.3 | 5.8 | 7.7 | 4.7 |
| 4 PPG-AP 102 | Creeping | 6.4 | 7.1 | 5.5 | 6.5 | 7.7 | 5.9 |
| 5 LUC Comp | Creeping | 6.3 | 7.6 | 5.3 | 6.0 | 8.0 | 4.6 |
| 6 Proclamation | Creeping | 6.1 | 6.8 | 5.9 | 5.7 | 7.0 | 5.4 |
| 7 CED Comp | Colonial | 6.0 | 6.4 | 5.8 | 5.8 | 7.3 | 5.8 |
| 8 Barracuda | Creeping | 5.9 | 6.5 | 6.0 | 5.5 | 7.0 | 4.6 |
| 9 CMD Comp | Colonial | 5.9 | 5.7 | 5.6 | 6.4 | 7.7 | 6.8 |
| 10 Flagstick | Creeping | 5.9 | 6.0 | 5.8 | 5.7 | 7.3 | 4.9 |
| 11 PCM Comp | Creeping | 5.8 | 7.5 | 4.9 | 4.9 | 7.0 | 3.6 |
| 12 HDG-10 Comp | Creeping | 5.6 | 6.1 | 5.0 | 5.7 | 6.0 | 4.4 |
| 13 CEM Comp | Colonial | 5.5 | 5.2 | 6.0 | 5.3 | 7.0 | 5.3 |
| 14 AP-18 | Creeping | 5.5 | 6.9 | 4.8 | 4.6 | 6.7 | 3.5 |
| 15 Luminary | Creeping | 5.3 | 6.9 | 4.7 | 4.5 | 7.0 | 4.8 |
| 16 Authority | Creeping | 5.3 | 6.2 | 4.7 | 5.1 | 6.7 | 5.1 |
| 17 Declaration | Creeping | 5.3 | 5.6 | 5.5 | 4.7 | 6.0 | 5.8 |
| 18 A08-FT12 | Colonial | 5.3 | 5.3 | 5.8 | 4.8 | 5.7 | 5.3 |
| 19 Cobra 2 | Creeping | 5.3 | 5.2 | 5.9 | 4.8 | 6.0 | 3.5 |
| 20 GMCSLT | Creeping | 5.2 | 6.3 | 5.2 | 4.2 | 6.7 | 3.7 |
| 21 Flagtick+007 | Creeping | 5.1 | 4.8 | 5.2 | 5.4 | 7.7 | 4.8 |
| 22 PSG 107SLT | Creeping | 5.0 | 5.1 | 4.6 | 5.4 | 7.3 | 4.5 |
| 23 PinUp | Creeping | 4.9 | 6.5 | 3.9 | 4.3 | 7.3 | 3.7 |
| 24 V-8 | Creeping | 4.9 | 5.3 | 4.2 | 5.1 | 8.0 | 4.8 |
| 25 007 | Creeping | 4.8 | 5.5 | 4.5 | 4.4 | 6.3 | 3.4 |

(Continued)

Table 4. Creeping and colonial bentgrass fairway trial, 2011 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | Brown Patch ² July 2014 | Dollar Spot ³ 2014 |
|--------------------------|----------|--------------------------------------|-----------|-----------|-----------|------------------------------------|-------------------------------|
| | | 2012-2014 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | | |
| 26 Shark | Creeping | 4.7 | 6.3 | 3.7 | 4.2 | 7.3 | 3.0 |
| 27 Mackenzie+SR 1150+O07 | Creeping | 4.7 | 5.0 | 4.6 | 4.7 | 6.3 | 3.0 |
| 28 Capri | Colonial | 4.7 | 3.4 | 5.4 | 5.3 | 5.3 | 6.6 |
| 29 FMM Comp | Creeping | 4.6 | 5.2 | 4.5 | 4.1 | 8.3 | 2.8 |
| 30 EBM | Colonial | 4.5 | 4.3 | 4.8 | 4.6 | 4.3 | 6.0 |
| 31 PSG NBC | Colonial | 4.5 | 3.8 | 5.0 | 4.8 | 5.7 | 5.6 |
| 32 Flagstick+Mackenzie | Creeping | 4.5 | 5.1 | 4.4 | 4.1 | 6.0 | 2.7 |
| 33 Flagstick+Tye | Creeping | 4.5 | 4.6 | 4.3 | 4.8 | 7.0 | 3.9 |
| 34 13M | Creeping | 4.5 | 4.4 | 4.7 | 4.3 | 6.7 | 4.8 |
| 35 SRP 1RH93 | Creeping | 4.4 | 5.4 | 3.7 | 3.9 | 6.3 | 4.8 |
| 36 SR 1150+O07 | Creeping | 4.4 | 4.8 | 4.0 | 4.2 | 6.7 | 3.9 |
| 37 Benchmark DSR | Creeping | 4.3 | 5.2 | 4.0 | 3.5 | 5.7 | 3.0 |
| 38 L-93 | Creeping | 4.2 | 4.3 | 4.3 | 4.0 | 6.7 | 4.0 |
| 39 PPG-AT 101 | Colonial | 4.1 | 3.2 | 4.6 | 4.6 | 6.0 | 5.3 |
| 40 SR 1119+Tye+O07 | Creeping | 4.0 | 4.3 | 3.9 | 3.7 | 5.7 | 3.2 |
| 41 Tye | Creeping | 3.9 | 4.1 | 3.8 | 3.7 | 6.7 | 3.4 |
| 42 RH93SLT | Creeping | 3.9 | 5.3 | 3.3 | 3.2 | 4.7 | 3.1 |
| 43 Mackenzie+Tye+O07 | Creeping | 3.9 | 4.2 | 3.9 | 3.4 | 7.3 | 3.1 |
| 44 Memorial | Creeping | 3.9 | 3.3 | 4.4 | 4.0 | 6.3 | 4.4 |
| 45 Kingpin | Creeping | 3.8 | 3.8 | 3.8 | 3.9 | 6.7 | 5.8 |
| 46 SR 1150 | Creeping | 3.8 | 3.8 | 4.2 | 3.4 | 5.0 | 4.6 |
| 47 PSG RH128M | Creeping | 3.7 | 5.3 | 2.6 | 3.2 | 6.7 | 2.7 |
| 48 PSG 1RJM1 | Creeping | 3.7 | 5.7 | 2.2 | 3.2 | 5.0 | 3.2 |
| 49 Independence | Creeping | 3.6 | 5.4 | 2.3 | 2.9 | 6.0 | 3.0 |
| 50 Mackenzie+SR 1150 | Creeping | 3.6 | 4.0 | 3.5 | 3.4 | 5.3 | 3.0 |

(Continued)

Table 4. Creeping and colonial bentgrass fairway trial, 2011 (continued).

