

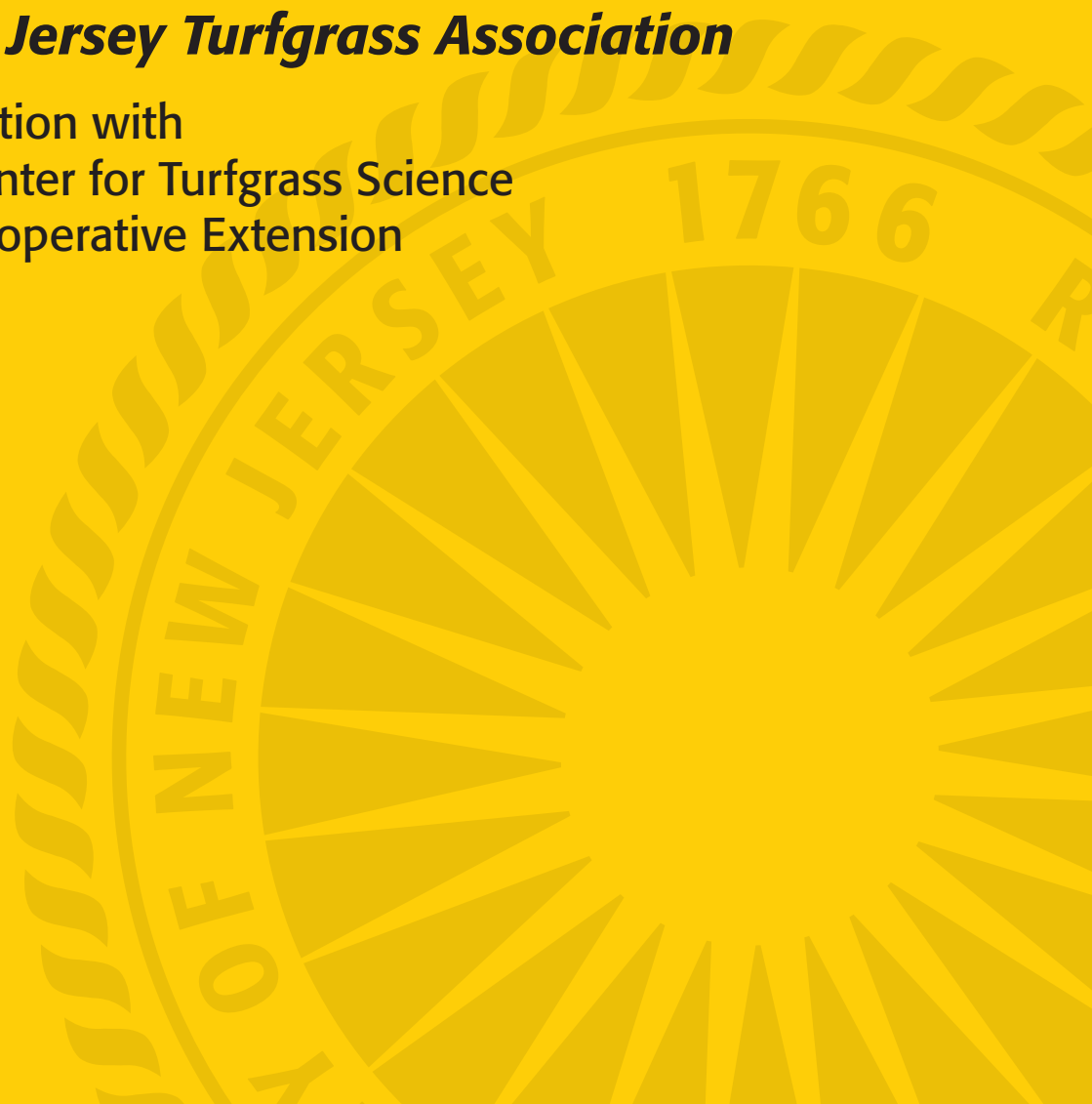
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In Cooperation with
Rutgers Center for Turfgrass Science
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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the 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 2013 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
Dr. Bruce B. Clarke, Coordinator

PERFORMANCE OF FINE FESCUE CULTIVARS AND SELECTIONS IN NEW JERSEY TURF TRIALS

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The fine fescues (*Festuca* spp.) are a group of cool-season grasses that have distinct, fine-textured leaves. Compared to other cool-season grasses, the fine fescues are better adapted to cool, dry, and shaded environments. The species group is tolerant of infertile and acidic soils and drought conditions and exhibit the best performance under lower fertility levels. The fine fescues perform best in well drained soils and are not suited for saturated soil conditions (Murphy, 1996). In general, these grasses have poor heat tolerance and lack tolerance to excessive nitrogen fertilization during periods of high temperatures (Meyer and Funk, 1989).

There are many species and subspecies of fine fescue, but only six are generally used as turfgrasses. There are three subspecies of *F. rubra*: strong creeping red fescue (*F. rubra* L. *rubra*), slender creeping red fescue (*F. rubra* L. var. *littoralis* Vasey ex Beal), and Chewings fescue [*F. rubra* L. subsp. *fallax* (Thuill.) Nyman]. Both the strong creeping red and slender creeping red fescues are referred to as creeping red fescues because they spread by rhizomes. As the name infers, the strong creeping red fescues have a more aggressive spreading habit than slender creeping red fescues. Chewings fescue is a dense and low growing bunch type grass with the greatest tolerance to low mowing heights in comparison to the other fine fescues.

Hard fescue (*F. brevilipa* R. Tracey) is a bunch type grass that spreads by tillering. It has a dark green color and forms a dense cover. Compared to Chewings fescue, hard fescue is considered to be more tolerant of heat, drought, and low fertility. The species is widely used in many low maintenance situations due to increased disease resistance, even under low maintenance conditions.

Sheeps (*F. ovina* L.) and blue (*F. glauca* Vill.) fescues are the least widely used species of the fine fescues. They are bunch-type and have a wide variation in color from blue or green to a silvery-blue or silvery-green. These two species are rarely used in seed mixtures because of their color. They have a non-aggressive growth habit which makes them a good addition to wildflower mixes to aid in the prevention of erosion and to add an interesting color to the mix. These species are also becoming more popular in ornamental landscapes due to their color.

When heavily fertilized, fine fescues can become soft, succulent, and thatchy which makes them more susceptible to diseases and summer stresses. A fertilizer rate of 1 to 2 lb nitrogen per 1000 ft² per year is ideal for fine fescues. The increasing demand for lower fertilizer and water usage makes fine fescues an option for use in certain situations to address some of these issues.

Many of the new cultivars of fine fescue contain a *Neotyphodium* endophyte that improves drought tolerance, resistance to above ground feeding insects, and in some cases, diseases. The presence of endophyte can reduce the need for chemical inputs normally used to treat for the insects and diseases. *Neotyphodium* is a non-pathogenic fungus that grows intercellularly within the above-ground plant tissue. The beneficial effects of the endophyte are often very evident under stress conditions.

Two other low maintenance species currently under evaluation are tufted hairgrass (*Deschampsia cespitosa* L.) and species of *Koeleria*. Although both of these species tolerate low maintenance under some climatic conditions, they are not yet well adapted to the long, hot, and humid summers of the

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northeast. Studies continue to improve the potential of these species to become viable, low maintenance turfgrasses in our climate.

Although the Rutgers turfgrass breeding program has improved many of the characteristics desired for a superior fine fescue turf, further work is needed, particularly in the areas of disease and insect resistance and wear tolerance. Rutgers continues to cooperate with the National Turfgrass Evaluation Program (NTEP), which evaluates many cultivars, collections, and experimental selections for turf performance across a wide range of geographical locations.

PROCEDURES

Five fine fescue turf trials were conducted at the Rutgers Plant Biology and Pathology Research and Extension Station in Adelphia, NJ (Tables 1 to 6). All tests consisted of 3 x 5 ft plots. The fine fescues were sown at 3.7 lb per 1000 ft².

Plots were replicated three times in a randomized complete block design. Tests were maintained at different fertility levels and mowing heights depending on the objectives of the test as well as the occurrence of disease or insects. Mowing height and fertilizer inputs of all tests are shown in Table 7. All tests were treated with pre-emergent herbicides and broadleaf weed control. The fine fescue trials (Tables 1 to 5) were irrigated to prevent severe stress and were mowed frequently with reel mowers to avoid excessive accumulation of clippings. The low maintenance trial (Table 6) was not irrigated with supplemental irrigation and was mowed with a rotary mower at a maximum of once per week during the growing season.

The 2008 Trial (Table 1) includes the 2008 National Fineleaf Fescue Test established in cooperation with the National Turfgrass Evaluation Program (NTEP). The 2011 Trial (Table 4) includes the 2011 Fine Fescue Species Test established in cooperation with the Cooperative Turfgrass Breeders Test (CTBT).

Evaluation

All tests were visually rated throughout the year on a scale of 1 to 9, where 9 represented the most desirable turf quality. Turf quality is a subjective characteristic that includes density, texture, color, growth habit, damage due to diseases or insects,

and overall performance. Trials were rated monthly throughout the growing season for turf quality as well as for other characteristics including diseases such as dollar spot (caused by *Sclerotinia homoeocarpa*). Plots were rated by different evaluators to help minimize personal biases towards a particular trait.

Data for all trials were statistically analyzed using analysis of variance, and means were separated using Fisher's protected least significant difference (LSD) means separation test. Results in Tables 1 to 4 are presented with selections grouped according to species and ranked according to best overall turf performance (multiple-year quality average). Although the low maintenance test, Table 6, is not grouped to species, it is also ranked according to multiple-year quality average. Table 5 is ranked according to overall turf performance in 2013.

Care should be used when drawing conclusions from some of these trials. First, these tests were grown as monocultures in full sun. These conditions tend to cause different stresses that may not occur under other conditions. Second, the 2012 test (Table 5) was in the first year of evaluation. Some cultivars perform much differently during establishment than they do after a mature sod has developed.

