

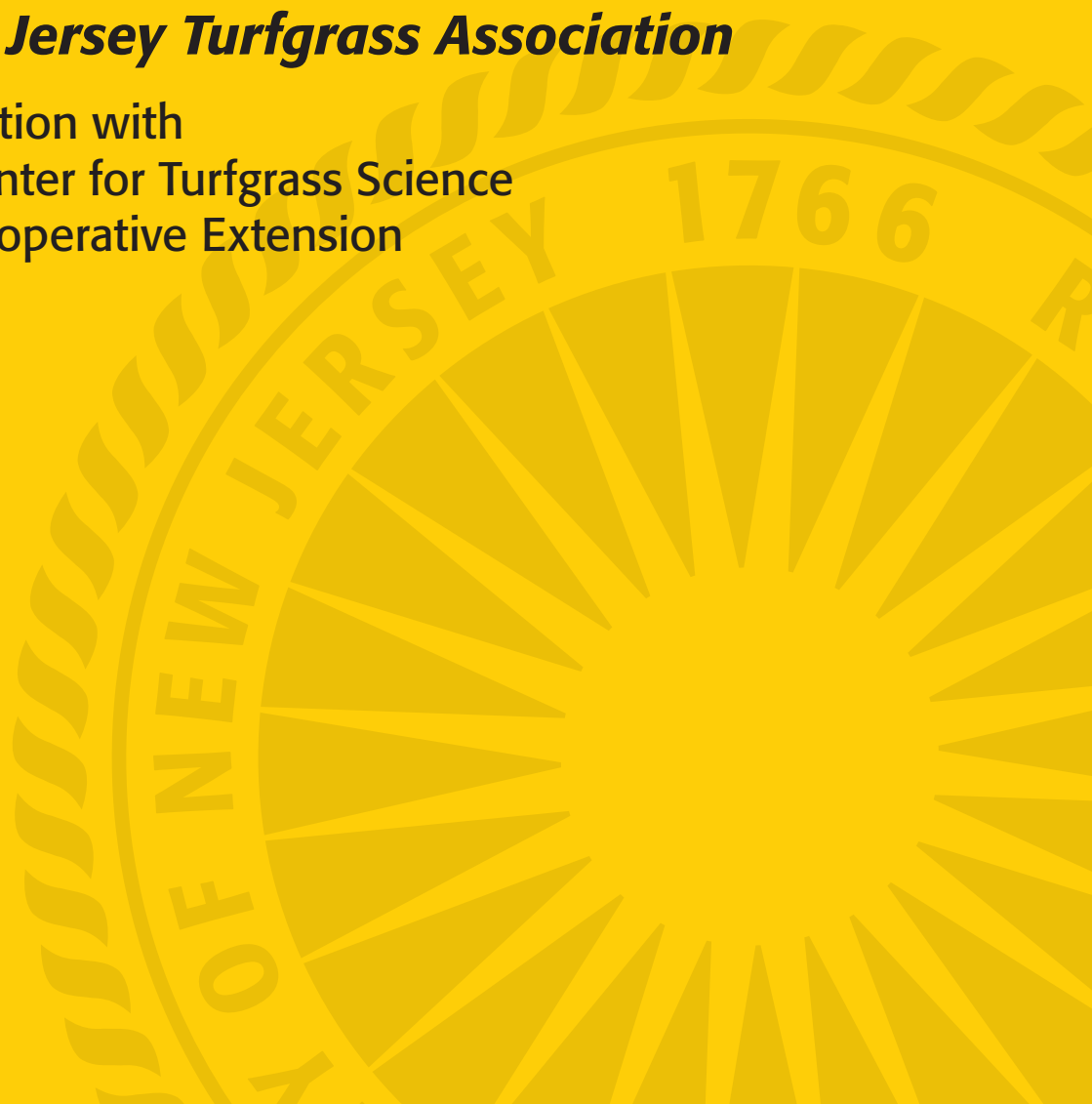
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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences, Rutgers, The State 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 2012 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
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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. This group of species are tolerant of infertile, acidic soils and drought conditions and, compared to other cool-season grasses, are better adapted to cool, dry, and shaded environments and exhibit the best performance under lower fertility levels. These qualities give them the reputation of being low maintenance grasses. The fine fescues perform best in well drained soils and are not suited for wet soil conditions (Murphy, 1996). In general, the fine fescues are not very heat tolerant and are also not tolerant of 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. *litoralis* 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. Hard fescues are considered to be more tolerant of heat, drought, and low fertility than Chewings fescues. They are widely used in many low maintenance situations because they are fairly disease resistant 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. These benefits 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 northeast. Studies continue to improve the potential

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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 5). 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 5) 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 5 are presented with selections grouped according to species and ranked according to best overall turf performance (multiple-year quality average). Table 6 is ranked according to best multiple-year turf quality average.

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 2011 tests (Tables 4 and 5) were in their 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 for trials reported in Tables 1 to 5. Hard fescues IS-FL 45, IS-FL 42, IS-FL 46, WB, BM2 Comp, and Firefly exhibited the highest turf quality, while Aurora Gold Bighorn GT, GO-HBF, and Eureka II had the poorest quality (Tables 1 and 2). Chewings fescues IS-FRC 30, IS-FRC 34, IS-FRC 33, PSG OC3, Carson, Radar, and Rushmore also rated well, while OC1, SR 5100, SRX5SDP2, Victory II, Sandpiper, Silhouette, and Koket had the poorest quality.

The top performing strong creeping red fescue selections included IS-FRR 61, PSG-5RM, PSG5B242, PSG5RJ6, PSG 5J1551, FRR 71, and Gibraltar Gold, whereas the quality of cultivars Boreal, SR 5210, Splendor, Pathfinder, and Crossbow 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 selection SRX 52961 demonstrated the highest turf quality ratings, while cultivars Seabreeze 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; ratings for tufted hairgrass varieties SCDES and blue fescue SR 3200 were poor (Table 2). 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 2010 trial (Table 3) 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 2010 trial (Table 3), ratings for wear tolerance as well as wear recovery were reported. The hard fescues were best for wear tolerance and recovery, particularly cultivars and selections Predator, Firefly, PSG3TH3, and S2SE+; Mp, Aurora II, and Rescue 911, however, had the lowest ratings for the species. Among the Chewings fescues, experimental selections and cultivars CK2 Comp, CK1 Comp, Lot 08-4, and Carson rated highest for wear recovery, while CW1, Intrigue, and Ambrose 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. Within these species, the strong creeping red fescues OS3 and FT2 Comp had the highest ratings for wear tolerance and recovery, while

Razor strong creeping red fescue and ASR050 slender creeping red fescue were poor 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), 2009 trial (Table 2), and 2010 trial (Table 3) includes ratings for red thread (caused by the fungus *Laetisaria fuciformis*). Red thread is a foliar disease that does not affect the crown and roots. The symptoms appear as circular patches of tan or pink turf. As a species, the hard fescues were the least susceptible to red thread with strong creeping red fescues and Chewings fescues with slightly higher susceptibility. The best performing hard fescues were Matterhorn, SR 3150, IS-FL 46, and PSG 3J2921, while the most susceptible entries were Mp, AZB-15, AZB-10, and PST-Syn-4NOR-H. The top performing strong creeping red fescues were PSG 5J1551, IS FRR 60, and IS FRR 61. In general there was a large range of susceptibility to red thread in the fine fescues.

The performance of the entries in the 2008 trial (Table 1), 2009 trial (Table 2), and 2010 trial (Table 3) all include ratings for dollar spot. This disease, 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 to 3, the hard and Chewings fescues were the most disease resistant. The hard fescues BM2 Comp, H92 Comp, and IS-FL 42, and Chewings fescues CK1, TCP, IS-FRC 30, IS-FRC 34, IS-FRC 36, and Fairmont were the most disease resistant. In contrast, the slender creeping red fescues as a group tended to be susceptible to dollar spot, particularly the entries Shoreline and Seabreeze GT.