| Cultivar or Selection | Species | -----Turf Quality ¹ ----- | | | | Brown Patch ² July 2014 | Dollar Spot ³ 2014 |
|-----------------------|----------|--------------------------------------|-----------|-----------|-----------|------------------------------------|-------------------------------|
| | | 2012-2014 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | | |
| 51 T-1 | Creeping | 3.5 | 4.3 | 3.3 | 3.1 | 5.3 | 2.9 |
| 52 PST-0HME Bulk | Colonial | 3.5 | 4.1 | 3.2 | 3.2 | 6.3 | 4.1 |
| 53 PSG 1RHTV | Creeping | 3.5 | 5.6 | 2.2 | 2.7 | 5.0 | 1.7 |
| 54 PSG 1RIL | Creeping | 3.5 | 5.1 | 2.0 | 3.3 | 5.7 | 3.1 |
| 55 BCD | Colonial | 3.4 | 2.9 | 4.0 | 3.3 | 6.3 | 4.9 |
| 56 Imperial | Creeping | 3.4 | 4.3 | 3.0 | 2.8 | 6.3 | 3.0 |
| 57 Putter | Creeping | 3.4 | 3.9 | 3.1 | 3.1 | 6.3 | 2.6 |
| 58 MacSLT | Creeping | 3.3 | 3.9 | 3.1 | 3.0 | 5.7 | 2.9 |
| 59 PSG SLTzM1 | Creeping | 3.3 | 5.4 | 1.8 | 2.7 | 5.3 | 2.3 |
| 60 Ninety-Six Two | Creeping | 3.3 | 3.9 | 2.9 | 3.1 | 7.0 | 2.8 |
| 61 PSG 1B158 | Creeping | 3.2 | 4.1 | 3.1 | 2.3 | 5.3 | 2.2 |
| 62 Southshore | Creeping | 3.2 | 3.8 | 2.7 | 3.0 | 7.0 | 3.2 |
| 63 Penn G-2 | Creeping | 3.1 | 2.9 | 3.3 | 3.2 | 6.0 | 4.0 |
| 64 PST-0HFN Bulk | Colonial | 3.1 | 4.2 | 3.1 | 2.2 | 7.5 | 2.7 |
| 65 PSG 1RHTAV3 | Creeping | 3.1 | 5.9 | 1.5 | 1.9 | 6.3 | 1.6 |
| 66 PSG SLTzM2 | Creeping | 3.1 | 4.3 | 2.6 | 2.2 | 6.3 | 2.8 |
| 67 PSG SLTzM3 | Creeping | 3.1 | 5.2 | 2.3 | 1.8 | 6.0 | 2.3 |
| 68 PSG 1RHT33 | Creeping | 3.0 | 5.5 | 1.7 | 1.9 | 6.3 | 1.6 |
| 69 Alpha | Creeping | 3.0 | 3.4 | 3.0 | 2.7 | 6.0 | 2.5 |
| 70 SR 1119 | Creeping | 3.0 | 3.5 | 3.1 | 2.6 | 5.0 | 3.9 |
| 71 Mackenzie | Creeping | 3.0 | 3.6 | 2.6 | 2.7 | 5.7 | 3.2 |
| 72 PSG 1RILE | Creeping | 3.0 | 5.2 | 2.1 | 1.7 | 5.0 | 2.0 |
| 73 ProvSLT | Creeping | 3.0 | 2.7 | 3.8 | 2.4 | 6.0 | 2.5 |
| 74 Alister | Colonial | 2.9 | 2.5 | 3.1 | 3.2 | 5.3 | 5.2 |
| 75 Century | Creeping | 2.9 | 2.7 | 2.8 | 3.1 | 5.3 | 3.7 |

(Continued)

Table 4. Creeping and colonial bentgrass fairway trial, 2011 (continued).

| Cultivar or Selection | Species | Turf Quality ¹ | | | | Brown Patch ² July 2014 | Dollar Spot ³ 2014 |
|-----------------------|----------|---------------------------|--------------|--------------|--------------|---------------------------------------|----------------------------------|
| | | 2012-2014 Avg. | 2012 Avg. | 2013 Avg. | 2014 Avg. | | |
| 76 SR 7100 | Colonial | 2.7 | 2.7 | 3.0 | 2.6 | 4.0 | 4.1 |
| 77 Brighton | Creeping | 2.6 | 3.0 | 2.9 | 2.1 | 4.7 | 3.9 |
| 78 SandSLT | Creeping | 2.6 | 2.7 | 3.1 | 2.1 | 5.3 | 4.2 |
| 79 Crenshaw | Creeping | 2.6 | 3.6 | 2.5 | 1.7 | 5.7 | 2.4 |
| 80 SR 7150 | Colonial | 2.5 | 2.5 | 2.6 | 2.5 | 5.0 | 4.9 |
| 81 Tiger 2 | Colonial | 2.4 | 2.4 | 2.7 | 2.1 | 4.3 | 3.7 |
| 82 Providence | Creeping | 2.3 | 2.1 | 2.4 | 2.5 | 5.7 | 4.9 |
| 83 Sandhill | Creeping | 2.1 | 1.8 | 2.2 | 2.4 | 6.0 | 3.9 |
| 84 PSG 7DB | Dryland | 1.7 | 2.0 | 1.7 | 1.5 | 4.3 | 4.4 |
| LSD at 5% = | | 0.6 | 0.8 | 0.8 | 1.1 | 1.8 | 1.6 |

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 three rating dates

Table 5. 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 ----- | | | Copper Spot ² Aug. 2014 | Dollar Spot ³ 2014 |
|-------------------------|--------------------------------------|--------------|--------------|--|----------------------------------|
| | 2013- 2014 Avg. | 2013 Avg. | 2014 Avg. | | |
| 1 PSD Comp | 6.6 | 6.0 | 7.2 | 7.3 | 8.4 |
| 2 PPG-AP 102B | 6.4 | 6.3 | 6.4 | 7.7 | 7.8 |
| 3 PPG-AP 102C | 6.2 | 6.4 | 6.0 | 7.0 | 7.4 |
| 4 PDD Comp | 6.1 | 6.2 | 5.9 | 5.3 | 7.2 |
| 5 PGF Comp | 5.8 | 6.0 | 5.6 | 4.7 | 6.6 |
| 6 11-CMC Comp | 5.8 | 5.5 | 6.1 | 6.7 | 7.9 |
| 7 FSC Comp | 5.7 | 6.0 | 5.2 | 5.7 | 6.4 |
| 8 FPG Comp | 5.7 | 6.2 | 5.1 | 5.0 | 6.3 |
| 9 Barracuda | 5.6 | 6.2 | 5.1 | 5.0 | 6.9 |
| 10 AP-18 | 5.6 | 6.3 | 4.9 | 5.3 | 6.3 |
| 11 11-EBC Comp | 5.5 | 5.3 | 5.7 | 6.7 | 8.0 |
| 12 Declaration | 5.4 | 5.7 | 5.2 | 5.0 | 7.9 |
| 13 Proclamation | 5.4 | 6.0 | 4.8 | 4.3 | 6.8 |
| 14 Luminary | 5.4 | 5.6 | 5.0 | 6.7 | 7.1 |
| 15 Flagstick | 5.3 | 5.2 | 5.4 | 5.7 | 7.4 |
| 16 Center Cut II | 5.2 | 5.3 | 5.2 | 7.0 | 7.0 |
| 17 Center Cut III Blend | 5.1 | 5.1 | 5.1 | 6.7 | 7.1 |
| 18 PinUp | 5.0 | 5.9 | 4.1 | 4.7 | 5.6 |
| 19 Pure Distinction | 4.9 | 6.1 | 3.7 | 5.0 | 4.3 |
| 20 Pure Select | 4.9 | 5.5 | 4.2 | 6.3 | 5.9 |
| 21 GMC-12K | 4.9 | 5.4 | 4.4 | 7.7 | 6.4 |
| 22 OO7 | 4.9 | 5.6 | 4.1 | 6.3 | 5.4 |
| 23 Shark | 4.9 | 5.6 | 4.1 | 5.3 | 5.7 |
| 24 Authority | 4.8 | 5.7 | 4.0 | 5.0 | 5.7 |
| 25 P21-4 | 4.8 | 5.5 | 4.0 | 6.0 | 5.3 |
| 26 Memorial | 4.7 | 4.8 | 4.5 | 7.3 | 7.7 |
| 27 Hurley Comp | 4.7 | 5.6 | 3.8 | 6.7 | 4.8 |
| 28 PST-SYN-R0PS | 4.6 | 5.4 | 3.9 | 6.7 | 5.1 |
| 29 DKH8-25 | 4.6 | 5.4 | 3.8 | 5.7 | 5.4 |
| 30 RH93-12 | 4.4 | 4.9 | 3.9 | 6.0 | 6.0 |
| 31 Tye | 4.4 | 5.2 | 3.7 | 6.7 | 5.7 |
| 32 7 PC2/Tye | 4.4 | 4.7 | 4.1 | 5.7 | 5.9 |
| 33 P21L2-31 | 4.4 | 4.9 | 3.9 | 7.7 | 6.2 |
| 34 RH 931 | 4.4 | 5.2 | 3.5 | 7.0 | 5.4 |
| 35 P21L2-627 | 4.4 | 4.4 | 4.4 | 8.0 | 7.3 |

(Continued)

Table 5. Creeping bentgrass putting green trial, 2012 (continued).