RESULTS AND DISCUSSION

Turf Quality

As a group, the hard fescues were rated highest for average turf quality, followed closely by the Chewings and strong creeping fescues (Tables 1 to 5). Hard fescues IS-FL 45, IS-FL 46, WB, BM2 Comp, H571 Comp, H572 Comp, and H575 Comp exhibited the highest turf quality, while Aurora Gold, Mp, PSG 3CAN45, GO-HBF, Spartan, and PST SYN 4NOD had the poorest quality (Tables 1 to 4). Chewings fescues IS-FRC 30, IS-FRC 34, IS-FRC-39, IS-FRC 33, CK2 Comp, C572 Comp, and PPG-FRC-112 also rated well; while OC1, SR 5100, PSG 5WSG1, SRX5SDP2, Victory II, and Koket had the poorest quality. The top performing strong creeping red fescue selections included IS- FRR 61, PSG5B242, PSG5RJ8, PSG 5J1551, FRR 71, 7C3 Comp, and 7C6 Comp, whereas the quality of cultivars Boreal, SR 5210, Splendor, Pathfinder, and Lustrous was low. In general, turf quality for the slender creeping red fescues and sheeps fescues was poor. Of the slender creeping red fescues evaluated, the cultivar Shoreline and selections SSC Comp and SRX 52961

demonstrated the highest turf quality ratings, while cultivars Seabreeze GT and Dawson were the poorest performers.

Although improvement in the turf quality of tufted hairgrass and blue fescues continues, these species ranked lower than the others in overall turf quality. It is interesting to note that many of the top performers within all species evaluated were new selections and experimental varieties. The ability of these new experimental selections to outperform the commercially available varieties attests to the continued improvements being made in fine fescue breeding.

Wear Tolerance

Fine fescues are not recommended for use in high traffic areas due to very poor wear tolerance and recovery. These grasses do perform well, however, under low maintenance conditions and, compared to other turf species, have many advantageous characteristics such as fine leaf texture, low water and nitrogen requirements, and good tolerance to shade, drought, and poor soil conditions. Improvements in wear tolerance in the fine fescues would increase the utility of these species and provide turf managers with a greater selection of turf species to use. Wear was simulated on the 2011 trial (Table 4) by using a novel wear simulator (Bonos et al., 2001), which is an engine driven device with rotating rubber paddles that repeatedly hit the turf.

In the 2011 trial (Table 4), ratings for wear tolerance were reported. The hard fescues were best for wear tolerance and recovery, particularly the cultivars and selections H572 Comp, H571 Comp, H575 Comp, and H574 Comp; SR3210 and PSG 3CAN1, however, had the lowest ratings for the species. Among the Chewings fescues, experimental selections and cultivars C572 Comp, and FRC 42 rated highest for wear, while Miser, PSG 5WSG4, and PSG 5WSG1 were poor for wear tolerance and recovery. Again, these results emphasize improvements to the fine fescues as a result of breeding. In general, the strong creeping red fescues, slender creeping red fescues, and the sheeps and blue fescues exhibited poor wear tolerance and recovery. The strong creeping red fescue selection Syn-4SP11 had the highest ratings for wear tolerance and recovery.

Disease Resistance

Disease resistance within the fescue species can be quite variable. The performance of the entries in

the 2008 trial (Table 1) include ratings for red thread (caused by the fungus *Laetisaria fuciformis*). Red thread is a foliar disease that does not infect the crown and root. The symptoms appear as circular patches of tan or pink turf. As a species, the hard fescues were the least susceptible to red thread while strong creeping red fescues and Chewings fescues were slightly more susceptible. The best performing hard fescues were IS FL 42, IS FL 45, IS FL 46, Lucy, TH6 Comp, Beacon, TH4 Comp, and TH5 Comp, while the most susceptible were GO-HBF and PST-Syn-4NOR-H. IS FRC 33 Chewings fescues had the best red thread resistance while Cascade had the least resistance. The top performing strong creeping red fescues were IS FRR 60, Chantilly, and Jasper II. The poorest performing cultivars and selections were Pathfinder, Contender, and Gibraltar. In general there was a large range of susceptibility to red thread in the fine fescues.

The performance of the entries in the 2008 and 2011 trials (Tables 1 and 4, respectively) include ratings for dollar spot caused by the fungus *Sclerotinia homoeocarpa*. Dollar spot, one of the most common diseases of cool-season turfgrasses, is particularly troublesome in fine fescue, causing silver dollar-shaped spots of dead turf which can converge to form larger areas of damage (Belanger et al., 2005; Bonos et al., 2007). As seen in Tables 1 and 4, the hard and Chewings fescues were the most disease resistant. The hard fescues H573 Comp, IS-FL 46, IS FL 45, and Matterhorn, and Chewings fescues Intrigue II, Wrigley II, Fairmont, Longfellow 3, and C571 Comp were the most disease resistant. While the slender creeping red fescues as a group tended to be susceptible to dollar spot, SSC comp had better resistance than other cultivars or selections.

Low Maintenance

Performance under low maintenance is an important characteristic since many home lawns are maintained under these conditions. In addition, there is growing interest in reducing fertilization and irrigation in turfgrass areas for both environmental and economic reasons. Turf quality in the 2010 low maintenance test is shown in Table 6. This trial was not sorted by species to permit comparison among species as well as to identify the exceptional performance of any individual grass.

As seen in Table 6, the hard fescues demonstrated persistence under low maintenance environments and outperformed most of the other species in overall

turf quality ratings. Some of the top performing entries include the hard fescues Firefly, Reliant IV, Oxford, and Nordic. In contrast, the forage tall fescues Jesup, Max Q, and Martin 2, the tall fescue KY-31, and the orchardgrass Shiloh II did not perform well under low maintenance conditions. It will be interesting to note the interactions among some of these grasses as the cumulative impact of low maintenance becomes evident, and to look not only for trends among the various species, but for outstanding selections within the different species. These data will provide breeders the opportunity to improve the performance of each species under low maintenance.

SUMMARY

Overall, it is encouraging to see that many of the higher-ranking fine fescues within all species are new experimental selections. Although advances in breeding efforts continue, there is still need for considerable improvement in resistance to leaf spot and red thread, resistance to summer patch (particularly in the hard fescues), and increased seed production.

One little-studied area that could make a significant impact on the use of fine fescues in a wider array of situations is the improvement of wear tolerance, particularly under drought stress conditions. Breeding efforts at Rutgers continue in an effort to develop high quality turfgrasses with the ability to make a great environmental impact with minimal environmental cost.

ACKNOWLEDGMENTS

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Table 1. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2008 at Adelphia, NJ. (Includes all entries of the 2008 National Turfgrass Evaluation Program (NTEP) Fine Fescue Trial.)

Selection	Turf Quality ¹					Spring Green-up ² April 2013	Red Thread ³ June 2013	Dollar Spot ³ Aug. 2013	Genetic Color ⁴ Oct. 2013	Green Cover ⁵ (%) Oct. 2013
	2009-2013 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.					
HARD FESCUE										
1 IS-FL 45	6.0	6.0	6.3	5.9	6.4	5.7	8.7	8.3	7.0	99.0
2 IS-FL 42	5.9	6.1	6.2	5.9	6.2	5.2	8.7	6.7	5.7	97.7
3 IS-FL 46	5.8	5.5	5.9	5.8	6.3	5.3	8.7	8.7	4.0	99.0
4 MN-HD1	5.7	5.6	6.0	6.0	5.5	5.1	8.3	2.7	5.3	91.3
5 Sword	5.6	5.5	5.6	5.6	6.0	5.5	7.7	6.3	5.0	97.7
6 Predator	5.6	5.9	5.5	5.8	5.6	5.1	8.3	3.7	5.7	94.7
7 TH6 Comp	5.6	6.1	5.3	5.3	5.6	5.5	8.7	2.7	5.0	93.0
8 Spartan II	5.5	5.2	5.4	6.1	5.4	5.5	8.3	3.0	5.7	97.7
9 TH5 Comp	5.5	5.9	5.8	5.3	5.5	5.1	9.0	3.0	4.0	97.7
10 Reliant IV	5.4	5.4	5.7	5.5	5.4	4.9	8.3	3.0	5.7	94.3
11 TH3 Comp	5.3	6.0	5.1	5.3	5.4	5.0	8.3	2.3	6.0	94.7
12 Lucy	5.3	5.6	5.5	5.4	5.2	5.0	8.7	2.3	3.7	96.3
13 Oxford	5.3	5.2	5.5	5.3	5.6	5.0	7.7	5.3	6.0	91.3
14 Matterhorn	5.3	5.3	5.4	5.2	5.3	5.3	8.3	8.3	3.7	96.0
15 Beacon	5.3	5.4	5.4	5.6	5.0	5.1	9.0	3.0	3.3	96.3
16 S2S	5.2	5.8	5.0	5.2	4.9	5.4	7.7	2.7	5.7	99.0
17 TH4 Comp	5.2	5.2	5.7	5.0	5.2	5.1	8.7	2.7	4.3	93.0
18 WB	5.2	5.6	5.1	4.9	5.4	5.0	8.0	4.7	6.7	96.3
19 Gotham	5.2	5.6	5.2	4.9	5.6	4.6	8.0	1.7	6.3	94.7
20 PST-4HES	5.1	5.3	5.4	5.1	4.9	4.9	8.3	4.0	6.0	96.3

(Continued)

Table 1. Fine fescue turf trial, 2008, NTEP (continued).