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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REFERENCES

- Belanger, F. C., S. A. Bonos, and W. A. Meyer. 2005. Improving dollar-spot resistance in creeping bentgrass. *USGA Green Section Record*, July-August.
- Bonos, S. A., R. J. Buckley, and B. B. Clarke. 2007. An integrated approach to dollar spot disease in turfgrasses. *Rutgers Cooperative Research and Extension FS1070*.
- Bonos, S. A., E. Watkins, J. A. Honig, M. Sosa, T. J. Molnar, J. A. Murphy, and W. A. Meyer. 2001. Breeding cool-season turfgrasses for wear tolerance using a wear simulator. *Int. Turfgrass Society Res. J.* 9:137-145.
- Meyer, W. A., and C. R. Funk. 1989. Progress and benefits to humanity from breeding cool-season grasses for turf. Pages 31-48 *in*: D. A. Sleper, K. H. Asay, and J. F. Pederson (eds.), *Contributions From Breeding Forage and Turf Grasses*. CSSA Spec. Pub. No. 15. CSSA, Madison, WI.
- Murphy, J. A. 1996. Fine fescues: low-maintenance species for turf. *Rutgers Cooperative Research and Extension FS688*.

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

Cultivar or Selection	-----Turf Quality ¹ -----					Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2009-2012 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
HARD FESCUE							
1 IS-FL 45	6.1	6.0	6.3	5.9	6.4	7.7	6.7
2 IS-FL 42	6.1	6.1	6.2	5.9	6.2	7.7	7.3
3 IS-FL 46	5.9	5.5	5.9	5.8	6.3	8.0	6.7
4 MN-HD1	5.8	5.6	6.0	6.0	5.5	7.7	5.0
5 Predator	5.7	5.9	5.5	5.8	5.6	7.0	5.7
6 Sword	5.7	5.5	5.6	5.6	6.0	8.0	6.7
7 TH5 Comp	5.6	5.9	5.8	5.3	5.5	8.3	7.0
8 TH6 Comp	5.6	6.1	5.3	5.3	5.6	8.0	3.7
9 Spartan II	5.5	5.2	5.4	6.1	5.4	7.3	2.7
10 Reliant IV	5.5	5.4	5.7	5.5	5.4	6.7	5.0
11 TH3 Comp	5.4	6.0	5.1	5.3	5.4	8.0	3.0
12 Lucy	5.4	5.6	5.5	5.4	5.2	6.0	3.3
13 Oxford	5.4	5.2	5.5	5.3	5.6	7.3	5.0
14 Beacon	5.4	5.4	5.4	5.6	5.0	8.3	4.3
15 Gotham	5.3	5.6	5.2	4.9	5.6	7.7	3.0
16 Matterhorn	5.3	5.3	5.4	5.2	5.3	8.7	6.3
17 TH4 Comp	5.3	5.2	5.7	5.0	5.2	7.0	3.0
18 WB	5.3	5.6	5.1	4.9	5.4	6.3	4.0
19 S2S	5.2	5.8	5.0	5.2	4.9	7.3	3.3
20 PST-4HES	5.2	5.3	5.4	5.1	4.9	7.0	3.3

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(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----					Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2009-2012 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
HARD FESCUE (cont.)							
21 IS-FL-47	5.1	4.9	5.3	5.2	5.1	7.3	5.3
22 SR 3150	5.1	5.0	5.3	4.9	5.0	7.0	4.3
23 Berkshire	4.9	5.2	5.1	4.8	4.6	4.7	5.0
24 SR 3100	4.8	4.9	5.0	4.8	4.5	5.7	3.7
25 AHF-116	4.4	4.3	4.6	4.2	4.4	6.3	4.3
26 Eureka II	4.4	4.4	4.9	4.1	4.1	5.7	3.7
27 SRX 3K	4.3	4.5	4.3	3.9	4.3	5.3	2.7
28 Spartan	4.0	4.4	4.2	3.7	3.9	5.7	2.3
29 PST-Syn-4NOR-H	3.9	4.3	4.0	3.3	3.8	4.3	4.3
30 GO-HBF	3.5	5.0	3.0	2.4	3.4	4.7	2.3
CHEWINGS FESCUE							
1 IS-FRC 30	5.7	5.9	6.3	5.3	5.2	4.7	6.3
2 IS-FRC 34	5.7	6.0	6.3	5.1	5.2	5.0	6.0
3 IS-FRC 33	5.7	5.9	6.3	5.3	5.1	5.7	4.7
4 Rushmore	5.6	5.9	6.4	5.4	4.8	4.3	4.7
5 RAD-FC16	5.3	5.4	5.5	5.1	5.4	4.3	6.0
6 Radar	5.3	5.6	5.4	5.4	4.7	4.7	6.0
7 TD1 Comp	5.3	5.8	5.3	5.1	4.9	4.3	6.0
8 IS-FRC 33	5.3	5.7	5.7	4.9	4.8	4.7	6.7
9 RAD-FC11	5.2	5.9	5.2	4.7	5.2	4.7	5.3
10 PSG 5OC3	5.2	5.6	5.8	4.8	4.8	4.3	5.7

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(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----					Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2009-2012 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
CHEWINGS FESCUE (cont.)							
11 Fairmont	5.1	5.5	5.3	4.8	4.8	3.7	7.0
12 TD2 Comp	5.0	5.8	5.0	4.5	4.6	4.3	5.0
13 Treazure II	5.0	5.1	5.4	4.7	4.7	4.0	6.3
14 Zodiac	4.9	4.8	5.4	4.7	4.9	5.0	6.0
15 SR 5130	4.9	5.3	5.0	4.7	4.5	4.7	4.0
16 IS-FRC 35	4.8	4.9	5.4	4.4	4.3	4.7	5.3
17 7 Seas	4.8	5.4	4.7	4.4	4.7	4.7	1.7
18 Intrigue 2	4.7	4.6	5.1	4.5	4.3	4.0	6.3
19 PST-Syn-4TS-C	4.5	4.8	4.8	4.4	4.1	4.0	4.7
20 IS-FRR 51	4.5	5.4	3.7	4.0	4.8	5.3	1.7
21 Columbra II	4.5	5.1	4.6	4.2	4.0	4.3	2.3
22 PST-4IB-C Bulk	4.4	4.6	5.1	4.0	4.1	4.0	5.0
23 4SHR-CH	4.3	4.6	4.8	3.8	4.1	4.0	4.0
24 Longfellow II	4.3	5.0	4.4	4.0	3.9	4.3	1.7
25 Lacrosse	4.3	5.0	4.5	3.9	3.8	4.3	2.3
26 PST-4CSD	4.3	4.3	4.8	4.0	4.0	4.3	6.0
27 PST-Syn-4C30-C	4.3	4.6	4.7	3.8	4.0	4.0	5.7
28 Silhouette	4.3	4.9	4.4	3.8	4.0	3.7	2.0
29 Ambrose	4.2	4.6	4.4	4.0	3.9	4.0	3.7
30 Ambassador	4.2	4.9	4.2	3.7	4.0	3.7	1.0