| Cultivar or Selection | -----Turf Quality ¹ ----- | | | Copper Spot ² Aug. 2014 | Dollar Spot ³ 2014 |
|-----------------------|--------------------------------------|--------------|--------------|--|----------------------------------|
| | 2013- 2014 Avg. | 2013 Avg. | 2014 Avg. | | |
| 36 P21-3 | 4.4 | 5.4 | 3.3 | 6.3 | 4.9 |
| 37 P21-6 | 4.4 | 4.9 | 3.9 | 7.0 | 5.9 |
| 38 P21-7 | 4.4 | 4.4 | 4.3 | 6.3 | 7.0 |
| 39 Benchmark DSR | 4.3 | 4.7 | 3.9 | 5.7 | 6.3 |
| 40 13M | 4.3 | 4.4 | 4.2 | 8.0 | 8.0 |
| 41 SR 1150/OO7 | 4.3 | 4.6 | 4.1 | 6.7 | 5.9 |
| 42 P21-5 | 4.3 | 5.3 | 3.3 | 7.3 | 4.7 |
| 43 Independence | 4.3 | 5.5 | 3.1 | 7.0 | 4.4 |
| 44 Tyee/OO7 | 4.2 | 4.2 | 4.2 | 5.7 | 6.2 |
| 45 DKH8-35 | 4.2 | 5.5 | 3.0 | 5.0 | 3.9 |
| 46 P21-8 | 4.2 | 4.5 | 3.9 | 7.7 | 6.3 |
| 47 Penneagle II | 4.1 | 4.9 | 3.2 | 6.3 | 4.6 |
| 48 Mackenzie/Focus | 4.1 | 4.4 | 3.7 | 7.3 | 6.1 |
| 49 DKH8-11 | 4.1 | 5.5 | 2.7 | 6.3 | 3.5 |
| 50 DKH8-22 | 4.1 | 5.0 | 3.2 | 7.0 | 4.1 |
| 51 L-93 | 4.1 | 4.1 | 4.0 | 7.3 | 6.9 |
| 52 DKH8-33 | 4.1 | 5.2 | 2.9 | 6.7 | 3.8 |
| 53 P21L2-315 | 4.0 | 4.4 | 3.7 | 7.3 | 5.3 |
| 54 V-8 | 4.0 | 4.4 | 3.7 | 6.0 | 5.3 |
| 55 DKH8-31 | 4.0 | 5.0 | 3.0 | 7.0 | 3.8 |
| 56 P21L2-619 | 4.0 | 4.1 | 3.8 | 7.7 | 6.0 |
| 57 P21-2 | 4.0 | 4.5 | 3.4 | 6.7 | 5.3 |
| 58 Mackenzie/Tyee | 3.8 | 4.4 | 3.3 | 6.0 | 5.1 |
| 59 P21-1 | 3.8 | 4.7 | 3.0 | 6.0 | 4.5 |
| 60 CANH9-73 | 3.8 | 4.6 | 3.0 | 5.3 | 4.3 |
| 61 PST-0KPS Bulk | 3.8 | 3.8 | 3.7 | 5.0 | 6.3 |
| 62 AZH9-4257 | 3.8 | 4.9 | 2.7 | 6.3 | 4.2 |
| 63 SR 1150 | 3.7 | 4.2 | 3.4 | 7.0 | 5.6 |
| 64 DKH8-13 | 3.7 | 4.5 | 2.9 | 6.3 | 4.1 |
| 65 A-4 | 3.7 | 4.7 | 2.8 | 6.3 | 3.4 |
| 66 Kingpin | 3.7 | 3.7 | 3.7 | 6.0 | 6.7 |
| 67 T-1 | 3.6 | 3.9 | 3.4 | 8.0 | 6.4 |
| 68 P21L2-167 | 3.6 | 4.1 | 3.1 | 6.7 | 5.9 |
| 69 CANH9-7 | 3.6 | 4.5 | 2.7 | 6.0 | 4.9 |
| 70 P21L2-22 | 3.6 | 3.7 | 3.5 | 6.7 | 5.9 |

(Continued)

Table 5. Creeping bentgrass putting green trial, 2012 (continued).

| Cultivar or Selection | -----Turf Quality ¹ ----- | | | Copper Spot ² Aug. 2014 | Dollar Spot ³ 2014 |
|-----------------------|--------------------------------------|--------------|--------------|--|----------------------------------|
| | 2013- 2014 Avg. | 2013 Avg. | 2014 Avg. | | |
| 71 Imperial | 3.5 | 4.2 | 2.9 | 5.3 | 5.6 |
| 72 CANH9-720 | 3.5 | 4.5 | 2.6 | 5.0 | 3.9 |
| 73 CANH9-722 | 3.5 | 4.5 | 2.4 | 5.5 | 2.9 |
| 74 P21L2-1311 | 3.5 | 3.8 | 3.1 | 6.3 | 5.9 |
| 75 Ninety-Six Two | 3.5 | 4.3 | 2.6 | 7.0 | 4.2 |
| 76 PSG-1TAVH08-3 | 3.5 | 4.7 | 2.2 | 6.3 | 2.3 |
| 77 Mackenzie | 3.4 | 3.8 | 3.0 | 7.0 | 4.8 |
| 78 PSG-1TAVH08-1 | 3.4 | 4.7 | 2.0 | 6.7 | 2.1 |
| 79 PSG-1TAVH08-2 | 3.3 | 4.8 | 1.9 | 7.0 | 2.4 |
| 80 Penncross | 3.3 | 3.8 | 2.8 | 6.3 | 6.1 |
| 81 Alpha | 3.1 | 3.9 | 2.4 | 7.7 | 5.3 |
| 82 Putter | 3.1 | 3.6 | 2.5 | 7.3 | 5.0 |
| 83 SR 1119 | 3.0 | 3.8 | 2.2 | 7.0 | 4.7 |
| 84 Southshore | 3.0 | 3.5 | 2.5 | 7.3 | 5.3 |
| 85 Providence | 3.0 | 3.5 | 2.5 | 7.0 | 5.4 |
| 86 Sandhill | 2.2 | 1.9 | 2.5 | 7.0 | 4.7 |
| 87 Penn G-2 | 2.2 | 1.7 | 2.6 | 6.3 | 5.7 |
| LSD at 5% = | 0.6 | 0.8 | 0.9 | 2.0 | 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

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

Table 6. 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 ----- | | | Bipolaris Leaf Spot ² June 2014 |
|-----------------------|--------------------------------------|-----------|-----------|---|
| | 2013-2014 Avg. | 2013 Avg. | 2014 Avg. | |
| 1 PPG-AC 101 | 6.2 | 6.1 | 6.5 | 7.3 |
| 2 Legendary | 5.2 | 4.9 | 5.4 | 7.3 |
| 3 SPV Comp | 5.2 | 4.8 | 5.5 | 5.3 |
| 4 CS1 Comp | 4.9 | 4.6 | 5.2 | 5.0 |
| 5 PSG 7PC2 | 4.8 | 4.9 | 4.7 | 5.3 |
| 6 DCS Comp | 4.6 | 4.7 | 4.6 | 6.0 |
| 7 DS2 Comp | 4.3 | 3.8 | 4.9 | 3.7 |
| 8 Greenwich | 4.3 | 4.3 | 4.2 | 6.3 |
| 9 CS2 Comp | 4.0 | 3.6 | 4.3 | 4.7 |
| 10 CANH9-1412 | 3.9 | 4.7 | 3.1 | 7.5 |
| 11 Villa | 3.7 | 3.7 | 3.8 | 4.3 |
| 12 DS1 Comp | 3.5 | 3.3 | 3.8 | 2.0 |
| 13 SR 7200 | 3.2 | 4.0 | 2.4 | 4.0 |
| LSD at 5% = | 0.7 | 0.9 | 0.8 | 2.1 |

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

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

Table 7. Performance of creeping and colonial bentgrass cultivars and selections in a fairway trial seeded in September 2012 at North Brunswick, NJ.