Selection	Turf Quality ¹					Spring Green-up ² April 2013	Red Thread ³ June 2013	Dollar Spot ³ Aug. 2013	Genetic Color ⁴ Oct. 2013	Green Cover ⁵ (%) Oct. 2013
	2009-2013 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.					
HARD FESCUE (continued)										
21 IS-FL-47	5.1	4.9	5.3	5.2	5.1	5.0	8.3	6.3	3.0	97.7
22 SR 3150	5.0	5.0	5.3	4.9	5.0	5.0	8.0	4.0	4.7	99.0
23 Berkshire	5.0	5.2	5.1	4.8	4.6	5.3	7.3	4.7	5.7	97.7
24 SR 3100	4.7	4.9	5.0	4.8	4.5	4.5	7.0	6.3	6.0	97.7
25 Eureka II	4.4	4.4	4.9	4.1	4.1	4.5	7.0	3.0	7.7	94.7
26 AHF-116	4.4	4.3	4.6	4.2	4.4	4.4	7.3	5.0	6.3	94.7
27 SRX 3K	4.3	4.5	4.3	3.9	4.3	4.5	6.3	4.3	6.0	94.3
28 Spartan	4.1	4.4	4.2	3.7	3.9	4.2	6.3	4.3	6.7	94.7
29 PST-Syn-4NOR-H	3.8	4.3	4.0	3.3	3.8	3.4	5.3	4.7	5.7	88.3
30 GO-HBF	3.5	5.0	3.0	2.4	3.4	3.7	5.3	3.3	6.3	80.0
31 Scaldis II	3.1	1.5	2.6	3.3	3.9	4.1	6.7	4.0	6.0	88.3
CHEWINGS FESCUE										
1 IS-FRC 30	5.7	5.9	6.3	5.3	5.2	6.0	6.3	8.7	7.3	99.0
2 IS-FRC 34	5.7	6.0	6.3	5.1	5.2	5.9	7.3	8.7	6.7	99.0
3 IS-FRC 33	5.7	5.9	6.3	5.3	5.1	5.9	8.3	8.3	6.0	97.7
4 Rushmore	5.6	5.9	6.4	5.4	4.8	5.4	6.7	8.7	6.7	94.3
5 RAD-FC16	5.4	5.4	5.5	5.1	5.4	5.8	5.3	8.3	8.3	99.0
6 Radar	5.4	5.6	5.4	5.4	4.7	5.9	5.7	9.0	7.0	99.0
7 RAD-FC11	5.4	5.9	5.2	4.7	5.2	5.8	6.7	8.3	7.7	96.0
8 Longfellow 3	5.3	5.7	5.7	4.9	4.8	5.5	5.0	9.0	5.7	99.0
9 TD1 Comp	5.3	5.8	5.3	5.1	4.9	5.4	7.0	8.7	6.3	99.0
10 PSG 50C3	5.3	5.6	5.8	4.8	4.8	5.4	4.7	8.7	6.7	96.0

(Continued)

Table 1. Fine fescue turf trial, 2008, NTEP (continued).

Selection	Turf Quality ¹					Spring Green-up ² April 2013	Red Thread ³ June 2013	Dollar Spot ³ Aug. 2013	Genetic Color ⁴ Oct. 2013	Green Cover ⁵ (%) Oct. 2013
	2009-2013 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.					
CHEWINGS FESCUE (continued)										
11 Fairmont	5.2	5.5	5.3	4.8	4.8	5.5	5.3	9.0	6.7	97.7
12 TD2 Comp	5.0	5.8	5.0	4.5	4.6	5.3	5.0	8.0	5.3	99.0
13 SR 5130	5.0	5.3	5.0	4.7	4.5	5.5	5.7	6.3	7.0	96.3
14 Treasure II	5.0	5.1	5.4	4.7	4.7	5.1	5.0	9.0	4.7	96.0
15 Zodiac	5.0	4.8	5.4	4.7	4.9	5.1	4.3	9.0	5.7	99.0
16 7 Seas	4.9	5.4	4.7	4.4	4.7	5.4	7.0	4.7	7.3	97.7
17 Wrigley 2	4.8	4.9	5.4	4.4	4.3	5.0	3.7	9.0	4.3	99.0
18 Intrigue 2	4.8	4.6	5.1	4.5	4.3	5.2	4.7	9.0	5.0	99.0
19 Columbra II	4.6	5.1	4.6	4.2	4.0	5.2	7.3	5.0	8.7	96.0
20 PST-Syn-4TS-C	4.6	4.8	4.8	4.4	4.1	5.0	3.7	8.0	5.3	99.0
21 Rosecity	4.5	5.4	3.7	4.0	4.8	4.7	4.0	4.3	6.7	94.7
22 PST-4IB-C Bulk	4.5	4.6	5.1	4.0	4.1	4.6	4.7	7.7	6.0	96.0
23 4SHR-CH	4.5	4.6	4.8	3.8	4.1	5.0	5.3	7.7	5.7	99.0
24 Shadow III	4.4	4.3	4.8	4.0	4.0	5.0	6.3	8.3	6.7	97.7
25 Longfellow II	4.4	5.0	4.4	4.0	3.9	4.9	6.0	5.0	7.0	99.0
26 Ambassador	4.4	4.9	4.2	3.7	4.0	5.1	6.0	5.0	8.0	99.0
27 PST-Syn-4C30-C	4.4	4.6	4.7	3.8	4.0	4.8	4.7	5.7	6.0	99.0
28 Ambrose	4.3	4.6	4.4	4.0	3.9	4.6	5.0	4.0	7.7	93.0
29 Silhouette	4.3	4.9	4.4	3.8	4.0	4.3	6.0	6.0	7.7	93.0
30 Lacrosse	4.3	5.0	4.5	3.9	3.8	4.2	5.3	6.0	7.7	94.3

(Continued)

Table 1. Fine fescue turf trial, 2008, NTEP (continued).

Selection	Turf Quality ¹					Spring Green-up ² April 2013	Red Thread ³ June 2013	Dollar Spot ³ Aug. 2013	Genetic Color ⁴ Oct. 2013	Green Cover ⁵ (%) Oct. 2013
	2009-2013 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.					
CHEWINGS FESCUE (continued)										
31 Magic Wand	4.2	4.9	4.1	3.6	3.8	4.7	5.3	7.0	5.3	96.0
32 Casade	4.1	4.3	4.0	3.6	3.9	4.5	3.7	6.3	7.0	97.7
33 SR 5100	4.0	4.2	4.1	3.5	3.6	4.7	7.0	7.0	6.7	97.7
34 SRX 5SDP2	3.9	4.0	4.0	3.4	3.6	4.4	6.0	5.7	6.7	93.0
35 OC1	3.7	4.3	3.2	2.7	3.7	4.4	5.3	4.3	5.7	99.0
STRONG CREEPING RED FESCUE										
1 IS FRR 61	5.7	5.8	6.4	5.4	5.7	5.5	4.3	6.3	6.0	94.7
2 IS FRR 60	5.6	5.4	5.9	5.3	5.8	5.7	4.7	6.7	5.7	99.0
3 PSG-5RM	5.5	5.4	5.8	5.5	5.9	4.9	5.3	6.3	7.0	99.0
4 OS2	5.5	5.4	5.3	5.5	5.8	5.5	5.3	6.3	6.7	96.0
5 ASC 245	5.4	5.7	5.5	4.9	4.9	5.9	4.7	8.7	6.0	99.0
6 IS-FRR 55	5.4	5.4	6.3	5.3	5.2	4.6	3.7	3.0	6.7	91.7
7 B6 Comp	5.2	5.3	5.4	4.9	5.7	4.9	4.3	5.3	7.0	93.0
8 PST-Syn-4OR8	5.1	5.1	5.0	5.1	5.2	5.1	5.7	5.7	7.0	94.3
9 R6 Comp	5.1	5.3	5.3	4.8	5.2	4.7	5.3	3.7	6.3	86.7
10 Navigator II	5.0	5.0	4.8	4.9	5.6	4.8	5.7	4.0	6.7	95.0
11 OS1	5.0	5.2	5.2	4.5	5.2	4.9	6.0	4.7	7.0	91.3
12 Chantilly	4.9	5.5	4.3	4.7	5.3	4.9	5.3	5.7	5.3	97.7
13 RAD-FR13	4.9	4.8	5.4	4.7	5.1	4.5	5.0	5.0	6.3	93.0
14 Shademaster III	4.7	4.9	4.3	4.8	5.3	4.3	5.0	4.0	6.3	94.7
15 PST-Syn-4MD8	4.4	5.2	4.1	4.0	4.3	4.4	4.7	3.3	6.7	94.7

(Continued)

Table 1. Fine fescue turf trial, 2008, NTEP (continued).

Selection	Turf Quality ¹					Spring Green-up ² April 2013	Red Thread ³ June 2013	Dollar Spot ³ Aug. 2013	Genetic Color ⁴ Oct. 2013	Green Cover ⁵ (%) Oct. 2013
	2009-2013 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.					
STRONG CREEPING RED FESCUE (continued)										
16 Wendy Jean	4.1	4.2	3.5	3.7	4.6	4.7	6.0	5.0	6.0	96.3
17 Jasper II	4.0	4.9	3.4	3.5	3.9	4.5	7.3	2.0	6.3	88.3
18 4CRBL-08	4.0	4.0	4.0	3.7	4.0	4.2	5.0	4.0	5.7	84.7
19 Pathfinder	4.0	4.0	3.6	3.7	4.3	4.2	6.3	3.3	7.0	91.3
20 PST-8000	3.9	5.1	3.5	3.4	4.0	3.7	6.0	2.7	7.0	83.3
21 SR 5250	3.8	4.6	3.1	3.4	3.9	4.1	6.3	5.0	7.0	94.7
22 Garnet	3.8	4.9	3.2	3.4	3.9	3.6	5.3	1.7	7.0	85.0
23 Cardinal	3.7	4.5	3.1	3.4	3.7	3.9	5.3	4.0	7.0	91.3
24 Cindy Lou	3.7	4.4	3.1	3.2	3.6	4.3	6.7	4.3	6.7	91.3
25 Lustrous	3.7	4.4	3.4	3.2	3.8	3.6	6.3	2.3	7.7	90.0
26 Razor	3.7	4.5	3.0	3.3	3.6	3.9	7.0	2.3	7.3	90.0
27 Contender	3.7	4.3	3.3	3.1	3.7	3.9	6.7	3.7	7.0	84.7
28 Epic	3.6	4.5	2.9	3.3	3.4	4.0	7.0	4.3	6.3	91.3
29 ACR10-08	3.6	4.1	2.9	2.8	4.1	4.3	6.0	4.0	7.3	96.0
30 Bargena III	3.6	3.9	3.3	3.0	3.7	4.2	6.3	4.3	6.3	94.7
31 Gibraltar	3.5	3.9	2.9	3.1	3.5	4.1	7.0	4.7	7.0	93.0
32 Aberdeen	3.5	3.9	3.1	3.1	3.6	3.5	7.0	3.3	6.7	90.0
33 4DEN-CR	3.4	4.2	2.7	2.7	3.3	4.0	5.3	3.3	6.3	88.0
34 SR 5210	3.4	3.5	3.0	3.0	3.6	3.7	6.7	2.7	7.0	90.0
35 RAD-FR27	3.3	4.7	2.6	2.6	3.2	3.6	4.7	2.3	8.7	75.0
36 GO-ABH	3.2	4.2	2.6	2.3	3.1	4.0	6.0	3.0	7.3	90.0
37 Boreal	3.1	2.9	2.9	2.6	3.2	4.0	7.0	4.3	6.7	90.0

(Continued)

Table 1. Fine fescue turf trial, 2008, NTEP (continued).