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(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----					Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2009-2012 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
CHEWINGS FESCUE (cont.)							
31 Magic Wand	4.1	4.9	4.1	3.6	3.8	4.3	1.7
32 Casade	4.0	4.3	4.0	3.6	3.9	2.3	4.7
33 SR 5100	3.9	4.2	4.1	3.5	3.6	4.0	2.7
34 SRX 5SDP2	3.8	4.0	4.0	3.4	3.6	3.0	3.3
35 OC1	3.5	4.3	3.2	2.7	3.7	4.3	1.7
STRONG CREEPING RED FESCUE							
54 1 IS FRR 61	5.8	5.8	6.4	5.4	5.7	7.0	6.0
2 PSG-5RM	5.6	5.4	5.8	5.5	5.9	5.7	5.7
3 IS FRR 60	5.6	5.4	5.9	5.3	5.8	7.3	5.7
4 IS-FRR 55	5.5	5.4	6.3	5.3	5.2	5.0	5.3
5 OS2	5.5	5.4	5.3	5.5	5.8	6.7	5.0
6 B6 Comp	5.3	5.3	5.4	4.9	5.7	5.0	4.7
7 ASC 245	5.2	5.7	5.5	4.9	4.9	5.3	6.3
8 R6 Comp	5.2	5.3	5.3	4.8	5.2	4.7	5.3
9 PST-Syn-4OR8	5.1	5.1	5.0	5.1	5.2	4.7	5.3
10 Navigator II	5.1	5.0	4.8	4.9	5.6	5.7	2.3
11 OS1	5.0	5.2	5.2	4.5	5.2	5.3	2.7
12 Custer	5.0	4.8	5.4	4.7	5.1	5.0	5.0
13 IS-FRR 62	5.0	5.5	4.3	4.7	5.3	5.3	3.3
14 Shademaster III	4.8	4.9	4.3	4.8	5.3	5.0	4.7
15 PST-Syn-4MD8	4.4	5.2	4.1	4.0	4.3	4.3	2.7

(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----					Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2009-2012 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
STRONG CREEPING RED FESCUE (cont.)							
16 PST-8000	4.0	5.1	3.5	3.4	4.0	4.0	2.3
17 Wendy Jean	4.0	4.2	3.5	3.7	4.6	5.7	3.0
18 4CRBL-08	3.9	4.0	4.0	3.7	4.0	4.7	2.3
19 Jasper II	3.9	4.9	3.4	3.5	3.9	4.3	1.3
20 Pathfinder	3.9	4.0	3.6	3.7	4.3	3.7	2.7
21 Garnet	3.9	4.9	3.2	3.4	3.9	3.3	1.3
22 SR 5250	3.7	4.6	3.1	3.4	3.9	4.3	1.7
23 Lustrous	3.7	4.4	3.4	3.2	3.8	4.0	1.3
24 Cardinal	3.7	4.5	3.1	3.4	3.7	4.3	1.3
25 Razor	3.6	4.5	3.0	3.3	3.6	3.0	1.0
26 Contender	3.6	4.3	3.3	3.1	3.7	4.3	1.0
27 Cindy Lou	3.6	4.4	3.1	3.2	3.6	4.7	1.3
28 Epic	3.6	4.5	2.9	3.3	3.4	5.0	1.0
29 Bargena III	3.5	3.9	3.3	3.0	3.7	3.3	1.7
30 ACR10-08	3.5	4.1	2.9	2.8	4.1	4.3	2.3
31 Aberdeen	3.4	3.9	3.1	3.1	3.6	3.7	1.3
32 Gibraltar	3.3	3.9	2.9	3.1	3.5	4.3	2.0
33 RAD-FR27	3.3	4.7	2.6	2.6	3.2	4.3	1.0
34 SR 5210	3.3	3.5	3.0	3.0	3.6	2.7	1.3
35 4DEN-CR	3.2	4.2	2.7	2.7	3.3	4.3	1.3

55

(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----					Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2009-2012 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
STRONG CREEPING RED FESCUE (cont.)							
36 GO-ABH	3.1	4.2	2.6	2.3	3.1	4.3	1.3
37 Boreal	2.9	2.9	2.9	2.6	3.2	4.3	2.3
38 Scaldis II	2.8	1.5	2.6	3.3	3.9	5.3	2.7
SLENDER CREEPING RED FESCUE							
1 Shoreline	4.1	4.6	3.6	3.9	4.2	5.0	1.0
2 GO-ABC	4.0	4.7	3.7	3.6	3.9	5.0	3.0
3 PST-Syn-4SEA-SL	4.0	4.8	3.8	3.3	4.0	4.0	3.0
4 Dawson	3.5	2.9	3.4	3.5	4.1	5.0	3.0
BLUE HARD FESCUE							
1 Bighorn	4.0	4.0	3.7	4.1	4.0	5.3	2.0
BLUE FESCUE							
1 SR 3200	3.0	2.1	2.7	3.6	3.8	4.7	4.0
2 SR 3210	2.8	2.6	2.6	2.7	3.4	4.0	3.0
UNKNOWN							
1 MP FF1	3.3	2.7	3.1	3.5	4.0	5.0	4.0
2 07-1	3.3	3.2	3.1	3.2	3.7	4.7	4.0
3 MP FF2	3.1	2.3	3.1	3.4	3.7	4.0	4.0

(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----					Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2009-2012 Avg.	2009 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
LSD at 5% =	0.5	0.5	0.6	0.8	0.7	1.4	2.0

¹9 = best turf quality

²9 = least disease

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 -----				Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2010-2012 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
HARD FESCUE						
1 IS-FL 46	6.3	6.2	6.6	6.1	9.0	7.3
2 WB	6.2	6.2	5.8	6.5	8.3	6.7
3 IS-FL 48	6.0	5.7	6.5	5.9	7.3	8.3
4 IS-FL 53	6.0	5.7	5.9	6.3	6.0	7.0
5 H93 comp	6.0	6.1	5.8	6.0	8.0	7.0
6 H91 comp	5.9	5.7	5.9	6.3	7.3	8.0
7 S2	5.9	6.1	5.9	5.7	8.0	7.7
8 PSG 3TH3-11	5.9	5.7	5.9	6.0	8.3	4.7
9 PSG 3TH3-22B	5.9	5.8	6.0	5.8	8.0	5.0
10 IS-FL 45	5.8	6.1	5.6	5.9	7.3	6.3
11 IS-FL 55	5.8	5.9	5.7	5.8	7.0	7.3
12 IS-FL 42	5.8	5.5	5.7	6.1	8.0	8.0
13 H92 comp	5.8	5.8	5.7	5.8	8.0	8.7
14 S2S	5.8	5.8	5.8	5.6	8.7	7.0
15 Spartan II	5.8	5.7	5.9	5.7	8.3	6.7
16 PSG 3TH3-6	5.8	5.8	5.3	6.1	7.7	6.7
17 Beacon	5.7	6.1	5.8	5.3	8.7	6.0
18 PSG 3TH3-27	5.7	5.8	5.6	5.7	8.3	7.7
19 H94 comp	5.6	5.5	5.7	5.7	8.0	7.0
20 PSG 3TH3-15	5.6	6.0	5.1	5.5	7.3	4.3
21 PSG 3TH3-22A	5.5	5.7	5.3	5.6	8.0	4.7
22 Reliant IV	5.5	5.7	5.5	5.3	6.0	6.0
23 PST-4HES	5.5	5.6	5.3	5.6	7.3	6.3
24 IS-FL 54	5.5	5.3	5.3	5.8	5.0	6.0
25 Predator	5.4	5.1	5.4	5.9	7.0	8.0
26 IS-FL 47	5.4	5.4	5.3	5.6	6.7	8.0
27 S2S E+	5.4	5.6	5.2	5.4	7.3	5.3
28 IS-FL 39	5.3	5.1	5.3	5.6	8.3	8.3
29 PSG 3TH3-24	5.3	5.6	4.8	5.5	7.7	5.3
30 SR 3150	5.3	5.2	5.3	5.3	9.0	8.0
31 Matterhorn	5.3	5.5	5.2	5.2	9.0	7.7
32 IS-FL 52	5.2	4.8	5.2	5.7	5.0	7.3
33 PST-4NY	5.2	5.0	5.0	5.5	6.3	7.7
34 Oxford	5.1	5.0	4.9	5.3	6.7	8.7
35 PSG 3TH3-8	5.1	5.3	5.0	4.9	7.7	4.0