| Cultivar or Selection | Species | Turf Quality ¹ | | | Brown Patch ² July 2014 | Dollar Spot ³ 2014 |
|-------------------------|----------|---------------------------|-----------|-----------|------------------------------------|-------------------------------|
| | | 2013-2014 Avg. | 2013 Avg. | 2014 Avg. | | |
| 1 11-CMC Comp | Creeping | 7.6 | 7.7 | 7.4 | 7.7 | 7.7 |
| 2 Flagstick | Creeping | 7.4 | 7.5 | 7.2 | 7.3 | 7.8 |
| 3 PRE2 Comp | Colonial | 7.3 | 6.7 | 7.9 | 8.0 | 7.3 |
| 4 PPG-AP 102C | Creeping | 7.2 | 7.9 | 6.5 | 8.3 | 6.8 |
| 5 PGF Comp | Creeping | 7.1 | 7.7 | 6.5 | 8.3 | 6.2 |
| 6 PPG-AP 102B | Creeping | 7.1 | 7.6 | 6.5 | 7.3 | 6.2 |
| 7 PSD Comp | Creeping | 7.0 | 7.3 | 6.6 | 7.3 | 5.9 |
| 8 PPG-AT-103 | Colonial | 6.9 | 6.7 | 7.2 | 8.7 | 6.4 |
| 9 11-EBC Comp | Creeping | 6.8 | 7.3 | 6.4 | 8.0 | 7.2 |
| 10 FPG Comp | Creeping | 6.7 | 7.4 | 6.0 | 8.3 | 5.5 |
| 11 11-FDC Comp | Colonial | 6.6 | 6.3 | 7.0 | 7.3 | 6.9 |
| 12 PDD Comp | Creeping | 6.5 | 7.3 | 5.8 | 8.3 | 5.0 |
| 13 PRE Comp | Colonial | 6.5 | 6.1 | 6.9 | 6.3 | 7.0 |
| 14 Center Cut II | Creeping | 6.3 | 6.8 | 5.9 | 7.0 | 5.6 |
| 15 Center Cut III Blend | Creeping | 6.1 | 6.4 | 5.8 | 7.7 | 5.1 |
| 16 GMC-12K | Creeping | 6.0 | 6.6 | 5.5 | 6.7 | 5.4 |
| 17 FSC Comp | Creeping | 6.0 | 6.6 | 5.5 | 8.0 | 4.6 |
| 18 Hurley Comp | Creeping | 6.0 | 7.1 | 5.0 | 8.3 | 4.0 |
| 19 PSG NBC | Colonial | 5.9 | 6.9 | 4.9 | 6.3 | 3.5 |
| 20 Declaration | Creeping | 5.9 | 7.0 | 4.8 | 6.7 | 7.4 |
| 21 Capri | Colonial | 5.9 | 5.9 | 5.9 | 7.0 | 6.2 |
| 22 Proclamation | Creeping | 5.6 | 6.4 | 4.9 | 7.3 | 4.8 |
| 23 13M | Creeping | 5.5 | 6.0 | 5.0 | 5.3 | 6.9 |
| 24 PST-Syn-ROPS | Creeping | 5.4 | 6.3 | 4.6 | 6.7 | 3.6 |
| 25 AP-18 | Creeping | 5.3 | 6.5 | 4.0 | 7.0 | 3.4 |

(Continued)

Table 7. Creeping and colonial bentgrass fairway trial, 2012 (continued).

| Cultivar or Selection | Species | Turf Quality ¹ | | | Brown Patch ² July 2014 | Dollar Spot ³ 2014 |
|-----------------------|----------|---------------------------|-----------|-----------|------------------------------------|-------------------------------|
| | | 2013-2014 Avg. | 2013 Avg. | 2014 Avg. | | |
| 26 Authority | Creeping | 5.1 | 6.4 | 3.9 | 4.3 | 3.7 |
| 27 Shark | Creeping | 5.1 | 6.2 | 4.1 | 5.3 | 2.8 |
| 28 Crystal BlueLinks | Creeping | 5.1 | 5.6 | 4.7 | 5.7 | 4.9 |
| 29 EBM | Colonial | 5.1 | 5.4 | 4.8 | 6.0 | 6.2 |
| 30 Memorial | Creeping | 5.0 | 5.2 | 4.9 | 4.3 | 6.6 |
| 31 PinUp | Creeping | 5.0 | 6.1 | 3.9 | 5.0 | 5.5 |
| 32 7 PC2/Tyee | Creeping | 5.0 | 5.2 | 4.8 | 9.0 | 5.1 |
| 33 Mackenzie/Focus | Creeping | 5.0 | 5.2 | 4.8 | 6.7 | 4.2 |
| 34 Pure Select | Creeping | 4.9 | 6.2 | 3.7 | 5.3 | 4.0 |
| 35 RH 931 | Creeping | 4.9 | 5.4 | 4.3 | 5.0 | 4.3 |
| 36 V-8 | Creeping | 4.8 | 5.6 | 4.1 | 7.0 | 3.8 |
| 37 Kingpin | Creeping | 4.8 | 5.1 | 4.4 | 4.7 | 4.8 |
| 38 PureFormance Blend | Creeping | 4.6 | 5.2 | 4.1 | 7.0 | 4.7 |
| 39 Tyee | Creeping | 4.6 | 5.3 | 4.0 | 6.3 | 3.4 |
| 40 Tyee/OO7 | Creeping | 4.6 | 5.5 | 3.7 | 5.7 | 4.1 |
| 41 OO7 | Creeping | 4.5 | 5.8 | 3.3 | 4.3 | 2.8 |
| 42 Benchmark DSR | Creeping | 4.4 | 5.5 | 3.3 | 4.3 | 3.3 |
| 43 Barracuda | Creeping | 4.3 | 5.2 | 3.5 | 4.7 | 3.9 |
| 44 P21L2-315 | Creeping | 4.3 | 4.7 | 4.0 | 3.7 | 4.2 |
| 45 SR 1150/OO7 | Creeping | 4.3 | 5.4 | 3.3 | 3.3 | 3.6 |
| 46 PST-OKPS Bulk | Creeping | 4.3 | 4.6 | 4.0 | 6.3 | 3.9 |
| 47 Glory | Colonial | 4.2 | 4.6 | 3.8 | 4.7 | 3.9 |
| 48 Col 1 | Colonial | 4.2 | 4.4 | 4.1 | 3.3 | 6.3 |
| 49 Tiger II | Colonial | 4.1 | 4.8 | 3.5 | 3.7 | 3.7 |
| 50 Independence | Creeping | 4.1 | 5.5 | 2.8 | 5.5 | 2.3 |

(Continued)

Table 7. Creeping and colonial bentgrass fairway trial, 2012 (continued).

| Cultivar or Selection | Species | Turf Quality ¹ | | | Brown Patch ² July 2014 | Dollar Spot ³ 2014 |
|-----------------------|----------|---------------------------|-----------|-----------|------------------------------------|-------------------------------|
| | | 2013-2014 Avg. | 2013 Avg. | 2014 Avg. | | |
| 51 Mackenzie/Tyee | Creeping | 4.1 | 4.9 | 3.3 | 3.7 | 2.9 |
| 52 Penn A-4 | Creeping | 4.0 | 4.8 | 3.3 | 6.7 | 2.5 |
| 53 SR 1150 | Creeping | 4.0 | 4.8 | 3.3 | 3.7 | 4.5 |
| 54 L-93 | Creeping | 4.0 | 4.3 | 3.5 | 5.3 | 3.2 |
| 55 T-1 | Creeping | 4.0 | 5.5 | 2.5 | 4.0 | 3.8 |
| 56 Putter | Creeping | 3.7 | 4.1 | 3.2 | 5.7 | 4.9 |
| 57 Mackenzie | Creeping | 3.6 | 4.4 | 3.0 | 4.0 | 3.8 |
| 58 Col 2 | Colonial | 3.5 | 3.9 | 3.0 | 3.0 | 3.0 |
| 59 Ninety-Six Two | Creeping | 3.5 | 4.4 | 2.5 | 5.7 | 3.7 |
| 60 Providence | Creeping | 3.4 | 4.0 | 2.9 | 5.7 | 3.7 |
| 61 Imperial | Creeping | 3.4 | 4.1 | 2.7 | 4.0 | 3.3 |
| 62 Southshore | Creeping | 3.3 | 4.1 | 2.6 | 5.0 | 3.4 |
| 63 SR 1119 | Creeping | 3.3 | 3.8 | 2.9 | 3.3 | 3.8 |
| 64 SR 7150 | Colonial | 3.3 | 3.7 | 2.9 | 2.7 | 3.4 |
| 65 Alpha | Creeping | 3.3 | 4.1 | 2.5 | 6.3 | 2.8 |
| 66 AZH9-4257 | Creeping | 3.3 | 4.7 | 1.8 | 2.7 | 3.2 |
| 67 Penn G-2 | Creeping | 3.2 | 2.6 | 3.9 | 5.0 | 4.9 |
| 68 Sandhill | Creeping | 3.1 | 2.3 | 4.0 | 6.0 | 7.1 |
| 69 Penncross | Creeping | 2.8 | 3.2 | 2.5 | 5.3 | 3.4 |
| 70 SR 7100 | Colonial | 2.7 | 2.8 | 2.7 | 3.3 | 4.0 |
| 71 PSG 7DB | Dryland | 2.0 | 2.0 | 2.0 | 4.3 | 4.9 |