Selection	Turf Quality ¹					Spring Green-up ² April 2013	Red Thread ³ June 2013	Dollar Spot ³ Aug. 2013	Genetic Color ⁴ Oct. 2013	Green Cover ⁵ (%) Oct. 2013
	2009-2013 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.					
SLENDER CREEPING RED FESCUE										
1 Shoreline	4.1	4.6	3.6	3.9	4.2	4.3	6.7	3.7	7.0	88.3
2 GO-ABC	4.1	4.7	3.7	3.6	3.9	4.3	5.7	5.3	6.3	91.3
3 PST-Syn-4SEA-SL	4.0	4.8	3.8	3.3	4.0	4.1	5.7	4.3	5.7	92.7
4 Dawson	3.6	2.9	3.4	3.5	4.1	4.1	6.3	5.3	6.3	94.7
BLUE FESCUE										
1 SR 3200	3.2	2.1	2.7	3.6	3.8	4.1	5.7	6.0	6.3	93.0
2 SR 3210	3.1	2.6	2.6	2.7	3.4	3.9	6.7	3.0	6.0	94.7
BLUE x HARD FESCUE										
UNKNOWN										
1 Bighorn GT	4.0	4.0	3.7	4.1	4.0	4.0	6.7	2.3	7.0	99.0
1 MP FF1	3.6	2.7	3.1	3.5	4.0	4.6	7.0	5.3	6.0	97.7
2 07-1	3.6	3.2	3.1	3.2	3.7	4.6	5.3	6.0	6.0	93.0
3 MP FF2	3.3	2.3	3.1	3.4	3.7	4.1	6.0	2.7	5.7	84.7
LSD at 5% =	0.8	0.5	0.6	0.8	0.7	0.8	1.9	2.9	1.4	9.1

¹9 = best turf quality

²9 = earliest spring green-up

³9 = least disease

⁴9 = best genetic color

⁵100 = best green cover

Table 2. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2009 at Adelphia, NJ.

Cultivar or Selection	-----Turf Quality ¹ -----				
	2010-2013 Avg.	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.
HARD FESCUE					
1 IS-FL 46	6.0	6.2	6.6	6.1	5.3
2 WB	6.0	6.2	5.8	6.5	5.6
3 IS-FL 48	5.9	5.7	6.5	5.9	5.4
4 IS-FL 53	5.8	5.7	5.9	6.3	5.3
5 S2	5.8	6.1	5.9	5.7	5.4
6 H91 comp	5.8	5.7	5.9	6.3	5.2
7 H93 comp	5.7	6.1	5.8	6.0	5.1
8 IS-FL 45	5.7	6.1	5.6	5.9	5.1
9 H92 comp	5.6	5.8	5.7	5.8	5.2
10 PSG 3TH3-11	5.6	5.7	5.9	6.0	4.7
11 IS-FL 42	5.6	5.5	5.7	6.1	5.0
12 IS-FL 55	5.6	5.9	5.7	5.8	4.8
13 Spartan II	5.5	5.7	5.9	5.7	4.8
14 Predator	5.5	5.1	5.4	5.9	5.6
15 PSG 3TH3-22B	5.5	5.8	6.0	5.8	4.3
16 H94 comp	5.5	5.5	5.7	5.7	4.9
17 S2S	5.4	5.8	5.8	5.6	4.5
18 PSG 3TH3-27	5.4	5.8	5.6	5.7	4.7
19 PST-4HES	5.4	5.6	5.3	5.6	5.0
20 Beacon	5.3	6.1	5.8	5.3	3.9
21 S2S E+	5.3	5.6	5.2	5.4	4.8
22 IS-FL 54	5.2	5.3	5.3	5.8	4.4
23 IS-FL 47	5.2	5.4	5.3	5.6	4.5
24 Reliant IV	5.2	5.7	5.5	5.3	4.3
25 PSG 3TH3-22A	5.2	5.7	5.3	5.6	4.1
26 IS-FL 52	5.1	4.8	5.2	5.7	4.8
27 PST-4NY	5.1	5.0	5.0	5.5	5.0
28 Matterhorn	5.1	5.5	5.2	5.2	4.7
29 PSG 3TH3-15	5.1	6.0	5.1	5.5	3.8
30 Oxford	5.1	5.0	4.9	5.3	5.2
31 IS-FL 39	5.1	5.1	5.3	5.6	4.3
32 SR 3150	5.0	5.2	5.3	5.3	4.1
33 PSG 3TH3-24	5.0	5.6	4.8	5.5	4.0
34 SR 3100	4.9	5.1	4.8	5.0	4.8
35 Aurora II	4.5	5.2	4.5	4.1	4.2

(Continued)

Table 2. Fine fescue turf trial, 2009 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				
	2010-2013 Avg.	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.
HARD FESCUE (continued)					
36 Eureka II	4.4	4.2	4.3	4.6	4.5
37 AZB-1	4.2	4.7	4.6	4.0	3.5
38 AZB-14	4.2	4.6	4.4	4.1	3.7
39 PST-Syn-4RUB	4.2	4.3	4.3	4.2	3.8
40 AZB-9	4.1	4.7	4.2	4.1	3.3
41 AZB-3	4.0	4.3	4.2	4.0	3.7
42 SRX3K	4.0	4.0	4.1	4.1	3.8
43 AZB-11	4.0	4.4	3.9	4.0	3.6
44 AZB-7	3.9	4.2	4.2	4.1	3.2
45 AZB-6	3.9	4.3	4.0	3.9	3.4
46 AZB-8	3.9	4.6	4.0	3.8	3.2
47 Little Bighorn	3.9	4.1	3.8	3.8	3.8
48 AZB-12	3.9	4.4	3.7	3.7	3.7
49 PST-4DON	3.9	4.4	3.6	3.6	3.8
50 AZB-5	3.9	4.4	4.2	3.7	3.2
51 AZB-4	3.9	4.4	4.1	3.7	3.2
52 AZB-10	3.8	4.3	3.9	3.6	3.4
53 AZB-15	3.8	4.2	3.8	4.0	3.1
54 AZB-2	3.7	4.2	3.8	3.5	3.3
55 AZB Bulk	3.6	4.1	3.4	3.7	3.3
56 AZB-13	3.6	4.0	3.6	3.5	3.3
57 Bighorn GT	3.1	3.5	3.5	3.1	2.5
58 Aurora Gold	3.0	2.7	2.8	3.3	3.2
59 PSG 3TH3-6	5.4	5.8	5.3	6.1	4.2
60 PSG 3TH3-8	4.9	5.3	5.0	4.9	4.2
CHEWINGS FESCUE					
1 IS-FRC 39	5.6	5.6	5.5	5.9	5.3
2 PSG OC3	5.5	5.6	5.2	5.8	5.5
3 IS-FRC 30	5.5	5.4	5.2	5.7	5.7
4 IS-FRC 34	5.5	5.4	5.1	5.8	5.6
5 Rushmore	5.4	5.8	5.1	5.2	5.3
6 IS-FRC 36	5.3	5.2	5.1	5.7	5.3
7 TCP	5.3	5.4	5.1	5.3	5.4
8 SR 5130	5.1	5.3	4.8	5.6	4.9
9 Longfellow II	5.1	4.9	5.0	5.4	5.1
10 Longfellow 3	5.1	5.0	4.9	5.6	4.9

(Continued)

Table 2. Fine fescue turf trial, 2009 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				
	2010-2013 Avg.	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.
CHEWINGS FESCUE (continued)					
11 7 Seas	5.0	4.9	4.7	5.3	5.1
12 Treazure II	4.9	4.6	4.7	5.3	5.0
13 Intrigue II	4.9	4.7	4.7	5.5	4.5
14 Compass	4.8	4.7	4.5	5.1	5.1
15 Wrigley 2	4.7	4.7	4.8	5.1	4.3
16 PST-4C30D	4.6	4.4	4.5	4.8	4.8
17 Ambassador	4.6	4.2	4.2	4.6	5.3
18 Magic Wand	4.5	5.0	4.8	4.3	4.1
19 Shadow II	4.5	4.7	4.2	4.5	4.7
20 PST-R4TC	4.4	4.7	4.5	4.1	4.2
21 Shadow III	4.4	4.0	3.9	4.6	4.9
22 Columbra II	4.3	4.8	4.2	3.8	4.5
23 Silhouette	4.0	3.4	3.6	4.2	4.8
24 Jamestown IV	4.0	4.1	3.7	4.0	4.1
25 SR 5100	3.8	4.0	3.1	3.5	4.6
26 PSG 5SD2	3.6	3.7	3.1	3.4	4.0
27 Victory II	2.7	1.7	2.1	3.1	3.8
STRONG CREEPING RED FESCUE					
1 PSG 5B242	5.9	5.4	5.7	6.6	5.8
2 PSG 5RJ8	5.6	5.5	5.3	6.0	5.5
3 PSG 5RJ5	5.5	5.2	5.6	6.1	5.2
4 IS-FRR 68	5.5	5.8	5.4	5.7	5.2
5 PSG 5RJ2	5.5	5.4	5.4	5.8	5.3
6 PSG 5RJ6	5.5	5.4	5.7	5.9	4.9
7 PSG 5RJ1	5.4	5.1	5.2	6.0	5.5
8 PSG 5RJ7	5.4	5.4	5.3	6.0	4.8
9 PSG 5RJ9	5.1	4.9	5.0	6.0	4.7
10 PSG 5RJ4	5.1	5.1	5.2	5.7	4.5
11 Navigator II	5.1	5.3	5.0	5.2	4.9
12 STC2 comp	5.1	4.9	5.0	5.5	4.9
13 IS-FRR 67	5.0	5.0	4.6	5.4	5.0
14 PSG 5RJ3	5.0	4.9	5.1	5.4	4.6
15 Shademaster III	4.8	5.0	4.8	5.0	4.3