(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----				Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2010-2012 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
HARD FESCUE (cont.)						
36 SR 3100	5.0	5.1	4.8	5.0	7.3	8.3
37 Aurora II	4.6	5.2	4.5	4.1	7.3	4.3
38 AZB-1	4.4	4.7	4.6	4.0	6.0	5.7
39 Eureka II	4.4	4.2	4.3	4.6	6.7	6.3
40 AZB-14	4.4	4.6	4.4	4.1	5.7	7.0
41 AZB-9	4.3	4.7	4.2	4.1	4.7	3.7
42 PST-Syn-4RUB	4.3	4.3	4.3	4.2	6.7	5.7
43 AZB-7	4.2	4.2	4.2	4.1	5.7	6.3
44 AZB-3	4.2	4.3	4.2	4.0	6.3	6.3
45 AZB-8	4.1	4.6	4.0	3.8	6.7	3.3
46 AZB-5	4.1	4.4	4.2	3.7	5.0	5.0
47 AZB-11	4.1	4.4	3.9	4.0	6.0	8.0
48 SRX3K	4.1	4.0	4.1	4.1	6.7	6.3
49 AZB-6	4.1	4.3	4.0	3.9	7.0	7.7
50 AZB-4	4.1	4.4	4.1	3.7	6.7	5.3
51 AZB-15	4.0	4.2	3.8	4.0	4.3	4.7
52 AZB-10	3.9	4.3	3.9	3.6	4.3	4.3
53 Little Bighorn	3.9	4.1	3.8	3.8	5.0	6.0
54 AZB-12	3.9	4.4	3.7	3.7	6.7	7.0
55 PST-4DON	3.9	4.4	3.6	3.6	5.3	5.3
56 AZB-2	3.8	4.2	3.8	3.5	5.0	5.7
57 AZB Bulk	3.7	4.1	3.4	3.7	6.3	6.3
58 AZB-13	3.7	4.0	3.6	3.5	5.7	6.3
59 Bighorn GT	3.3	3.5	3.5	3.1	5.0	4.7
60 Aurora Gold	2.9	2.7	2.8	3.3	6.0	4.7
STRONG CREEPING RED FESCUE						
1 PSG 5B242	5.9	5.4	5.7	6.6	6.3	8.3
2 PSG 5RJ6	5.7	5.4	5.7	5.9	6.0	7.7
3 PSG 5RJ5	5.6	5.2	5.6	6.1	5.7	8.0
4 IS-FRR 68	5.6	5.8	5.4	5.7	5.3	7.3
5 PSG 5RJ8	5.6	5.5	5.3	6.0	6.3	8.3
6 PSG 5RJ7	5.6	5.4	5.3	6.0	6.0	7.7
7 PSG 5RJ2	5.5	5.4	5.4	5.8	5.7	7.3
8 PSG 5RJ1	5.4	5.1	5.2	6.0	5.0	8.0
9 PSG 5RJ4	5.3	5.1	5.2	5.7	4.3	7.3
10 PSG 5RJ9	5.3	4.9	5.0	6.0	6.0	7.7

(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----				Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2010- 2012 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
STRONG CREEPING RED FESCUE (cont.)						
11 Navigator II	5.2	5.3	5.0	5.2	4.0	4.0
12 PSG 5RJ3	5.1	4.9	5.1	5.4	5.0	8.0
13 STC2 comp	5.1	4.9	5.0	5.5	5.3	6.0
14 IS-FRR 67	5.0	5.0	4.6	5.4	5.3	5.7
15 Shademaster III	4.9	5.0	4.8	5.0	4.7	4.3
16 STC1 comp	4.8	5.0	4.4	4.9	4.7	6.0
17 IS-FRR 60	4.6	5.2	4.2	4.6	4.0	1.7
18 IS-FRR 51	4.6	5.4	4.6	3.8	3.7	1.0
19 OS2	4.5	5.4	4.2	4.0	3.0	1.0
20 IS-FRR 55	4.5	5.5	3.7	4.2	3.0	3.3
21 PSG 5RM	4.5	5.4	4.1	3.9	3.7	1.3
22 IS-FRR 61	4.3	4.9	4.0	4.0	3.7	2.0
23 Epic	4.2	5.0	4.3	3.2	3.0	1.0
24 Lustrous	4.2	4.6	4.1	3.9	3.7	3.3
25 IS-FRR 62	4.2	5.2	3.5	3.8	4.0	1.7
26 Garnet	4.1	4.7	3.9	3.8	3.0	1.7
27 PST-8000	4.0	4.4	4.0	3.7	3.0	1.7
28 Jasper II	4.0	4.9	3.6	3.5	2.7	1.7
29 Foxy II	4.0	4.2	4.2	3.5	3.3	2.0
30 Razor	3.9	4.4	3.9	3.8	3.3	2.3
31 PST-4CR10	3.9	4.4	4.0	3.3	3.7	3.0
32 Pathfinder	3.9	4.3	3.7	3.8	2.3	2.3
33 Audubon	3.8	4.0	3.9	3.6	2.7	2.3
34 Cindy Lou	3.8	3.9	3.5	4.0	3.3	2.3
35 SR 5250	3.8	4.3	3.8	3.3	2.3	2.3
36 Aberdeen	3.7	4.4	3.1	3.6	3.7	2.0
37 Gibraltar	3.7	4.3	3.3	3.4	2.3	2.3
38 PST-4DEN	3.5	4.3	3.4	2.8	3.0	1.0
39 Wendy Jean	3.4	4.0	3.1	3.1	2.3	1.0
40 Splendor	3.1	3.5	2.9	2.8	3.7	2.3
41 SR 5210	3.0	3.2	2.8	2.9	2.7	4.3

(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----				Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2010- 2012 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
CHEWINGS FESCUE						
1 IS-FRC 39	5.7	5.6	5.5	5.9	7.0	8.3
2 PSG OC3	5.5	5.6	5.2	5.8	5.3	7.7
3 IS-FRC 30	5.4	5.4	5.2	5.7	6.0	8.7
4 IS-FRC 34	5.4	5.4	5.1	5.8	5.7	8.7
5 Rushmore	5.4	5.8	5.1	5.2	4.3	8.3
6 IS-FRC 36	5.3	5.2	5.1	5.7	5.7	8.7
7 TCP	5.3	5.4	5.1	5.3	4.3	9.0
8 SR 5130	5.2	5.3	4.8	5.6	5.7	7.3
9 IS-FRC 33	5.1	5.0	4.9	5.6	6.0	8.0
10 Longfellow II	5.1	4.9	5.0	5.4	4.0	8.0
11 Intrigue II	5.0	4.7	4.7	5.5	4.7	7.0
12 7 Seas	5.0	4.9	4.7	5.3	6.0	6.7
13 Treasure II	4.9	4.6	4.7	5.3	5.7	7.3
14 IS-FRC 35	4.8	4.7	4.8	5.1	5.3	8.3
15 Compass	4.7	4.7	4.5	5.1	4.7	8.7
16 Magic Wand	4.7	5.0	4.8	4.3	2.7	3.7
17 SR 5130	4.7	4.4	4.4	5.3	5.7	7.0
18 PST-4C30D	4.6	4.4	4.5	4.8	6.0	8.3
19 Shadow II	4.4	4.7	4.2	4.5	4.0	6.3
20 PST-R4TC	4.4	4.7	4.5	4.1	5.7	8.3
21 Ambassador	4.3	4.2	4.2	4.6	5.0	6.7
22 Columbra II	4.3	4.8	4.2	3.8	2.7	5.3
23 PST-4CSD	4.2	4.0	3.9	4.6	6.7	8.3
24 Jamestown IV	4.0	4.1	3.7	4.0	4.0	7.0
25 Silhouette	3.7	3.4	3.6	4.2	5.0	6.3
26 SR 5100	3.6	4.0	3.1	3.5	6.0	8.0
27 PSG 5SD2	3.4	3.7	3.1	3.4	4.3	8.0
28 Victory II	2.3	1.7	2.1	3.1	5.0	7.7
BLENDS						
1 SCFF1	4.9	5.1	4.6	5.0	7.0	5.0
2 SCFF3	4.5	4.8	4.4	4.2	5.7	7.3
3 SCFF2	4.3	4.5	4.3	4.1	6.0	6.3