Table 7. Creeping and colonial bentgrass fairway trial, 2012 (continued).

| Cultivar or Selection | Species | Turf Quality ¹ | | | Brown Patch ² July 2014 | Dollar Spot ³ 2014 |
|-----------------------|---------|---------------------------|-----------|-----------|---------------------------------------|----------------------------------|
| | | 2013-2014 Avg. | 2013 Avg. | 2014 Avg. | | |
| LSD at 5% = | | 0.9 | 1.0 | 1.1 | 2.4 | 1.5 |

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 three rating dates

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

| Selection | Species | Turf Quality ¹ 2014 | Turf Establishment ² Oct. 2013 | Root Pythium ³ Oct. 2013 | Brown Patch ³ July 2014 | Sod Webworm ⁴ Aug. 2014 | Herbicide Damage ⁵ Sept. 2014 |
|--------------------|----------|-----------------------------------|--|--|---------------------------------------|---------------------------------------|---|
| 1 1HC | Creeping | 6.6 | 5.3 | 6.7 | 7.3 | 5.7 | 7.3 |
| 2 PPG-AP 102B | Creeping | 6.4 | 6.7 | 7.7 | 6.3 | 6.7 | 6.7 |
| 3 PPG-AP 102D | Creeping | 6.3 | 5.0 | 5.3 | 7.7 | 6.0 | 6.3 |
| 4 AST-1-12-3023 | Creeping | 6.3 | 6.0 | 7.0 | 8.3 | 5.3 | 7.7 |
| 5 Luminary | Creeping | 6.2 | 6.7 | 6.3 | 7.3 | 5.3 | 4.3 |
| 6 PPS Comp | Creeping | 6.2 | 5.0 | 4.0 | 8.0 | 6.7 | 7.7 |
| 7 Barracuda | Creeping | 6.1 | 6.0 | 6.3 | 7.7 | 5.7 | 5.0 |
| 8 Pure Distinction | Creeping | 6.0 | 6.7 | 4.7 | 7.7 | 5.0 | 6.3 |
| 9 Pure Select | Creeping | 5.9 | 6.3 | 6.0 | 8.0 | 4.7 | 4.7 |
| 10 AP 23 | Creeping | 5.9 | 4.7 | 5.3 | 8.0 | 5.0 | 5.7 |
| 11 AP 16 | Creeping | 5.9 | 5.7 | 6.3 | 8.0 | 4.3 | 5.0 |
| 12 AST-1-12-3008A | Creeping | 5.9 | 6.0 | 7.0 | 7.0 | 5.0 | 5.0 |
| 13 AST-1-12-8001A | Creeping | 5.8 | 6.0 | 6.3 | 6.7 | 4.0 | 6.0 |
| 14 PDC Comp | Colonial | 5.8 | 3.3 | 4.7 | 7.7 | 4.7 | 8.0 |
| 15 Declaration | Creeping | 5.8 | 5.3 | 6.7 | 7.3 | 5.0 | 4.3 |
| 16 Shark | Creeping | 5.7 | 6.3 | 6.0 | 7.7 | 4.3 | 5.0 |
| 17 PGT Comp | Creeping | 5.7 | 4.7 | 5.0 | 7.3 | 5.7 | 7.3 |
| 18 DPG Comp | Creeping | 5.6 | 4.3 | 4.7 | 5.0 | 6.0 | 7.7 |
| 19 FWT Comp | Creeping | 5.6 | 4.0 | 4.3 | 6.3 | 4.7 | 7.3 |
| 20 AST-1-12-3010A | Creeping | 5.6 | 5.7 | 6.3 | 8.0 | 5.3 | 7.3 |
| 21 Pin Up 2 | Creeping | 5.5 | 4.7 | 4.7 | 8.0 | 4.7 | 6.7 |
| 22 OO7 | Creeping | 5.5 | 6.7 | 6.3 | 7.3 | 5.0 | 5.7 |
| 23 Focus | Creeping | 5.4 | 6.7 | 6.3 | 6.7 | 5.7 | 5.7 |
| 24 Capri | Colonial | 5.3 | 5.7 | 6.3 | 4.0 | 4.0 | 8.0 |
| 25 AST-1-12-3006A | Creeping | 5.3 | 6.0 | 7.3 | 6.3 | 5.7 | 6.3 |

(Continued)

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

| Selection | Species | Turf Quality ¹ 2014 | Turf Establishment ² Oct. 2013 | Root Pythium ³ Oct. 2013 | Brown Patch ³ July 2014 | Sod Webworm ⁴ Aug. 2014 | Herbicide Damage ⁵ Sept. 2014 |
|-----------|-----------------|-----------------------------------|--|--|---------------------------------------|---------------------------------------|---|
| 26 | PSY Comp | 5.3 | 4.0 | 4.3 | 7.0 | 5.7 | 7.0 |
| 27 | CAS-2 | 5.3 | 4.0 | 5.7 | 7.3 | 5.0 | 6.7 |
| 28 | V-8 | 5.3 | 5.7 | 6.0 | 6.0 | 6.3 | 6.7 |
| 29 | FSM Comp | 5.3 | 4.0 | 4.3 | 8.3 | 6.3 | 6.7 |
| 30 | AP 18 | 5.2 | 5.3 | 6.0 | 7.0 | 3.7 | 3.3 |
| 31 | Pin Up | 5.2 | 5.3 | 5.3 | 7.0 | 3.7 | 4.7 |
| 32 | Authority | 5.2 | 6.0 | 6.0 | 5.7 | 5.0 | 6.0 |
| 33 | Flagstick + O07 | 5.2 | 6.3 | 6.7 | 5.0 | 4.0 | 5.7 |
| 34 | FTP Comp | 5.2 | 3.7 | 4.0 | 7.0 | 5.3 | 8.3 |
| 35 | MCC Comp | 5.2 | 4.0 | 3.7 | 6.7 | 5.3 | 7.0 |
| 36 | TPD Comp | 5.1 | 4.3 | 5.3 | 6.3 | 4.7 | 5.3 |
| 37 | AST-1-12-3007A | 5.1 | 5.7 | 5.3 | 6.7 | 3.7 | 4.7 |
| 38 | SDR Comp | 5.1 | 2.7 | 3.3 | 5.0 | 5.0 | 7.7 |
| 39 | MCT Comp | 5.1 | 4.3 | 4.3 | 7.0 | 6.0 | 5.3 |
| 40 | FT-12 | 5.1 | 5.0 | 6.0 | 3.3 | 4.3 | 8.0 |
| 41 | Flagstick + Tye | 5.0 | 5.7 | 5.7 | 7.0 | 5.0 | 5.0 |
| 42 | AST-1-12-3001A | 5.0 | 6.3 | 7.0 | 8.0 | 4.0 | 5.7 |
| 43 | AST-1-12-3004A | 5.0 | 6.0 | 6.7 | 6.0 | 3.7 | 5.3 |
| 44 | Runner | 5.0 | 7.0 | 5.7 | 6.3 | 5.0 | 4.7 |
| 45 | 96-2 | 4.9 | 7.0 | 6.3 | 6.0 | 4.0 | 5.3 |
| 46 | Flagstick | 4.9 | 5.3 | 5.3 | 5.3 | 3.7 | 4.3 |
| 47 | PST-OCVR Bulk | 4.9 | 5.0 | 4.0 | 6.0 | 4.7 | 7.7 |
| 48 | EBM | 4.9 | 4.7 | 5.3 | 5.0 | 3.3 | 7.7 |
| 49 | PST-OCV6 | 4.8 | 6.3 | 5.3 | 8.0 | 4.3 | 7.0 |
| 50 | Focus + 96-2 | 4.8 | 6.0 | 6.0 | 4.7 | 4.0 | 4.7 |