(Continued)

Table 2. Fine fescue turf trial, 2009 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				
	2010-2013 Avg.	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.
STRONG CREEPING RED FESCUE (continued)					
16 STC1 comp	4.8	5.0	4.4	4.9	4.7
17 PSG 5RM	4.5	5.4	4.1	3.9	4.4
18 OS2	4.5	5.4	4.2	4.0	4.3
19 IS-FRR 60	4.5	5.2	4.2	4.6	3.9
20 IS-FRR 55	4.4	5.5	3.7	4.2	4.1
21 Rosecity	4.3	5.4	4.6	3.8	3.3
22 IS-FRR 61	4.3	4.9	4.0	4.0	4.0
23 Razor	4.1	4.4	3.9	3.8	4.4
24 Epic	4.0	5.0	4.3	3.2	3.6
25 Lustrous	4.0	4.6	4.1	3.9	3.4
26 Garnet	4.0	4.7	3.9	3.8	3.4
27 Chantilly	3.9	5.2	3.5	3.8	3.3
28 Jasper II	3.9	4.9	3.6	3.5	3.4
29 Park Bench	3.9	4.4	4.0	3.7	3.4
30 Pathfinder	3.8	4.3	3.7	3.8	3.3
31 PST-4CR10	3.7	4.4	4.0	3.3	3.2
32 Gibraltar	3.7	4.3	3.3	3.4	3.7
33 Foxy II	3.7	4.2	4.2	3.5	2.9
34 Cindy Lou	3.7	3.9	3.5	4.0	3.3
35 Aberdeen	3.6	4.4	3.1	3.6	3.3
36 Audubon	3.6	4.0	3.9	3.6	3.1
37 SR 5250	3.6	4.3	3.8	3.3	3.0
38 Wendy Jean	3.4	4.0	3.1	3.1	3.4
39 PST-4DEN	3.3	4.3	3.4	2.8	2.7
40 Splendor	3.1	3.5	2.9	2.8	3.0
41 SR 5210	3.0	3.2	2.8	2.9	3.0
SLENDER CREEPING RED FESCUE					
1 SRX 52961	3.9	4.8	3.7	3.8	3.4
2 Shoreline	3.9	5.0	3.5	3.9	3.2
3 PST-4SEA	3.8	4.5	3.8	3.8	3.2
4 SRX 5500	3.7	4.1	3.2	3.7	3.8
5 ASRO 50	3.5	4.4	3.5	3.2	2.9
6 Seabreeze GT	3.5	4.4	3.5	3.1	2.9

(Continued)

Table 2. Fine fescue turf trial, 2009 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				
	2010-2013 Avg.	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.
SHEEPS FESCUE					
1 Marco Polo	4.2	4.6	4.4	4.2	3.5
2 Azure	3.1	3.8	3.1	2.8	2.7
BLUE FESCUE					
1 SR 3210	2.4	1.7	1.8	2.8	3.2
TUFTED HAIRGRASS					
1 DCM-bulk	2.1	3.9	1.8	1.4	1.3
2 PST-Syn-DC8	2.1	4.1	1.8	1.4	1.2
3 SCDES	1.8	3.4	1.6	1.2	1.1
BLENDS					
1 SCFF1	4.8	5.1	4.6	5.0	4.4
2 SCFF3	4.3	4.8	4.4	4.2	3.7
3 SCFF2	4.2	4.5	4.3	4.1	3.7
LSD at 5% =	0.6	0.8	0.8	0.8	0.8

¹9 = best turf quality

Table 3. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2010 at Adelphia, NJ.

Cultivar or Selection	-----Turf Quality ¹ -----			
	2011-2013 Avg.	2011 Avg.	2012 Avg.	2013 Avg.
HARD FESCUE				
1 BM2 Comp	6.1	6.0	6.3	6.0
2 Predator	6.0	5.8	6.2	6.0
3 TE1 Comp	5.9	5.7	6.4	5.7
4 PSG 3J2921	5.9	5.8	6.5	5.5
5 BM1 Comp	5.9	5.7	6.4	5.7
6 Firefly	5.9	5.7	6.0	5.9
7 Berkshire	5.7	5.4	6.2	5.6
8 TE2 Comp	5.7	5.4	6.0	5.8
9 Reliant IV	5.5	5.8	5.8	5.0
10 S2SE+	5.5	5.6	5.7	5.3
11 PSG 3TH3	5.4	5.4	6.0	4.8
12 Oxford	5.2	4.8	5.7	5.2
13 SR 3150	5.2	4.9	5.4	5.3
14 Nordic	5.1	4.9	5.4	5.1
15 4NY	5.0	4.9	5.2	5.1
16 Rescue 911	4.7	4.3	4.7	5.0
17 Aurora II	4.4	4.1	4.5	4.4
18 Spartan	4.2	3.8	4.4	4.5
19 Aurora Gold	4.1	4.0	4.3	4.1
20 Mp	1.8	1.2	1.5	2.6
CHEWINGS FESCUE				
1 CK2 Comp	6.1	5.9	6.3	6.1
2 Carson	6.0	6.2	6.0	5.9
3 OC1	5.7	5.7	6.1	5.3
4 MVS-FRC 101	5.6	5.8	6.1	4.8
5 Lot 08-4	5.5	5.2	5.6	5.7
6 SR 5130	5.5	5.3	5.8	5.5
7 Lot 08-5	5.5	5.4	5.6	5.5
8 CK1 Comp	5.4	5.2	5.5	5.4
9 ACF 266	5.3	5.4	5.6	4.9
10 PPG-FRC 103	5.2	5.3	5.0	5.3

(Continued)

Table 3. Fine fescue turf trial, 2010 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				
	2011-2013 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	
CHEWINGS FESCUE (continued)					
11	PSG 50C3	5.2	5.6	5.4	4.6
12	Intrigue	5.1	5.4	5.0	5.0
13	Intrigue 2	5.1	5.2	5.3	4.8
14	Compass	5.1	4.7	5.4	5.2
15	Longfellow II	5.0	4.6	5.2	5.3
16	Treasure II	5.0	5.3	5.3	4.5
17	PST-Syn-4WSH	5.0	4.7	5.1	5.1
18	7 Seas	4.9	4.9	5.2	4.7
19	Syn-4CH20-10	4.9	5.0	5.0	4.8
20	Ambassador	4.9	4.7	4.9	5.0
21	1-10 Frc Bulk	4.7	4.8	4.7	4.7
22	J-5	4.7	4.6	4.8	4.7
23	Culumbra II	4.6	4.7	4.4	4.8
24	R4TC	4.6	4.6	5.2	4.1
25	Silhouette	4.5	4.1	4.4	4.9
26	4CHT	4.4	4.3	4.5	4.5
27	Ambrose	4.4	4.5	4.4	4.2
28	Shadow II	4.4	4.1	4.4	4.6
29	4CHY	4.2	3.8	4.5	4.3
30	Tiffany	4.1	4.0	4.3	4.1
31	Sandpiper	4.0	3.8	3.9	4.3
32	CW1	4.0	5.0	3.5	3.6
33	SR 5100	3.9	3.5	4.0	4.2
STRONG CREEPING RED FESCUE					
1	PSG 5J1551	6.0	6.0	6.1	5.7
2	2-10 Frr Bulk	5.8	6.0	5.8	5.7
3	3-10 Frr Bulk	5.8	6.1	5.7	5.6
4	PST-Syn-4BED	5.7	5.3	6.1	5.7
5	FT3 Comp	5.6	5.4	5.6	5.8
6	FT6 Comp	5.5	5.4	5.5	5.5
7	FT2 Comp	5.5	5.3	5.7	5.3
8	FT7 Comp	5.3	5.7	4.8	5.4
9	Syn-4ED0	5.1	5.4	5.1	4.7
10	4GRY	5.0	4.9	5.3	4.9

(Continued)

Table 3. Fine fescue turf trial, 2010 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				
	2011-2013 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	
STRONG CREEPING RED FESCUE (continued)					
11	PSG 5RM	5.0	6.5	4.1	4.6
12	OS2	4.9	6.0	4.0	4.7
13	FT4 Comp	4.9	4.8	4.8	5.0
14	OR C1-6	4.8	5.4	4.3	4.9
15	OR1	4.8	5.7	4.0	4.8
16	FT5 Comp	4.8	5.0	4.7	4.7
17	FT1 Comp	4.8	5.4	4.6	4.3
18	Shademaster III	4.7	4.8	4.8	4.4
19	PSG 5RJ5L	4.6	5.7	4.1	4.1
20	Jasper II	4.6	5.5	4.0	4.4
21	Cardinal	4.6	5.2	4.1	4.4
22	4RED	4.6	4.3	5.1	4.3
23	PSG 5RJE	4.5	5.2	3.9	4.5
24	PPG-FRR 103	4.5	4.9	4.5	4.0
25	Jamestown IV	4.5	4.4	4.5	4.5
26	Garnet	4.2	5.1	3.6	3.9
27	OR C1-2	4.2	5.1	3.7	3.8
28	SR 5250	4.2	4.6	4.0	4.0
29	Syn-4SPY	4.2	4.3	4.4	3.8
30	Epic	4.0	4.8	3.6	3.7
31	4CRD-8	3.9	5.1	3.0	3.6
32	Fortitude	3.9	4.1	3.8	3.8
33	Aberdeen	3.9	4.2	3.6	3.9
34	BRS DT	3.8	3.3	3.9	4.2
35	Tiara	3.8	4.4	3.4	3.5
36	Navigator	3.8	3.9	4.1	3.4
37	OR C1-5	3.8	3.7	4.1	3.6
38	4CRD-P	3.7	4.2	3.4	3.3
39	OR C1-3	3.4	3.2	3.9	3.1
40	OR C1-1	3.3	2.9	3.7	3.1
41	OR C1-4	3.2	2.9	3.6	3.2
42	BRSHSM	3.1	2.7	3.5	3.3
43	BRSHST	3.1	2.8	3.4	3.1
44	SR 52961	3.1	2.6	3.1	3.5
45	Boreal	2.8	2.4	3.1	2.8