(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----				Red Thread ² May 2012	Dollar Spot ² Aug. 2012
	2010- 2012 Avg.	2010 Avg.	2011 Avg.	2012 Avg.		
SHEEPS FESCUE						
1 Marco Polo	4.4	4.6	4.4	4.2	5.3	8.3
2 Azure	3.2	3.8	3.1	2.8	4.7	5.7
SLENDER CREEPING RED FESCUE						
1 Shoreline	4.1	5.0	3.5	3.9	3.7	3.3
2 SRX 52961	4.1	4.8	3.7	3.8	3.3	2.0
3 PST-4SEA	4.0	4.5	3.8	3.8	3.7	3.0
4 ASRO 50	3.7	4.4	3.5	3.2	3.0	2.7
5 Seabreeze GT	3.7	4.4	3.5	3.1	3.7	1.7
6 SRX 5500	3.7	4.1	3.2	3.7	4.7	6.0
TUFTED HAIRGRASS						
1 PST-Syn-DC8	2.4	4.1	1.8	1.4	5.0	6.7
2 DCM-bulk	2.4	3.9	1.8	1.4	6.0	7.5
3 SCDES	2.1	3.4	1.6	1.2	5.0	5.7
BLUE FESCUE						
1 SR 3210	2.1	1.7	1.8	2.8	4.0	5.3
LSD at 5% =	0.6	0.8	0.8	0.8	2.3	2.4

¹9 = best turf quality

²9 = least disease

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 -----			Red Thread ² May 2012	Wear Damage ³ July 2012	Wear Recovery ⁴ Aug. 2012	Dollar Spot ² Aug. 2012
	2011- 2012 Avg.	2011 Avg.	2012 Avg.				
HARD FESCUE							
1 BM2 Comp	6.2	6.0	6.3	8.0	6.7	5.7	8.7
2 PSG 3J2921	6.1	5.8	6.5	8.7	6.3	7.7	7.0
3 TE1 Comp	6.1	5.7	6.4	8.0	7.0	7.0	8.0
4 BM1 Comp	6.1	5.7	6.4	8.0	6.3	6.3	8.0
5 Predator	6.0	5.8	6.2	7.7	8.0	6.7	8.3
6 Firefly	5.9	5.7	6.0	8.3	7.7	5.7	8.0
7 Reliant IV	5.8	5.8	5.8	7.7	7.3	5.3	7.0
8 Berkshire	5.8	5.4	6.2	8.3	5.7	6.7	8.3
9 PSG 3TH3	5.7	5.4	6.0	7.7	7.7	6.7	7.3
10 TE2 Comp	5.7	5.4	6.0	7.3	7.3	6.7	8.3
11 S2SE+	5.7	5.6	5.7	8.3	7.7	5.7	7.7
12 Oxford	5.3	4.8	5.7	7.3	6.3	6.7	8.3
13 SR 3150	5.2	4.9	5.4	8.3	7.3	7.7	8.3
14 Nordic	5.1	4.9	5.4	7.7	5.0	4.7	8.0
15 4NY	5.0	4.9	5.2	8.0	5.0	6.7	8.0
16 Rescue 911	4.5	4.3	4.7	6.7	4.7	5.7	7.7
17 Aurora II	4.3	4.1	4.5	6.7	4.0	5.3	6.7
18 Aurora Gold	4.1	4.0	4.3	6.7	5.3	5.3	7.3
19 Spartan	4.1	3.8	4.4	7.3	5.0	4.0	7.3
20 Mp	1.4	1.2	1.5	3.0	2.7	3.3	6.3

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(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² May 2012	Wear Damage ³ July 2012	Wear Recovery ⁴ Aug. 2012	Dollar Spot ² Aug. 2012
	2011- 2012 Avg.	2011 Avg.	2012 Avg.				
CHEWINGS FESCUE							
1 CK2 Comp	6.1	5.9	6.3	6.3	5.7	8.0	8.3
2 Carson	6.1	6.2	6.0	6.0	5.0	6.7	6.7
3 Radar	5.9	5.8	6.1	6.3	3.3	6.0	6.0
4 OC1	5.9	5.7	6.1	6.7	4.7	5.3	6.7
5 SR 5130	5.5	5.3	5.8	6.3	3.3	5.3	6.7
6 Lot 08-5	5.5	5.4	5.6	5.7	4.7	5.0	7.0
7 PSG 50C3	5.5	5.6	5.4	5.0	5.0	5.0	6.7
8 ACF 266	5.5	5.4	5.6	4.7	3.3	4.0	6.7
9 Lot 08-4	5.4	5.2	5.6	5.7	5.3	6.7	8.3
10 CK1 Comp	5.4	5.2	5.5	6.0	5.3	7.0	8.7
11 Treasure II	5.3	5.3	5.3	5.0	4.7	4.7	7.3
12 Intrigue 2	5.3	5.2	5.3	5.7	3.3	3.3	6.7
13 Intrigue	5.2	5.4	5.0	4.7	3.7	3.0	5.7
14 PPG-FRC 103	5.2	5.3	5.0	5.3	3.7	6.3	8.0
15 Treasure II	5.1	4.8	5.4	4.7	4.3	6.3	6.3
16 Compass	5.1	4.7	5.4	5.3	3.7	4.0	7.7
17 7 Seas	5.0	4.9	5.2	4.7	5.0	6.0	7.7
18 Syn-4CH20-10	5.0	5.0	5.0	3.3	4.3	4.3	6.0
19 PST-Syn-4WSH	4.9	4.7	5.1	4.7	5.0	5.7	8.0
20 Longfellow II	4.9	4.6	5.2	4.7	4.0	3.7	7.0

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(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² May 2012	Wear Damage ³ July 2012	Wear Recovery ⁴ Aug. 2012	Dollar Spot ² Aug. 2012
	2011- 2012 Avg.	2011 Avg.	2012 Avg.				
CHEWINGS FESCUE (cont.)							
21 R4TC	4.9	4.6	5.2	5.3	5.3	5.3	7.3
22 Ambassador	4.8	4.7	4.9	5.0	5.3	5.0	7.3
23 1-10 Frc Bulk	4.7	4.8	4.7	4.3	4.0	5.0	8.0
24 J-5	4.7	4.6	4.8	4.0	4.3	4.7	7.0
25 Culumbra II	4.5	4.7	4.4	4.3	4.0	5.3	6.7
26 Ambrose	4.5	4.5	4.4	4.0	3.0	3.3	7.7
27 4CHT	4.4	4.3	4.5	4.0	3.7	3.7	7.7
28 Silhouette	4.3	4.1	4.4	3.7	3.0	4.0	6.7
29 Shadow II	4.3	4.1	4.4	4.0	4.0	5.3	6.7
30 CW1	4.2	5.0	3.5	2.7	3.7	2.7	2.3
31 4CHY	4.1	3.8	4.5	4.3	4.7	4.0	7.3
32 Tiffany	4.1	4.0	4.3	4.0	2.7	4.0	7.3
33 Sandpiper	3.9	3.8	3.9	4.3	3.3	4.7	8.0
34 SR 5100	3.7	3.5	4.0	3.0	2.7	6.0	8.0
STRONG CREEPING RED FESCUE							
1 PSG 5J1551	6.1	6.0	6.1	8.0	3.7	4.3	8.0
2 2-10 Frr Bulk	5.9	6.0	5.8	5.0	3.3	6.7	6.7
3 3-10 Frr Bulk	5.9	6.1	5.7	5.3	3.3	6.3	6.3
4 PST-Syn-4BED	5.7	5.3	6.1	7.3	3.3	5.0	7.3
5 FT2 Comp	5.5	5.3	5.7	4.7	4.7	6.7	7.3