(Continued)

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

| Selection | Species | Turf Quality ¹ 2014 | Turf Establishment ² Oct. 2013 | Root Pythium ³ Oct. 2013 | Brown Patch ³ July 2014 | Sod Webworm ⁴ Aug. 2014 | Herbicide Damage ⁵ Sept. 2014 |
|--------------------------|----------|-----------------------------------|--|--|---------------------------------------|---------------------------------------|---|
| 51 Benchmark DSR | Creeping | 4.8 | 5.0 | 4.7 | 5.3 | 5.3 | 5.3 |
| 52 DTO Comp | Colonial | 4.8 | 2.7 | 4.3 | 4.0 | 4.3 | 7.0 |
| 53 SR 1150 | Creeping | 4.7 | 5.7 | 5.3 | 6.0 | 6.3 | 7.7 |
| 54 Proclamation | Creeping | 4.7 | 5.7 | 5.3 | 5.7 | 5.3 | 6.0 |
| 55 Tye | Creeping | 4.7 | 6.7 | 6.3 | 5.3 | 5.0 | 5.0 |
| 56 T-1 | Creeping | 4.7 | 5.3 | 6.0 | 7.3 | 5.3 | 6.7 |
| 57 Tiger 2 | Colonial | 4.7 | 5.3 | 6.0 | 3.7 | 3.3 | 6.0 |
| 58 AP 15 | Creeping | 4.6 | 3.7 | 3.3 | 6.7 | 4.0 | 6.7 |
| 59 AST-1-12-3026 | Creeping | 4.6 | 6.3 | 7.0 | 4.3 | 2.7 | 4.3 |
| 60 Independence | Creeping | 4.5 | 5.0 | 5.7 | 6.3 | 3.7 | 4.7 |
| 61 AST-1-12-3024 | Creeping | 4.5 | 6.7 | 5.3 | 6.3 | 5.0 | 5.7 |
| 62 Mackenzie + Tye | Creeping | 4.4 | 7.0 | 5.7 | 5.7 | 3.7 | 4.0 |
| 63 DTT Comp | Colonial | 4.4 | 2.7 | 3.3 | 4.7 | 3.0 | 7.0 |
| 64 13M | Creeping | 4.4 | 5.3 | 6.7 | 6.0 | 4.0 | 4.7 |
| 65 Flagstick + Mackenzie | Creeping | 4.3 | 6.0 | 5.7 | 5.0 | 4.0 | 3.3 |
| 66 PST-0COL | Creeping | 4.2 | 6.7 | 6.7 | 4.0 | 4.3 | 5.7 |
| 67 Focus + Mackenzie | Creeping | 4.2 | 5.7 | 5.7 | 5.0 | 3.7 | 4.0 |
| 68 AST-1-12-3009A | Creeping | 4.2 | 6.3 | 6.7 | 5.7 | 3.3 | 2.7 |
| 69 Greentime | Colonial | 4.0 | 4.3 | 5.3 | 4.0 | 4.0 | 5.3 |
| 70 Mackenzie | Creeping | 3.9 | 5.7 | 5.0 | 4.7 | 4.0 | 7.0 |
| 71 Glory | Colonial | 3.9 | 5.7 | 5.0 | 4.0 | 3.7 | 5.7 |
| 72 Alpha | Creeping | 3.7 | 7.0 | 7.3 | 5.7 | 6.0 | 5.0 |
| 73 L-93 | Creeping | 3.7 | 5.7 | 6.0 | 5.3 | 5.0 | 5.7 |
| 74 Putter | Creeping | 3.7 | 6.7 | 6.0 | 5.3 | 4.7 | 4.7 |
| 75 Penn A-4 | Creeping | 3.7 | 4.7 | 5.0 | 4.7 | 4.7 | 3.0 |

(Continued)

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

| Selection | Species | Turf Quality ¹ 2014 | Turf Establishment ² Oct. 2013 | Root Pythium ³ Oct. 2013 | Brown Patch ³ July 2014 | Sod Webworm ⁴ Aug. 2014 | Herbicide Damage ⁵ Sept. 2014 |
|---------------|----------|-----------------------------------|--|--|---------------------------------------|---------------------------------------|---|
| 76 Kingpin | Creeping | 3.6 | 6.0 | 5.3 | 4.7 | 2.0 | 4.0 |
| 77 Memorial | Creeping | 3.5 | 6.0 | 5.7 | 4.3 | 4.7 | 4.0 |
| 78 Crenshaw | Creeping | 3.5 | 6.0 | 6.3 | 4.7 | 3.0 | 4.0 |
| 79 Imperial | Creeping | 3.5 | 5.0 | 4.3 | 5.7 | 3.0 | 4.3 |
| 80 SR 7100 | Colonial | 3.1 | 4.0 | 4.0 | 3.0 | 4.3 | 6.3 |
| 81 Penncross | Creeping | 3.0 | 4.7 | 5.7 | 2.7 | 5.3 | 2.3 |
| 82 Southshore | Creeping | 2.9 | 4.3 | 5.7 | 4.0 | 5.3 | 4.7 |
| 83 Century | Creeping | 2.6 | 1.7 | 2.3 | 6.0 | 3.3 | 4.0 |
| 84 Penn G-2 | Creeping | 2.4 | 2.0 | 2.3 | 6.3 | 4.3 | 3.3 |
| 85 SR 1119 | Creeping | 2.0 | 1.0 | 1.5 | 4.5 | 3.0 | 5.0 |
| LSD at 5% = | | 0.6 | 1.4 | 1.9 | 2.2 | 2.0 | 2.2 |

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

³Disease rated on a 1 to 9 scale, where 9 = best disease resistance

⁴Sod webworm rated on a 1 to 9 scale, where 9 = greatest tolerance to webworm damage

⁵Herbicide damage rated on a 1 to 9 scale, where 9 = greatest tolerance to herbicide (fenoxaprop) phytotoxicity

Table 9. 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 2014 | Turf Establishment ² Oct. 2013 | Copper Spot ³ Sept. 2014 |
|-----------------------|-----------------------------------|--|--|
| 1 PPG-AC 101 | 7.3 | 8.0 | 7.0 |
| 2 7PC2 | 6.3 | 8.3 | 4.7 |
| 3 Greenwich | 6.1 | 8.3 | 3.0 |
| 4 Vesper | 5.7 | 7.7 | 4.7 |
| 5 Legendary | 5.4 | 6.3 | 3.7 |
| 6 SCT Comp | 5.1 | 4.0 | 4.3 |
| 7 V10 Comp | 5.0 | 4.3 | 5.3 |
| 8 SHV Comp | 4.9 | 4.7 | 3.7 |
| 9 DPI Comp | 4.7 | 3.3 | 5.3 |
| 10 Villa | 4.7 | 8.0 | 2.0 |
| 11 BSS Comp | 4.5 | 3.7 | 6.0 |
| 12 PIN Comp | 4.4 | 4.0 | 4.0 |
| 13 SR 7200 | 2.5 | 2.3 | 3.7 |
| LSD at 5%= | 1.0 | 1.1 | 2.3 |