(Continued)

Table 3. Fine fescue turf trial, 2010 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				
	2011-2013 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	
STRONG CREEPING RED FESCUE (continued)					
46	SR 5210	2.7	2.9	2.9	2.3
47	07-1FF	2.7	1.9	3.1	2.9
48	Cindy Lou	2.4	1.6	2.7	2.8
49	OS3	5.7	5.9	5.6	5.5
50	Lustrous	4.2	4.9	4.0	3.7
51	Razor	4.0	4.8	3.8	3.6
52	Custer	4.0	4.9	3.7	3.5
53	Audubon	4.0	4.4	3.9	3.8
54	Pathfinder	3.8	4.1	3.5	3.7
SLENDER CREEPING RED FESCUE					
1	4SEA	3.8	4.3	3.7	3.5
2	Shoreline	3.7	4.1	3.7	3.3
3	Seabreeze GT	3.7	4.4	3.1	3.6
4	ASR050	3.7	4.6	3.4	3.0
BLENDS					
1	SCFF2	5.2	5.2	5.2	5.1
2	SCFF1	5.0	4.4	5.3	5.3
3	SCFF4	4.8	4.8	4.9	4.7
4	SCFF3	4.2	3.8	4.3	4.4
BLUE FESCUE					
1	SR 3210	2.8	3.3	2.5	2.6
SHEEPS FESCUE					
1	Big Horn GT	4.0	3.9	4.3	3.8
2	Little Bighorn	3.4	3.4	3.6	3.3
3	Azure	3.2	3.6	3.2	2.7
LSD at 5% =		0.7	0.8	0.8	0.9

¹9 = best turf quality

Table 4. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2011 at Adelphia, NJ. (Includes all entries from the 2011 Cooperative Turfgrass Breeders Test (CTBT) Fine Fescue Trial.)

Cultivar or Selection	-----Turf Quality ¹ -----			Dollar Spot ² June 2013	Wear Quality ³ Aug. 2013
	2012-2013 Avg.	2012 Avg.	2013 Avg.		
HARD FESCUE					
1 H572 Comp	6.3	5.9	6.6	7.0	9.0
2 H573 Comp	6.2	6.2	6.2	7.3	7.7
3 H571 Comp	6.1	6.1	6.0	6.7	8.3
4 H575 Comp	6.0	6.2	5.9	6.3	8.7
5 H574 Comp	6.0	6.1	5.8	6.0	8.3
6 SR 3150	5.5	5.5	5.6	7.0	7.3
7 MNHDF-11	5.4	5.5	5.3	6.0	7.0
8 Predator	5.3	5.6	5.0	5.0	6.3
9 Oxford	5.2	4.8	5.6	6.0	7.0
10 Reliant IV	5.2	5.2	5.2	5.3	7.0
11 4DON	4.5	4.2	4.8	6.3	4.7
12 Rhino	4.3	4.2	4.4	5.0	4.3
13 Rescue 911	4.2	3.8	4.5	4.7	4.7
14 Ecostar	4.0	3.7	4.4	5.3	4.7
15 Syn-4GUD	3.5	2.9	4.1	5.3	4.3
16 SR3210	3.3	3.2	3.4	3.0	2.0
17 PSG 3CAN1	3.3	3.5	3.1	5.3	1.3
18 PSG 3CAN45	2.9	2.5	3.4	5.3	3.0
CHEWINGS FESCUE					
1 C572 Comp	5.5	5.7	5.2	6.7	5.7
2 C571 Comp	5.3	5.0	5.6	7.0	5.3
3 FRC 36	5.3	6.0	4.5	6.0	4.7
4 FRC 41	5.2	5.5	4.9	6.7	5.3
5 RAD-FC32	5.2	5.8	4.5	6.0	3.7
6 RAD-FC44	5.1	5.8	4.3	5.3	4.3
7 FRC 42	5.0	4.9	5.1	6.0	5.7
8 SR 5130	4.9	5.3	4.4	5.7	4.3
9 FRC 34E+	4.8	5.3	4.3	5.7	4.7
10 Radar	4.8	5.2	4.4	5.7	5.0
11 Longfellow 3	4.8	5.1	4.4	6.3	4.3
12 FRC 30E+	4.7	5.0	4.4	6.0	4.3
13 Longfellow II	4.7	4.8	4.5	6.0	4.0
14 OC1	4.6	5.2	4.0	5.3	4.3
15 FRC 37	4.6	5.3	3.9	5.7	4.3

(Continued)

Table 4. Fine fescue turf trial, 2011, CTBT (continued).

Cultivar or Selection	-----Turf Quality ¹ -----			Dollar Spot ² June 2013	Wear Quality ³ Aug. 2013
	2012-2013 Avg.	2012 Avg.	2013 Avg.		
CHEWINGS FESCUE (continued)					
16 PSG 5TPC2	4.6	4.4	4.9	6.3	5.3
17 7 Seas	4.6	4.6	4.5	6.3	3.7
18 Carson	4.5	5.1	3.9	5.3	3.3
19 Wrigley 2	4.4	4.3	4.4	6.3	5.0
20 Syn-4SWT	4.3	4.9	3.6	4.3	2.7
21 Ambassador	4.2	4.3	4.1	5.0	3.3
22 Jamestown IV	4.2	4.3	4.1	5.0	4.0
23 Shadow II	4.2	4.2	4.1	6.3	3.3
24 SR 5100	4.0	3.6	4.3	5.3	5.0
25 Survivor	4.0	4.3	3.6	5.0	3.3
26 Columbra II	3.9	4.2	3.7	5.3	3.3
27 J-5	3.9	3.9	3.9	5.3	3.7
28 PSG 5TPC1	3.9	3.6	4.2	5.0	4.3
29 Ambrose	3.9	4.2	3.5	6.3	2.7
30 4CSD	3.9	3.8	3.9	5.3	3.0
31 PSG 5WSG5	3.7	3.8	3.6	4.3	3.0
32 Miser	3.5	4.5	2.4	2.0	1.0
33 Silhouette	3.4	2.9	3.9	4.7	3.7
34 PSG 5WSG4	3.1	3.6	2.7	2.3	1.0
35 PSG 5WSG1	2.5	2.9	2.0	1.7	1.0
STRONG CREEPING RED FESCUE					
1 FRR 71	5.4	5.8	5.0	7.3	4.7
2 PPG-FRR 102	5.3	5.7	4.9	8.0	4.7
3 FRR 70	5.0	5.3	4.8	6.7	3.7
4 PPG-FRR 106	5.0	4.6	5.4	8.0	5.3
5 S573 Comp	4.9	5.3	4.5	7.0	5.3
6 Syn-4DMH	4.9	5.2	4.5	5.7	3.7
7 Syn-R4U9	4.8	5.1	4.4	6.7	4.3
8 Syn-4SP11	4.7	4.2	5.2	6.0	5.7
9 S571 Comp	4.7	5.6	3.9	5.0	3.0
10 S572 Comp	4.5	5.4	3.6	4.7	3.3
11 ASC 295	4.5	5.2	3.7	5.7	4.3
12 4DRE	4.4	4.7	4.2	6.0	4.0
13 PPG-FRR 105	4.4	4.6	4.1	6.3	2.7
14 RAD-FR35	4.2	4.7	3.7	5.0	1.7
15 FRR 65 B	4.1	5.4	2.8	1.3	1.0

(Continued)

Table 4. Fine fescue turf trial, 2011, CTBT (continued).

Cultivar or Selection	-----Turf Quality ¹ -----			Dollar Spot ² June 2013	Wear Quality ³ Aug. 2013
	2012-2013 Avg.	2012 Avg.	2013 Avg.		
STRONG CREEPING RED FESCUE (continued)					
16 FRR 67 B	4.1	5.3	2.8	1.3	1.0
17 FRR 68 B	4.0	5.0	3.1	2.7	1.0
18 Epic	3.9	5.0	2.9	2.7	1.0
19 RAD-FR33	3.9	4.8	3.0	2.7	1.3
20 RAD-FR38	3.9	4.9	2.8	2.0	1.0
21 Pathfinder	3.8	4.5	3.2	4.3	1.0
22 Navigator II	3.8	4.8	2.8	3.0	1.3
23 IS-FRR 51	3.7	4.7	2.7	2.0	1.0
24 IS-FRR 62	3.7	4.9	2.5	1.3	1.0
25 Razor	3.7	4.5	2.8	1.7	1.0
26 Cindy Lou	3.6	4.1	3.1	3.3	2.0
27 SR 5250	3.5	4.1	2.9	3.0	1.0
28 Garnet	3.5	3.9	3.1	3.0	2.0
29 Class One	3.4	3.4	3.4	3.3	2.0
30 RASD-FR45	3.4	4.4	2.3	1.7	1.0
31 Audubon	3.4	3.6	3.1	2.7	1.0
32 Custer FR-13	3.3	4.2	2.5	2.0	1.0
33 4DEN	3.3	3.7	2.9	2.7	1.0
34 Crossbow	3.3	3.3	3.2	3.3	1.0
35 Lustrous	3.2	3.7	2.7	2.3	1.0
SLENDER CREEPING RED FESCUE					
1 SSC Comp	4.9	5.0	4.8	7.0	4.0
2 Shoreline	4.3	4.7	3.8	4.7	2.0
3 ASR50	4.2	5.0	3.3	3.3	2.3
SHEEPS FESCUE					
1 Marco Polo	4.8	4.4	5.1	6.7	5.7
2 Azure	3.6	3.2	3.9	6.0	4.3
BLUE FESCUE					
36 Blue Ray	5.2	5.3	5.2	4.3	7.0

(Continued)

Table 4. Fine fescue turf trial, 2011, CTBT (continued).