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(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² May 2012	Wear Damage ³ July 2012	Wear Recovery ⁴ Aug. 2012	Dollar Spot ² Aug. 2012
	2011- 2012 Avg.	2011 Avg.	2012 Avg.				
STRONG CREEPING RED FESCUE (cont.)							
6 FT3 Comp	5.5	5.4	5.6	6.0	4.0	6.3	7.3
7 FT6 Comp	5.5	5.4	5.5	4.3	3.3	4.3	6.7
8 PSG 5RM	5.3	6.5	4.1	4.0	1.7	1.7	1.0
9 FT7 Comp	5.3	5.7	4.8	4.7	3.0	3.3	3.0
10 Syn-4ED0	5.3	5.4	5.1	5.7	2.3	3.7	8.0
11 4GRY	5.1	4.9	5.3	5.3	3.0	4.3	7.7
12 FT1 Comp	5.0	5.4	4.6	3.7	2.7	2.7	4.0
13 OS2	5.0	6.0	4.0	3.3	2.0	2.0	1.3
14 PSG 5RJ5L	4.9	5.7	4.1	3.7	1.7	2.7	2.3
15 FT5 Comp	4.9	5.0	4.7	3.3	3.7	3.7	5.0
16 OR1	4.8	5.7	4.0	3.0	2.7	3.0	2.7
17 OR C1-6	4.8	5.4	4.3	3.0	1.7	3.0	2.7
18 FT4 Comp	4.8	4.8	4.8	4.0	3.7	4.0	5.7
19 Shademaster III	4.8	4.8	4.8	4.3	2.3	5.3	5.3
20 PPG-FRR 103	4.7	4.9	4.5	3.7	2.3	5.0	4.0
21 Jasper II	4.7	5.5	4.0	2.7	2.7	1.7	1.7
22 4RED	4.7	4.3	5.1	3.7	2.7	5.7	7.0
23 Cardinal	4.7	5.2	4.1	4.3	2.0	2.0	1.3
24 PSG 5RJE	4.6	5.2	3.9	2.0	1.7	2.0	2.0
25 Jamestown IV	4.4	4.4	4.5	4.0	2.7	4.7	6.0

(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² May 2012	Wear Damage ³ July 2012	Wear Recovery ⁴ Aug. 2012	Dollar Spot ² Aug. 2012
	2011- 2012 Avg.	2011 Avg.	2012 Avg.				
STRONG CREEPING RED FESCUE (cont.)							
26 OR C1-2	4.4	5.1	3.7	4.0	1.7	3.3	3.0
27 Syn-4SPY	4.4	4.3	4.4	3.7	3.3	3.3	6.3
28 Garnet	4.4	5.1	3.6	2.7	1.7	2.7	2.3
29 SR 5250	4.3	4.6	4.0	3.7	2.0	2.0	2.0
30 Epic	4.2	4.8	3.6	3.7	2.0	2.0	2.7
31 4CRD-8	4.1	5.1	3.0	2.3	1.3	2.7	2.3
32 Navigator	4.0	3.9	4.1	2.7	2.7	4.3	5.0
33 Fortitude	4.0	4.1	3.8	3.7	2.7	2.7	3.3
34 Tiara	3.9	4.4	3.4	3.0	2.3	1.3	1.7
35 Aberdeen	3.9	4.2	3.6	3.0	1.7	2.7	2.3
36 OR C1-5	3.9	3.7	4.1	3.7	2.0	2.0	5.3
37 4CRD-P	3.8	4.2	3.4	3.0	1.0	1.3	3.7
38 BRSDT	3.6	3.3	3.9	3.3	1.7	3.7	4.7
39 OR C1-3	3.5	3.2	3.9	4.7	1.3	2.3	5.7
40 OR C1-1	3.3	2.9	3.7	3.3	1.3	3.0	4.3
41 OR C1-4	3.2	2.9	3.6	4.3	1.0	3.3	5.3
42 BRSHST	3.1	2.8	3.4	2.7	1.0	2.3	6.3
43 BRSHSM	3.1	2.7	3.5	4.0	1.7	2.7	4.7
44 SR 5210	2.9	2.9	2.9	2.3	1.0	1.7	6.0
45 SR 52961	2.9	2.6	3.1	3.3	1.7	4.3	4.7

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(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² May 2012	Wear Damage ³ July 2012	Wear Recovery ⁴ Aug. 2012	Dollar Spot ² Aug. 2012
	2011- 2012 Avg.	2011 Avg.	2012 Avg.				
STRONG CREEPING RED FESCUE (cont.)							
46 Boreal	2.8	2.4	3.1	4.3	1.0	1.7	5.3
47 07-1FF	2.5	1.9	3.1	4.0	1.3	2.3	5.3
48 Cindy Lou	2.2	1.6	2.7	3.0	1.3	2.3	5.0
49 OS3	5.8	5.9	5.6	4.3	5.7	5.7	7.3
50 Lustrous	4.5	4.9	4.0	3.3	1.0	3.0	4.0
51 Custer	4.3	4.9	3.7	3.3	1.3	1.7	2.3
52 Razor	4.3	4.8	3.8	2.7	1.0	1.7	2.0
53 Audubon	4.1	4.4	3.9	3.0	1.7	2.7	3.7
54 Pathfinder	3.8	4.1	3.5	2.3	1.7	3.3	4.3
BLENDS							
1 SCFF2	5.2	5.2	5.2	5.7	5.3	6.3	6.3
2 SCFF1	4.9	4.4	5.3	7.3	5.7	4.3	7.0
3 SCFF4	4.8	4.8	4.9	5.7	4.7	5.0	6.7
4 SCFF3	4.0	3.8	4.3	6.7	5.7	4.7	6.7
SHEEPS FESCUE							
1 Big Horn GT	4.1	3.9	4.3	7.7	4.3	4.7	7.7
2 Little Bighorn	3.5	3.4	3.6	5.7	4.7	3.3	7.0
3 Azure	3.4	3.6	3.2	6.0	2.3	3.3	6.7

(Continued)

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

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² May 2012	Wear Damage ³ July 2012	Wear Recovery ⁴ Aug. 2012	Dollar Spot ² Aug. 2012
	2011- 2012 Avg.	2011 Avg.	2012 Avg.				
SLENDER CREEPING RED FESCUE							
1 ASR050	4.0	4.6	3.4	3.0	1.3	1.0	5.0
2 4SEA	4.0	4.3	3.7	4.3	2.3	2.3	4.3
3 Shoreline	3.9	4.1	3.7	3.7	2.3	2.7	6.3
4 Seabreeze GT	3.8	4.4	3.1	3.7	1.7	2.3	3.7
BLUE FESCUE							
1 SR 3210	2.9	3.3	2.5	5.3	2.3	3.0	6.3
LSD at 5% =	0.7	0.8	0.8	1.7	2.1	2.6	1.8

¹9 = best turf quality

²9 = least disease

³9 = least damage due to wear

⁴9 = best recovery from wear

Table 4. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2011 at Adelphia, NJ.

Cultivar or Selection	Turf Quality ¹ 2012 Avg.	Establishment ² Oct. 2011
HARD FESCUE		
1 H573 Comp	6.2	4.0
2 H575 Comp	6.2	5.0
3 H574 Comp	6.1	4.7
4 H571 Comp	6.1	5.0
5 H572 Comp	5.9	4.7
6 Predator	5.6	4.0
7 MNHDF-11	5.5	3.0
8 SR 3150	5.5	6.0
9 Reliant IV	5.2	4.0
10 Oxford	4.8	3.3
11 4DON	4.2	5.0
12 Rhino	4.2	5.3
13 Rescue 911	3.8	5.0
14 Ecostar	3.7	5.3
15 PSG 3CAN1	3.5	6.0
16 SR3210	3.2	5.3
17 Syn-4GUD	2.9	3.0
18 PSG 3CAN45	2.5	5.3
CHEWINGS FESCUE		
1 FRC 36	6.0	5.3
2 RAD-FC32	5.8	4.7
3 RAD-FC44	5.8	7.0
4 C572 Comp	5.7	6.0
5 FRC 41	5.5	5.7
6 FRC 34E+	5.3	4.0
7 FRC 37	5.3	5.7
8 SR 5130	5.3	5.3
9 OC1	5.2	5.0
10 Radar	5.2	6.0
11 Longfellow 3	5.1	4.7
12 Carson	5.1	5.7
13 C571 Comp	5.0	5.3
14 FRC 30E+	5.0	4.7
15 FRC 42	4.9	6.0