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

³Copper spot rated on a 1 to 9 scale, where 9 = best disease resistance

Table 10. 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 2014 | Turf Establishment ² Oct. 2013 | Brown Patch ³ 2014 |
|-----------------------|----------|-----------------------------------|--|----------------------------------|
| 1 PDC Comp | Colonial | 7.4 | 5.0 | 8.5 |
| 2 PSG NBC | Colonial | 7.3 | 6.3 | 8.0 |
| 3 PPG-AT-103 | Colonial | 7.3 | 6.7 | 7.3 |
| 4 8197-8,10,12 | Colonial | 7.3 | 5.3 | 7.2 |
| 5 PPG-AT-104 | Colonial | 7.1 | 7.0 | 7.2 |
| 6 AT 12-4 | Colonial | 7.1 | 6.0 | 6.8 |
| 7 CAS-2 | Creeping | 7.1 | 4.7 | 8.8 |
| 8 TPD Comp | Creeping | 6.9 | 5.0 | 8.7 |
| 9 FT12 | Colonial | 6.9 | 5.7 | 7.2 |
| 10 DPG Comp | Creeping | 6.9 | 5.0 | 8.8 |
| 11 AT 12-9 | Colonial | 6.9 | 5.7 | 5.7 |
| 12 AT 12-19 | Colonial | 6.9 | 5.3 | 7.2 |
| 13 PPG-AP 102B | Creeping | 6.8 | 7.3 | 8.5 |
| 14 PPG-AT-101 | Colonial | 6.8 | 6.7 | 6.3 |
| 15 FWT Comp | Creeping | 6.8 | 5.0 | 8.7 |
| 16 AT 12-3 | Colonial | 6.7 | 6.0 | 7.3 |
| 17 AT 12-8 | Colonial | 6.7 | 5.7 | 7.0 |
| 18 AT 12-17 | Colonial | 6.7 | 5.3 | 7.2 |
| 19 AT 12-1 | Colonial | 6.7 | 7.0 | 6.0 |
| 20 AT 12-13 | Colonial | 6.7 | 6.3 | 6.7 |
| 21 FSM Comp | Creeping | 6.7 | 6.0 | 8.7 |
| 22 AT 12-2 | Colonial | 6.7 | 6.0 | 7.0 |
| 23 SDR Comp | Colonial | 6.6 | 3.0 | 7.5 |
| 24 AT 12-5 | Colonial | 6.6 | 6.7 | 6.5 |
| 25 8197-1-6 | Colonial | 6.6 | 4.0 | 7.0 |
| 26 AT 12-10 | Colonial | 6.6 | 5.3 | 6.7 |
| 27 OO7 | Creeping | 6.6 | 7.3 | 6.7 |
| 28 AT 12-16 | Colonial | 6.5 | 5.7 | 6.2 |
| 29 8191-7-12 | Colonial | 6.5 | 4.7 | 6.5 |
| 30 Luminary | Creeping | 6.5 | 5.7 | 7.3 |
| 31 AT 12-11 | Colonial | 6.4 | 6.0 | 5.7 |
| 32 8195-1-6 | Colonial | 6.4 | 4.0 | 6.5 |
| 33 PPG-AP 102D | Creeping | 6.4 | 5.7 | 8.0 |
| 34 Flagstick + 007 | Creeping | 6.4 | 6.7 | 7.3 |
| 35 PPS Comp | Creeping | 6.4 | 3.7 | 8.7 |

(Continued)

Table 10. Creeping and colonial bentgrass fairway trial, 2013 (continued).

| Cultivar or Selection | Species | Turf Quality ¹ 2014 | Turf Establishment ² Oct. 2013 | Brown Patch ³ 2014 |
|--------------------------|----------|-----------------------------------|--|----------------------------------|
| 36 AT 12-6 | Colonial | 6.4 | 5.3 | 5.5 |
| 37 AT 12-14 | Colonial | 6.3 | 5.7 | 6.0 |
| 38 AP18 | Creeping | 6.3 | 5.0 | 8.2 |
| 39 AT 12-18 | Colonial | 6.3 | 5.3 | 6.7 |
| 40 DTT Comp | Colonial | 6.3 | 3.3 | 7.8 |
| 41 8189-7,8,11,12 | Colonial | 6.2 | 3.7 | 7.7 |
| 42 PSY Comp | Colonial | 6.2 | 3.3 | 7.2 |
| 43 Flagstick | Creeping | 6.1 | 6.3 | 6.8 |
| 44 Focus | Creeping | 6.1 | 7.0 | 6.2 |
| 45 PGT Comp | Creeping | 6.1 | 4.7 | 8.2 |
| 46 Capri | Colonial | 6.0 | 5.7 | 6.5 |
| 47 AT 12-12 | Colonial | 5.9 | 5.3 | 5.8 |
| 48 DTO Comp | Colonial | 5.9 | 3.0 | 6.0 |
| 49 Proclamation | Creeping | 5.9 | 7.7 | 6.8 |
| 50 AT 8 | Colonial | 5.9 | 4.0 | 6.2 |
| 51 Pin Up | Creeping | 5.9 | 7.7 | 6.3 |
| 52 Declaration | Creeping | 5.9 | 4.7 | 7.3 |
| 53 Pin Up 2 | Creeping | 5.9 | 6.7 | 6.7 |
| 54 Authority | Creeping | 5.9 | 7.0 | 7.2 |
| 55 8200-2,4-6 | Colonial | 5.8 | 3.3 | 8.5 |
| 56 FTP Comp | Creeping | 5.8 | 4.3 | 8.0 |
| 57 Shark | Creeping | 5.7 | 7.0 | 8.2 |
| 58 Flagstick + Mackenzie | Creeping | 5.6 | 6.3 | 6.5 |
| 59 Barracuda | Creeping | 5.6 | 7.3 | 7.2 |
| 60 EBM | Colonial | 5.5 | 4.7 | 4.5 |
| 61 Pure Select | Creeping | 5.5 | 6.0 | 7.0 |
| 62 8190-8-10,12 | Colonial | 5.4 | 3.3 | 6.2 |
| 63 PST-OCV6 | Creeping | 5.4 | 7.0 | 6.8 |
| 64 Tiger 2 | Colonial | 5.3 | 6.7 | 4.2 |
| 65 V-8 | Creeping | 5.2 | 6.7 | 6.0 |
| 66 Focus + 96-2 | Creeping | 5.1 | 7.3 | 5.8 |
| 67 8191-2,4,6 | Colonial | 5.1 | 1.7 | 7.0 |
| 68 PST-0COL | Creeping | 5.1 | 6.3 | 5.5 |
| 69 PGGW-03 | Colonial | 5.1 | 8.3 | 4.2 |
| 70 Greentime | Colonial | 5.1 | 4.0 | 6.2 |

(Continued)

Table 10. Creeping and colonial bentgrass fairway trial, 2013 (continued).

| Cultivar or Selection | Species | Turf Quality ¹ 2014 | Turf Establishment ² Oct. 2013 | Brown Patch ³ 2014 |
|-----------------------|----------|-----------------------------------|--|----------------------------------|
| 71 PGGW-05 | Colonial | 5.0 | 6.7 | 3.8 |
| 72 MCT Comp | Creeping | 5.0 | 4.7 | 6.7 |
| 73 Flagstick +Tye | Creeping | 5.0 | 6.7 | 5.5 |
| 74 PGGW-01 | Colonial | 4.9 | 7.7 | 3.8 |
| 75 PST-OCVR Bulk | Creeping | 4.9 | 5.3 | 7.7 |
| 76 PGGW-07 | Colonial | 4.9 | 6.3 | 4.7 |
| 77 PGGW-06 | Colonial | 4.8 | 6.7 | 3.7 |
| 78 13M | Creeping | 4.8 | 7.0 | 5.2 |
| 79 Benchmark DSR | Creeping | 4.7 | 5.3 | 5.8 |
| 80 PGGW-02 | Colonial | 4.7 | 8.0 | 4.8 |
| 81 AT 10 | Colonial | 4.7 | 2.0 | 6.3 |
| 82 MCC Comp | Creeping | 4.6 | 5.0 | 6.2 |
| 83 SR 7100 | Colonial | 4.6 | 4.7 | 3.7 |
| 84 Independence | Creeping | 4.6 | 7.0 | 4.5 |
| 85 Focus + Mackenzie | Creeping | 4.5 | 6.3 | 6.0 |
| 86 Glory | Colonial | 4.5 | 7.0 | 4.0 |
| 87 SR 1150 | Creeping | 4.4 | 6.7 | 6.0 |
| 88 G. Egmont | Colonial | 4.4 | 7.0 | 3.0 |
| 89 PST-Syn-R911 | Colonial | 4.4 | 6.3 | 2.7 |
| 90 Greenspeed | Colonial | 4.4 | 6.3 | 2.7 |
| 91 T-1 | Creeping | 4.3 | 5.7 | 4.5 |
| 92 PureFormance Blend | Creeping | 4.3 | 8.0 | 3.7 |
| 93 Alpha | Creeping | 4.2 | 7.0 | 5.0 |
| 94 PGGW-08 | Colonial | 4.1 | 6.3 | 3.3 |
| 95 96-2 | Creeping | 4.1 | 8.0 | 5.7 |
| 96 PGGW-04 | Colonial | 4.0 | 7.0 | 2.5 |
| 97 Manor | Colonial | 4.0 | 3.7 | 3.5 |
| 98 G. Sefton | Colonial | 4.0 | 7.0 | 3.0 |
| 99 Memorial | Creeping | 3.9 | 7.7 | 3.7 |
| 100 Tye | Creeping | 3.9 | 7.0 | 5.2 |
| 101 Mackenzie | Creeping | 3.7 | 6.7 | 4.2 |
| 102 Crenshaw | Creeping | 3.7 | 5.7 | 5.3 |
| 103 Alister | Colonial | 3.6 | 1.3 | 4.8 |
| 104 Putter | Creeping | 3.6 | 7.7 | 4.7 |
| 105 Kingpin | Creeping | 3.6 | 6.7 | 4.0 |