Cultivar or Selection	-----Turf Quality ¹ -----			Dollar Spot ² June 2013	Wear Quality ³ Aug. 2013
	2012- 2013 Avg.	2012 Avg.	2013 Avg.		
LSD at 5% =	0.5	0.8	0.6	1.6	1.4

¹9 = best turf quality

²9 = least disease

³9 = best wear quality

Table 5. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2012 at Adelphia, NJ.

Cultivar or Selection		Turf Quality ¹ 2013 Avg.	Establishment ² Oct. 2012	Height ³ Oct. 2012	Leaf Spot ⁴ May 2013
CHEWINGS FESCUE					
1	PPG-FRC 112	6.5	7.7	6.0	5.7
2	C572 comp	6.0	7.3	7.3	7.0
3	PPG-FRC 110	6.0	7.7	7.0	6.0
4	PSG 50C3	6.0	6.0	8.0	6.7
5	PPG-FRC 107	5.9	7.7	5.7	5.7
6	7W2 comp	5.9	8.0	5.7	5.0
7	Radar	5.9	7.7	6.0	4.3
8	Fairmont	5.8	8.3	6.3	4.7
9	PPG-FRC 109	5.8	8.0	5.7	6.0
10	7W3 comp	5.7	7.3	6.7	5.3
11	SR 5130	5.7	8.0	5.7	5.3
12	FRC 103	5.5	7.7	5.7	5.0
13	7W4 comp	5.4	7.0	6.7	6.7
14	PS4BRT-34	5.3	6.3	4.7	5.7
15	Ambassador	5.3	7.3	6.0	5.0
16	PST-R4TC	5.3	7.3	4.7	6.0
17	PST-4CHT	5.2	7.7	4.3	5.3
18	7W1 Comp	5.0	7.7	6.7	5.0
19	Longfellow II	4.9	7.0	4.7	4.7
20	OC1	4.9	4.0	8.7	5.3
21	Survivor	4.9	6.7	6.3	5.3
22	Enchantment	4.8	6.3	4.3	5.0
23	Longfellow 3	4.7	4.3	8.7	6.0
24	PSG 51SPRS	4.7	8.3	4.0	5.3
25	PST-4CHY	4.6	8.3	4.0	6.3
26	PST-4SHR	4.5	8.7	4.0	4.7
27	Compass	4.5	7.7	6.3	4.3
28	PSG 5ISPE	4.5	8.7	2.7	4.0
29	Columbra II	4.4	8.0	4.7	4.7
30	Rushmore	4.4	8.7	2.7	4.3
31	Ambrose	4.4	6.7	6.0	5.3
32	Shadow II	4.4	7.7	4.3	4.7
33	PSG SDPR2	4.0	9.0	4.3	5.0
34	SDOC3	3.4	1.7	8.3	5.3
35	Koket	3.3	5.7	3.3	4.0

(Continued)

Table 5. Fine fescue turf trial, 2012 (continued).

Cultivar or Selection		Turf Quality ¹ 2013 Avg.	Establishment ² Oct. 2012	Height ³ Oct. 2012	Leaf Spot ⁴ May 2013
HARD FESCUE					
1	H571 comp	5.9	7.0	6.0	5.3
2	H575 comp	5.9	6.3	6.0	4.7
3	7H5 comp	5.7	6.3	6.0	6.3
4	BM1 comp	5.7	6.0	7.3	5.7
5	7H6 comp	5.6	6.7	6.3	6.3
6	7H7 comp	5.6	6.0	7.3	6.3
7	7H2 comp	5.5	6.3	6.7	6.0
8	PSG 3J27F	5.5	7.3	5.3	5.7
9	MNHD	5.4	6.0	7.0	6.3
10	TE2 comp	5.4	6.0	6.7	6.3
11	STTH3	5.4	7.3	6.0	5.3
12	TE1 comp	5.4	5.7	7.0	5.7
13	BM2 comp	5.3	6.0	7.3	5.0
14	7H1 comp	5.3	7.0	5.7	5.0
15	H573 comp	5.3	6.7	6.7	6.0
16	Spartan II	5.2	6.3	6.3	5.7
17	PSG 3TH3	5.2	6.7	5.7	5.3
18	PPG-FL 104	5.1	7.0	5.7	5.7
19	7H4 comp	5.1	6.3	6.0	5.7
20	PPG-FL 102	5.0	6.7	5.7	5.7
21	Predator	5.0	5.7	6.7	5.3
22	SR 3150	5.0	6.7	6.3	5.3
23	7H3 comp	4.9	7.3	5.7	5.0
24	WB	4.9	4.0	8.0	5.0
25	Beacon	4.8	7.3	4.7	5.0
26	S II LA	4.6	6.7	5.7	5.3
27	S II LB	4.6	6.7	5.3	4.3
28	Oxford	4.2	3.3	8.0	5.7
29	Rescue 911	4.1	6.0	6.7	4.7
30	Reliant IV	3.9	4.7	6.7	3.3
31	Stonehenge	3.8	7.3	5.3	3.7
32	Brigade	3.8	7.0	5.3	4.3
33	PST-4BND	3.8	7.0	5.7	4.3
34	Spartan	3.7	5.7	5.0	4.0
35	PST-SYN-4NOD	3.4	4.3	8.0	3.7

(Continued)

Table 5. Fine fescue turf trial, 2012 (continued).

Cultivar or Selection		Turf Quality ¹ 2013 Avg.	Establishment ² Oct. 2012	Height ³ Oct. 2012	Leaf Spot ⁴ May 2013
STRONG CREEPING RED FESCUE					
1	7C3 Comp	5.4	7.3	5.3	5.0
2	7C6 Comp	5.4	8.0	4.0	5.3
3	FRR-102	5.3	7.7	4.3	5.3
4	PSFC09-2	5.3	8.0	5.0	5.3
5	ASC 295	5.2	8.3	5.7	5.0
6	PSG 5RM	5.2	7.3	6.0	6.3
7	PPG-FRR-110	5.1	8.3	2.7	4.3
8	FT-3 Comp	5.1	7.0	6.0	5.3
9	S572 Comp	5.1	7.3	5.7	6.0
10	7C1 Comp	5.1	7.3	5.7	4.0
11	7C2 Comp	5.1	6.7	5.3	5.7
12	7C5 Comp	5.0	6.3	6.0	5.7
13	FT-5 Comp	5.0	7.3	5.7	5.0
14	7C4 Comp	5.0	8.3	4.3	5.0
15	PSG 5R5SIF	4.9	7.0	4.0	4.3
16	S571 Comp	4.9	5.7	6.3	5.7
17	PPG-FRR-106	4.9	8.3	4.3	4.0
18	OS2	4.9	4.3	7.7	5.0
19	PST-SYN-4SHS	4.8	8.0	5.3	4.3
20	Navigator II	4.8	8.7	4.0	4.3
21	Miser	4.8	6.3	5.0	5.3
22	FT-6 Comp	4.8	7.7	5.0	4.7
23	PSG 5RJME	4.7	6.0	6.7	5.3
24	FT-1 Comp	4.7	8.0	3.0	5.3
25	PSG 5RJFL	4.6	7.7	5.0	4.7
26	PSG 5RJFE	4.6	8.0	4.3	4.3
27	Garnet	4.6	6.3	5.3	3.7
28	Chantilly	4.6	4.0	6.7	4.0
29	Cardinal	4.6	8.7	3.0	4.3
30	PST-SYN-4BEN	4.6	7.3	5.0	4.3
31	FT-2 Comp	4.6	7.3	3.3	4.3
32	FRR 103	4.4	8.7	3.7	3.7
33	ORC 126	4.3	9.0	4.3	3.7
34	Epic	4.3	4.7	7.0	5.3
35	PST-SYN-4REDY	4.3	8.3	4.0	3.3

(Continued)

Table 5. Fine fescue turf trial, 2012 (continued).

	Cultivar or Selection	Turf Quality ¹ 2013 Avg.	Establishment ² Oct. 2012	Height ³ Oct. 2012	Leaf Spot ⁴ May 2013
STRONG CREEPING RED FESCUE (continued)					
36	FT-4 Comp	4.3	6.3	6.0	6.0
37	PST-4CRD-U	4.2	8.7	4.3	3.3
38	PSG 5RJML	4.2	7.3	4.3	4.0
39	Jasper II	4.2	7.0	5.0	4.0
40	Cindy Lou	4.1	5.0	6.0	4.0
41	Foxy II	4.1	6.7	7.0	4.7
42	SRO 5250	4.1	9.0	4.0	3.3
43	Fortify	4.0	6.0	4.0	3.3
44	ASR OSO	4.0	6.0	4.7	4.7
45	PST-4GRY	4.0	7.7	4.3	3.7
46	Audubon	4.0	7.7	3.7	3.3
47	Shademaster III	3.9	8.0	4.7	4.7
48	PST-4RED	3.9	8.0	4.3	3.3
49	PST-4CRD-8	3.8	7.7	5.7	4.0
50	BRSO	3.7	9.0	2.0	3.7
51	PST-4SEA	3.7	8.7	1.7	4.0
52	Pathfinder	3.7	9.0	1.3	3.0
53	Fenway	3.5	9.0	1.0	2.7
54	B-RS-G	3.2	8.3	2.0	2.7
55	BRSHSM	2.8	8.7	3.0	3.0
56	Oracle	2.6	7.7	2.7	2.7
57	BRSHST	2.6	9.0	1.3	2.0
58	Boreal	2.5	8.7	2.3	3.3
59	07-1FF	2.2	6.7	4.3	2.7
SLENDER CREEPING RED FESCUE					
1	Shoreline	3.9	7.0	4.7	5.0
2	Seabreeze GT	3.7	8.7	1.7	4.0
3	Sealink	3.6	5.3	5.7	4.7
4	SRX 5500	3.0	7.0	2.3	4.3
SHEEPS FESCUE					
1	Blueray	4.6	7.3	7.0	5.3
2	Marco Polo	4.2	8.7	4.7	4.3
3	Big Horn GT	4.0	7.0	6.7	4.7
4	Azure	3.1	6.3	6.7	5.0

(Continued)

Table 5. Fine fescue turf trial, 2012 (continued).