(Continued)

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

Cultivar or Selection	Turf Quality ¹ 2012 Avg.	Establishment ² Oct. 2011
CHEWINGS FESCUE (cont.)		
16 Syn-4SWT	4.9	5.7
17 Longfellow II	4.8	5.7
18 7 Seas	4.6	5.3
19 Miser	4.5	5.7
20 PSG 5TPC2	4.4	6.0
21 Wrigley 2	4.3	5.0
22 Ambassador	4.3	5.7
23 Jamestown IV	4.3	7.0
24 ACF 266 (Survivor)	4.3	5.0
25 Ambrose	4.2	6.7
26 Shadow II	4.2	5.0
27 Columbra II	4.2	3.7
28 J-5	3.9	7.0
29 4CSD	3.8	3.3
30 PSG 5WSG5	3.8	6.3
31 SR 5100	3.6	6.0
32 PSG 5TPC1	3.6	6.7
33 PSG 5WSG4	3.6	6.7
34 Silhouette	2.9	1.3
35 PSG 5WSG1	2.9	6.7
STRONG CREEPING RED FESCUE		
1 FRR 71	5.8	6.0
2 Gibraltar Gold	5.7	5.7
3 S571 Comp	5.6	5.3
4 FRR 65 B	5.4	5.3
5 S572 Comp	5.4	6.3
6 FRR 67 B	5.3	5.3
7 S573 Comp	5.3	5.3
8 FRR 70	5.3	6.0
9 ASC 295	5.2	6.0
10 Syn-4DMH	5.2	5.3
11 Syn-R4U9	5.1	5.0
12 FRR 68 B	5.0	5.3
13 Epic	5.0	4.7
14 RAD-FR38	4.9	6.0
15 IS-FRR 62	4.9	6.0

(Continued)

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

Cultivar or Selection	Turf Quality ¹ 2012 Avg.	Establishment ² Oct. 2011
STRONG CREEPING RED FESCUE (cont.)		
16 RAD-FR33	4.8	5.3
17 Navigator II	4.8	6.0
18 RAD-FR35	4.7	6.3
19 IS-FRR 51	4.7	6.0
20 4DRE	4.7	5.7
21 PPG-FRR 105	4.6	6.7
22 PPG-FRR 106	4.6	6.3
23 Razor	4.5	4.7
24 Pathfinder	4.5	6.0
25 RASD-FR45	4.4	5.3
26 Syn-4SP11	4.2	6.0
27 Custer FR-13	4.2	3.7
28 SR 5250	4.1	5.7
29 Cindy Lou	4.1	5.7
30 Garnet	3.9	6.7
31 4DEN	3.7	5.3
32 Lustrous	3.7	3.7
33 Audubon	3.6	4.7
34 Class One	3.4	2.7
35 Crossbow	3.3	5.7
BLUE FESCUE		
1 Blue Ray	5.3	5.7
SLENDER CREEPING RED FESCUE		
1 ASR50	5.0	5.7
2 SSC Comp	5.0	6.3
3 Shoreline	4.7	5.7
SHEEPS FESCUE		
1 Marco Polo	4.4	5.0
2 Azure	3.2	4.3
LSD at 5% =	0.8	0.7

¹9 = best turf quality

²9 = best establishment

Table 5. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2011 at Adelphia, NJ. (Includes all entries from the 2011 CTBT Fine Fescue Trial.)

Cultivar or Selection	Turf Quality ¹ 2012 Avg.	Establishment ² Oct. 2011
HARD FESCUE		
1 AHF203	6.7	5.3
2 Firefly	6.6	6.7
3 Beacon	6.2	5.3
4 Spartan II	6.1	4.3
5 AHF204	6.1	5.0
6 4HES	6.0	3.3
7 IS-FL46	5.9	5.7
8 S2SE	5.9	4.0
9 IS-FL47	5.9	5.3
10 AHF177	5.9	4.3
11 AHF188	5.8	5.7
12 SR 3150	5.8	5.3
13 3J2927	5.7	5.7
14 IS-FL50	5.6	3.7
15 3TH3	5.6	5.3
16 IS-FL48	5.5	4.3
17 Blue Ray	5.5	5.0
18 AHF181	5.4	6.0
19 4BIL	5.4	4.3
20 4NY	5.2	6.0
21 Soil Guard	4.7	3.7
22 Eureka II	4.1	4.0
CHEWINGS FESCUE		
1 ACF277	6.7	5.7
2 50C3	6.5	4.3
3 IS-FRC36	6.4	4.3
4 Radar	6.1	7.3
5 ACF266	5.7	5.3
6 Intrigue 2	5.7	4.3
7 PPG-FRC103	5.7	6.0
8 ACF283	5.6	6.0
9 ACF278	5.6	5.0
10 ACF261	5.6	4.3

(Continued)

Table 5. Fine fescue turf trial, 2011, CTBT (continued).

Cultivar or Selection	Turf Quality ¹ 2012 Avg.	Establishment ² Oct. 2011
CHEWINGS FESCUE (cont.)		
11 IS-FRC37	5.5	4.7
12 R4TC	5.4	4.3
13 Longfellow II	5.3	5.0
14 FC 09-2	5.3	5.0
15 ACF256	5.2	5.3
16 Wrigley 2	5.2	6.0
17 Culumbra II	5.2	6.0
18 4CHY	5.0	6.0
19 Longfellow III	4.9	2.7
20 Enchantment	4.9	4.7
21 PST-4C30D	4.8	4.3
22 4CHT	4.7	6.3
23 4CRD-U	4.6	6.0
24 4SHR-CH	4.0	5.3
25 PSG SPRS	3.5	6.0
26 Koket	3.2	6.7
STRONG CREEPING RED FESCUE		
1 Gibraltar Gold	6.2	5.7
2 IS-FRR62	5.6	5.7
3 IS-FRR68C	5.2	4.7
4 IS-FRR65	5.2	4.7
5 PPG-FRR105	5.2	5.7
6 PPG-FRR103	5.2	6.0
7 PPG-FRR106	5.1	6.7
8 ASC320	5.0	5.7
9 5RJ1L	5.0	5.3
10 IS-FRR61	4.9	5.0
11 Lustrous	4.9	5.7
12 Garnet	4.8	3.7
13 ASC295	4.8	6.7
14 5J51-15	4.8	5.7
15 Shademaster III	4.7	5.0

(Continued)

Table 5. Fine fescue turf trial, 2011, CTBT (continued).

Cultivar or Selection	Turf Quality ¹ 2012 Avg.	Establishment ² Oct. 2011
STRONG CREEPING RED FESCUE (cont.)		
16 ASC313	4.6	4.7
17 ASC332	4.6	5.0
18 5RJ1E	4.6	5.0
19 ASC321	4.6	5.3
20 4GRY	4.6	4.0
21 ASC319	4.6	3.7
22 4CRD-8	4.5	5.0
23 ASC333	4.4	4.3
24 OS2	4.4	3.3
25 4RED	4.3	5.7
26 PPG-FRR104	4.3	5.3
27 4CR10-08	4.2	6.3
28 Cindy Lou	4.2	5.0
29 4CRD-P	4.1	5.3
30 ORC 126	4.0	6.3
31 ASC323	3.8	4.3
32 SO	3.5	6.7
33 SDT	3.4	6.0
34 SDHT	3.2	6.0
35 SG	2.9	7.0
36 SHSM	2.9	6.3
37 SHST	2.8	6.7
38 Boreal	2.6	7.0
SLENDER CREEPING RED FESCUE		
1 PSG 5RM	5.6	4.7
2 ASR172	5.5	5.3
3 ASR184	5.2	5.0
4 ASR176	5.0	5.7
5 4SEA	4.9	5.0
6 Navigator II	4.9	5.7
7 ASR181	4.7	6.7
8 Seabreeze GT	4.0	2.3
9 Oracle	2.8	6.0
10 07-1FF	2.6	5.0

(Continued)

Table 5. Fine fescue turf trial, 2011, CTBT (continued).