(Continued)

Table 10. Creeping and colonial bentgrass fairway trial, 2013 (continued).

| Cultivar or Selection | Species | Turf Quality ¹ 2014 | Turf Establishment ² Oct. 2013 | Brown Patch ³ 2014 |
|-----------------------|----------|-----------------------------------|--|----------------------------------|
| 106 Southshore | Creeping | 3.5 | 6.7 | 4.0 |
| 107 Mackenzie + Tyee | Creeping | 3.5 | 6.0 | 4.2 |
| 108 SR 7150 | Colonial | 3.5 | 1.3 | 5.2 |
| 109 Penn A-4 | Creeping | 3.4 | 4.7 | 3.3 |
| 110 L-93 | Creeping | 3.3 | 7.0 | 3.5 |
| 111 Imperial | Creeping | 3.2 | 5.3 | 5.7 |
| 112 Golfstar | ID Bent | 3.0 | 4.7 | 2.8 |
| 113 Penncross | Creeping | 2.7 | 4.7 | 2.5 |
| 114 PSG 7DB | Dryland | 2.6 | 7.0 | 4.2 |
| 115 Exeter | Colonial | 2.3 | 7.0 | 4.5 |
| 116 Century | Creeping | 2.2 | 1.0 | 3.8 |
| 117 SR 1119 | Creeping | 2.1 | 1.0 | 5.3 |
| LSD at 5% = | | 1.0 | 1.3 | 1.9 |

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; data is an average of two rating dates

³Brown patch rated on a 1 to 9 scale, where 9 = best disease resistance

Table 11. Maintenance practices performed in 2014 on bentgrass trials at North Brunswick, NJ.

| Table | Test | Fertility ¹ | Mowing Height (inches) | Cultivation/Top Dress | Fungicides | Insecticides | Herbicides |
|-------|---|---|------------------------|--|--|-------------------------------|------------|
| 1 | 2009 Greens | 1.38 (N); 6 fl oz Magnesium 4%; 4 fl oz ferrous sulfate; 8 fl oz Harrell's MAX Minors; 0.463 lb P ₂ O ₅ ; 0.9 lb K ₂ O | 0.110 | April to Aug.–top-dressed April, June to Aug.–Tricure AD (wetting agent) | April–Bayleton Flo May–Bayleton Flo; Daconil Ultrex June–Affirm WDG; Pentathlon LF; Daconil Ultrex July–ProStar 70WDG; Wingman 4L; Daconil Ultrex + Medallion | none | none |
| 2 | 2011 Velvet Greens | 2.73 (N); 6 fl oz Magnesium 4%; 8 fl oz Harrell's MAX Minors; 0.963 lb P ₂ O ₅ ; 1.7 lb K ₂ O | 0.110 | April to Nov.–top-dressed April, June to Oct.–Tricure AD (wetting agent) | Nov.–Emerald | Aug.–Talstar GC (sod webworm) | none |
| 3 | 2011 Creeping, Colonial Greens | 2.73 (N); 6 fl oz Magnesium 4%; 8 fl oz Harrell's MAX Minors; 0.963 lb P ₂ O ₅ ; 1.7 lb K ₂ O | 0.110 | April to Nov.–top-dressed April, Jun to Oct.–Tricure AD (wetting agent) April, Oct.–aerated (solid tine) | Nov.–Emerald | Aug.–Talstar GC (sod webworm) | none |

Table 11. Bentgrass maintenance practices, 2014 (continued).

| Table | Test | Fertility ¹ | Mowing Height (inches) | Cultivation/Top Dress | Fungicides | Insecticides | Herbicides |
|-------|--|--|------------------------|--|--------------------|----------------------------------|---|
| 4 | 2011 Creeping, Colonial Fairway | 2.15 (N); 0.25 lb P ₂ O ₅ ; 0.45 lb K ₂ O | 0.375 | April to Nov.–Tri- cure AD (wetting agent) Oct.–scarified | June, Nov.–Emerald | Aug.–Talstar GC (sod webworm) | Aug.–Acclaim Extra (crabgrass); Horse- power (broadleaf weeds) |
| 5 | 2012 Creeping Greens | 3.23 (N); 4 fl oz Sugar Cal 10%; 6 fl oz Magnesium 4%; 8 fl oz Harrell's MAX Minors; 1.06 lb P ₂ O ₅ ; 1.93 lb K ₂ O | 0.110 | April to Nov.–top- dressed April, June to Oct.–Tricure AD (wetting agent) April, Oct.–aer- ated (solid tine) | Nov.–Emerald | Aug.–Talstar GC (sod webworm) | none |
| 6 | 2012 Velvet Greens | 2.63 (N); 4 fl oz Sugar Cal 10%; 6 fl oz Magnesium 4%; 8 fl oz Harrell's MAX Minors; 0.763 lb P ₂ O ₅ ; 1.38 lb K ₂ O | 0.110 | April to Nov.–top- dressed April, June to Oct.–Tricure AD (wetting agent) April, Oct.–aer- ated (solid tine) | none | Aug.–Talstar GC (sod webworm) | none |

(Continued)

Table 11. Bentgrass maintenance practices, 2014 (continued).

| Table | Test | Fertility ¹ | Mowing Height (inches) | Cultivation/Top Dress | Fungicides | Insecticides | Herbicides |
|-------|--|---|------------------------|--|--------------------|-----------------------------------|---|
| 7 | 2012 Creeping, Colonial Fairway | 1.85 (N); 0.25 lb P ₂ O ₅ ; 0.4 lb K ₂ O | 0.375 | April to Nov.–Tri- cure AD (wetting agent) Oct.–scarified | June, Nov.–Emerald | Aug.–Talstar GC (sod webworm) | Aug.–Acclaim Extra, 2 applications (crab- grass); Horsepower (broadleaf weeds) |
| 8 | 2013 Creeping, Colonial Greens | 4.05 (N); 0.6 lb P ₂ O ₅ ; 2.13 lb K ₂ O | 0.110 | April to Nov.–top dressed June to Oct.–Tri- cure AD (wetting agent) April–Limestone F Oct.–aerated (solid tine) | none | Aug.–Carbaryl 4L (sod webworm) | Aug.–Acclaim Extra (crabgrass) |

(Continued)

Table 13. Bentgrass maintenance practices, 2013 (continued).

| Table | Test | Fertility ¹ | Mowing Height (inches) | Cultivation/Top Dress | Fungicides | Insecticides | Herbicides |
|-------|--|--|------------------------|---|--------------|-------------------------------|--|
| 9 | 2013 Velvet Greens | 3.8 (N); 0.325 lb P ₂ O ₅ ; 1.85 lb K ₂ O | 0.110 | April to Nov.–top dressed June to Oct.–Tri-cure AD (wetting agent) | Nov.–Emerald | Aug.–Talstar GC (sod webworm) | Aug.–Acclaim Extra (crabgrass); Horsepower (broadleaf weeds) |
| | | | | April, Sept.–Limestone F Oct.–aerated (solid tine) | | | |
| 10 | 2013 Creeping, Colonial Fairway | 1.5 (N); 1.0 lb K ₂ O | 0.375 | Aug. to Nov.–Tri-cure AD (wetting agent) | none | Aug.–Talstar GC (sod webworm) | Aug.–Acclaim Extra (crabgrass); Horsepower (broadleaf weeds) |

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