Cultivar or Selection		Turf Quality ¹ 2013 Avg.	Establishment ² Oct. 2012	Height ³ Oct. 2012	Leaf Spot ⁴ May 2013
BLENDS					
1	Cutting Edge	3.8	8.7	1.0	5.0
2	3CAN1	2.9	5.3	5.7	3.0
BLUE FESCUE					
1	AZ BL+3	4.6	7.3	5.7	4.7
2	AZ BL+7	4.2	6.7	6.0	4.7
3	AZBL+4	4.2	7.7	6.0	4.0
4	AZ BL+5	4.2	7.7	5.7	4.3
5	AZ BL+9	4.2	7.7	5.7	4.7
6	AZ BL+1	4.0	7.3	5.7	4.3
7	AZ BL+8	3.9	7.0	6.0	4.3
8	AZ BL+14	3.9	7.3	6.0	4.7
9	Azay Blue	3.7	6.0	7.0	5.0
LSD at 5% =		0.6	1.1	1.5	1.2

¹9 = best turf quality

²9 = best establishment

³9 = best height

⁴9 = least disease

Table 6. Performance of cool-season cultivars and selections in a low maintenance turf trial seeded in September 2010 at Adelphia, NJ.

Cultivar or Selection	Species	Turf Quality ¹				Turf Wear Quality ² Sept. 2013
		2011-2013 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	
1 Firefly	Hard fescue	7.2	7.1	7.6	6.8	8.3
2 Reliant IV	Hard fescue	7.1	7.1	7.6	6.7	8.3
3 Oxford	Hard fescue	6.7	6.3	7.6	6.2	8.0
4 Nordic	Hard fescue	6.6	6.4	7.2	6.1	7.3
5 Faith	Tall fescue	6.5	6.8	5.9	6.8	8.7
6 OS-3	Strong creeping red fescue	6.4	6.9	6.6	5.9	8.0
7 Harpoon	Hard fescue	6.4	6.2	7.4	5.8	6.7
8 Grande 3	Tall fescue	6.3	6.9	6.1	6.0	7.7
9 Intrigue 2	Chewings fescue	6.2	6.6	6.6	5.4	7.0
10 ATM	Tall fescue	6.0	6.4	5.3	6.3	5.3
11 LSD Comp	Tall fescue	6.0	7.1	5.2	5.5	6.7
12 Monet	Tall fescue	5.9	6.4	5.4	6.0	7.0
13 Firecracker	Tall fescue	5.9	6.5	5.3	5.9	6.7
14 Van Gogh	Tall fescue	5.9	6.3	5.5	6.0	6.0
15 Essential	Tall fescue	5.9	6.4	5.1	6.3	6.3
16 SR 5130	Chewings fescue	5.9	6.1	6.1	5.4	6.7
17 Traverse SRP	Tall fescue	5.8	6.2	5.5	5.8	7.0
18 Speedway	Tall fescue	5.8	6.0	5.5	6.2	6.3
19 OC1	Chewings fescue	5.8	6.0	5.8	5.6	6.0
20 FSD Comp	Tall fescue	5.8	6.8	5.5	5.0	6.0
21 Spyder LS	Tall fescue	5.6	6.0	5.0	6.0	6.3
22 Justice	Tall fescue	5.6	6.3	4.8	5.8	6.3
23 Rebel Advance	Tall fescue	5.6	6.4	4.8	5.7	5.7
24 Rhambler SRP	Tall fescue	5.6	6.0	4.8	6.0	5.7
25 Ambassador	Chewings fescue	5.6	6.1	5.7	4.9	6.7

(Continued)

Table 6. Cool season, low maintenance turf trial, 2010 (continued).

Cultivar or Selection	Species	Turf Quality ¹				Turf Wear Quality ² Sept. 2013
		2011-2013 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	
26 Intrigue	Chewings fescue	5.5	6.2	5.6	4.8	5.7
27 CW1	Chewings fescue	5.5	6.4	5.2	4.9	2.0
28 Shenandoah Elite	Tall fescue	5.5	6.5	4.9	5.1	4.7
29 FCE 3	Tall fescue	5.5	6.5	4.7	5.3	4.0
30 Mustang 4	Tall fescue	5.4	6.2	4.7	5.3	6.3
31 Ambrose	Chewings fescue	5.4	6.0	5.5	4.9	5.0
32 Carson	Chewings fescue	5.4	6.3	5.5	4.5	4.7
33 Culumbra II	Chewings fescue	5.4	6.0	6.1	4.4	4.7
34 Shenandoah III	Tall fescue	5.4	6.4	5.1	4.7	3.7
35 TPC Comp	Tall fescue	5.4	6.5	4.9	4.9	5.0
36 Hood	Chewings fescue	5.4	6.0	5.5	4.8	4.7
37 ASR 050	Slender creeping	5.4	6.4	5.8	4.0	1.3
38 3rd Millenium	Tall fescue	5.4	6.3	4.6	5.3	4.7
39 ATall fescue-1236	Tall fescue	5.4	6.1	4.6	5.4	4.3
40 ATall fescue-1224	Tall fescue	5.3	6.5	4.8	4.6	4.7
41 Culumbra	Chewings fescue	5.3	6.1	5.8	4.0	4.0
42 Cardinal	Strong creeping red fescue	5.3	6.4	5.4	4.2	2.0
43 Falcon NG	Tall fescue	5.3	6.1	4.5	5.3	5.3
44 Falcon IV	Tall fescue	5.3	6.2	4.7	4.9	5.3
45 Epic	Strong creeping red fescue	5.3	5.8	5.6	4.4	1.3
46 SR 8650	Tall fescue	5.2	5.9	4.8	5.1	5.3
47 Compass	Chewings fescue	5.2	6.1	5.3	4.5	5.0
48 Pathfinder	Strong creeping red fescue	5.2	5.4	5.2	5.1	2.0
49 OR1	Strong creeping red fescue	5.2	6.4	4.8	4.5	2.0
50 Finelawn Xpress	Tall fescue	5.2	6.3	4.5	4.9	3.7

(Continued)

Table 6. Cool season, low maintenance turf trial, 2010 (continued).

Cultivar or Selection	Species	Turf Quality ¹				Turf Wear Quality ² Sept. 2013
		2011-2013 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	
51 DaVinci	Tall fescue	5.1	5.7	4.7	5.0	4.3
52 Millennium	Tall fescue	5.1	5.8	5.0	4.6	5.3
53 Six Point	Tall fescue	5.1	5.8	4.4	5.0	4.7
54 Fortitude	Strong creeping red fescue	5.1	5.6	5.3	4.3	2.0
55 2nd Millennium	Tall fescue	5.0	5.8	4.5	4.8	4.3
56 Masterpiece	Tall fescue	4.9	5.9	4.3	4.5	4.3
57 Cezanne RZ	Tall fescue	4.9	5.4	4.1	5.4	4.0
58 Pixie	Tall fescue	4.9	5.7	4.4	4.6	4.0
59 Custer	Strong creeping red fescue	4.8	5.9	4.9	3.7	1.0
60 Inferno	Tall fescue	4.8	5.9	4.1	4.4	5.3
61 Jaguar 4G	Tall fescue	4.8	5.9	4.3	4.3	3.7
62 Picasso	Tall fescue	4.8	6.1	4.2	4.0	5.0
63 Rembrandt	Tall fescue	4.8	5.9	4.2	4.2	3.7
64 Cayenne	Tall fescue	4.7	5.8	4.4	4.0	5.0
65 ATall fescue-1334	Tall fescue	4.7	5.5	4.1	4.6	4.0
66 ATall fescue 1327	Tall fescue	4.7	5.3	4.2	4.5	4.3
67 Scorpion II	Tall fescue	4.7	5.9	4.1	4.0	4.3
68 Azure	Sheeps fescue	4.7	4.8	5.4	4.0	3.3
69 SRX 52961	Strong creeping red fescue	4.5	4.4	5.0	4.2	1.7
70 Tiara	Strong creeping red fescue	4.5	5.5	4.5	3.4	1.0
71 Arid 3	Tall fescue	4.4	5.3	3.7	4.3	4.0
72 Green Keeper	Tall fescue	4.2	4.7	3.7	4.4	4.0
73 MRD Comp	Deschampsia	4.2	5.1	3.6	3.9	4.3
74 Eugene	Strong creeping red fescue	4.2	5.0	4.2	3.4	1.0
75 LRD Comp	Deschampsia	4.0	5.0	3.3	3.8	3.3

(Continued)

Table 6. Cool season, low maintenance turf trial, 2010 (continued).

Cultivar or Selection	Species	Turf Quality ¹				Turf Wear Quality ² Sept. 2013
		2011-2013 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	
76 ERD Comp	Deschampsia	3.7	4.7	2.9	3.6	3.0
77 Shade King	Deschampsia	3.4	4.7	2.5	3.1	2.7
78 Jesup Max Q	Forage tall fescue	3.1	3.3	3.2	3.0	2.7
79 K-31	Tall fescue	3.0	3.2	3.1	2.8	3.0
80 Martin 2	Forage tall fescue	2.7	2.9	2.8	2.4	2.3
81 Shiloh II	Orchardgrass	2.5	2.7	2.6	2.2	1.0
LSD at 5% =		0.8	0.8	1.1	1.4	2.0

¹9 = best turf quality

²9 = best wear tolerance

Table 7. Yearly nitrogen (N) applied and mowing height (Ht) on fine fescue tests established at Adelphia, NJ.

	2009		2010		2011		2012		2013	
	N ¹	Ht ²	N	Ht	N	Ht	N	Ht	N	Ht
Table 1 (2008 NTEP)	1.0	1.5	1.0	1.5	1.0	1.5	1.5	1.5	0.50	1.5
Table 2 (2009).....			1.0	1.5	1.0	1.5	1.5	1.5	0.50	1.5
Table 3 (2010).....					1.0	1.5	1.5	1.5	2.00	1.5
Table 4 (2011 CTBT)							1.5	1.5	2.25	1.5
Table 5 (2012).....									2.50	1.5
Table 6 (2010 Low maintenance)					1.0	2.5	1.7	2.5	1.70	2.5

¹Annual N applied (lb/1000 ft²)

²Mowing height in inches