Cultivar or Selection	Turf Quality ¹ 2012 Avg.	Establishment ² Oct. 2011
SHEEPS FESCUE		
1 AZB	4.9	5.3
2 Big Horn GT	4.5	4.3
3 Azay Blue	4.2	4.7
LSD at 5% =	0.7	1.6

¹9 = best turf quality

²9 = best establishment

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

Cultivar or Selection	Species	-----Turf Quality ¹ -----		
		2011-2012 Avg.	2011 Avg.	2012 Avg.
1 Firefly	Hard Fescue	7.4	7.1	7.6
2 Reliant IV	Hard Fescue	7.4	7.1	7.6
3 Oxford	Hard Fescue	7.0	6.3	7.6
4 Nordic	Hard Fescue	6.8	6.4	7.2
5 OS-3	Strong Creeping Red Fescue	6.8	6.9	6.6
6 Harpoon	Hard Fescue	6.7	6.2	7.4
7 Intrigue 2	Chewings Fescue	6.7	6.6	6.6
8 Grande 3	Tall Fescue	6.5	6.9	6.1
9 Faith	Tall Fescue	6.4	6.8	5.9
10 LSD Comp	Tall Fescue	6.2	7.1	5.2
11 FSD Comp	Tall Fescue	6.2	6.8	5.5
12 SR 5130	Chewings Fescue	6.1	6.1	6.1
13 ASR 050 Slender	Strong Creeping Red Fescue	6.1	6.4	5.8
14 Culumbra II	Chewings Fescue	6.0	6.0	6.1
15 Culumbra	Chewings Fescue	6.0	6.1	5.8
16 Firecracker	Tall Fescue	5.9	6.5	5.3
17 OC1	Chewings Fescue	5.9	6.0	5.8
18 Van Gogh	Tall Fescue	5.9	6.3	5.5
19 Monet	Tall Fescue	5.9	6.4	5.4
20 Intrigue	Chewings Fescue	5.9	6.2	5.6
21 Carson	Chewings Fescue	5.9	6.3	5.5
22 Ambassador	Chewings Fescue	5.9	6.1	5.7
23 Cardinal	Strong Creeping Red Fescue	5.9	6.4	5.4
24 ATM	Tall Fescue	5.9	6.4	5.3
25 Traverse SRP	Tall Fescue	5.8	6.2	5.5

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(Continued)

Table 6. Turfgrass trial, 2010, low maintenance (continued).

Cultivar or Selection	Species	-----Turf Quality ¹ -----		
		2011-2012 Avg.	2011 Avg.	2012 Avg.
26 CW1	Chewings Fescue	5.8	6.4	5.2
27 Shenandoah III	Tall Fescue	5.8	6.4	5.1
28 Hood	Chewings Fescue	5.8	6.0	5.5
29 Ambrose	Chewings Fescue	5.8	6.0	5.5
30 Essential	Tall Fescue	5.7	6.4	5.1
31 Speedway	Tall Fescue	5.7	6.0	5.5
32 ATF-1224	Tall Fescue	5.7	6.5	4.8
33 Shenandoah Elite	Tall Fescue	5.7	6.5	4.9
34 TPC Comp	Tall Fescue	5.7	6.5	4.9
35 Compass	Chewings Fescue	5.7	6.1	5.3
36 Epic	Strong Creeping Red Fescue	5.7	5.8	5.6
37 FCE 3	Tall Fescue	5.6	6.5	4.7
38 Rebel Advance	Tall Fescue	5.6	6.4	4.8
39 Justice	Tall Fescue	5.6	6.3	4.8
40 OR1	Strong Creeping Red Fescue	5.6	6.4	4.8
41 Falcon IV	Tall Fescue	5.5	6.2	4.7
42 Mustang 4	Tall Fescue	5.5	6.2	4.7
43 Spyder LS	Tall Fescue	5.5	6.0	5.0
44 Fortitude	Strong Creeping Red Fescue	5.5	5.6	5.3
45 3rd Millenium	Tall Fescue	5.4	6.3	4.6
46 Custer	Strong Creeping Red Fescue	5.4	5.9	4.9
47 Finelawn Xpress	Tall Fescue	5.4	6.3	4.5
48 ATF-1236	Tall Fescue	5.4	6.1	4.6
49 Millenium	Tall Fescue	5.4	5.8	5.0
50 Rhambler SRP	Tall Fescue	5.4	6.0	4.8

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(Continued)

Table 6. Turfgrass trial, 2010, low maintenance (continued).

Cultivar or Selection	Species	-----Turf Quality ¹ -----		
		2011-2012 Avg.	2011 Avg.	2012 Avg.
51 SR 8650	Tall Fescue	5.3	5.9	4.8
52 Falcon NG	Tall Fescue	5.3	6.1	4.5
53 Pathfinder	Strong Creeping Red Fescue	5.3	5.4	5.2
54 DaVinci	Tall Fescue	5.2	5.7	4.7
55 Picasso	Tall Fescue	5.2	6.1	4.2
56 Six Point	Tall Fescue	5.1	5.8	4.4
57 Jaguar 4G	Tall Fescue	5.1	5.9	4.3
58 2nd Millenium	Tall Fescue	5.1	5.8	4.5
59 Rembrandt	Tall Fescue	5.1	5.9	4.2
60 Masterpiece	Tall Fescue	5.1	5.9	4.3
61 Cayenne	Tall Fescue	5.1	5.8	4.4
62 Azure	Sheeps Fescue	5.0	4.8	5.4
63 Scorpion II	Tall Fescue	5.0	5.9	4.1
64 Pixie	Tall Fescue	5.0	5.7	4.4
65 Tiara	Strong Creeping Red Fescue	5.0	5.5	4.5
66 Inferno	Tall Fescue	4.9	5.9	4.1
67 ATF-1334	Tall Fescue	4.8	5.5	4.1
68 ATF 1327	Tall Fescue	4.8	5.3	4.2
69 Cezanne RZ	Tall Fescue	4.7	5.4	4.1
70 SRX 52961	Strong Creeping Red Fescue	4.7	4.4	5.0
71 Eugene	Strong Creeping Red Fescue	4.5	5.0	4.2
72 Arid 3	Tall Fescue	4.5	5.3	3.7
73 MRD Comp	Tufted Hairgrass	4.4	5.1	3.6
74 Green Keeper	Tall Fescue	4.2	4.7	3.7
75 LRD Comp	Tufted Hairgrass	4.1	5.0	3.3

79

(Continued)

Table 6. Turfgrass trial, 2010, low maintenance (continued).

Cultivar or Selection	Species	-----Turf Quality ¹ -----		
		2011-2012 Avg.	2011 Avg.	2012 Avg.
76 ERD Comp	Tufted Hairgrass	3.8	4.7	2.9
77 Shade King	Tufted Hairgrass	3.6	4.7	2.5
78 Jesup Max Q	Forage Tall Fescue	3.3	3.3	3.2
79 K-31	Tall Fescue	3.1	3.2	3.1
80 Martin 2	Forage Tall Fescue	2.8	2.9	2.8
81 Shiloh II	Orchardgrass	2.6	2.7	2.6
LSD at 5% =		0.8	0.8	1.1

08

¹9 = best turf quality

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

	2009		2010		2011		2012	
	N ¹	Ht ²	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
Table 2 (2009).....			1.0	1.5	1.0	1.5	1.5	1.5
Table 3 (2010).....					1.0	1.5	1.5	1.5
Table 4 (2011).....							1.5	1.5
Table 5 (2011 CTBT)							1.5	1.5
Table 6 (2010 Low maintenance)					1.0	2.5	1.7	2.5

¹Annual N applied (lb/1000 ft²)

²Mowing height in inches