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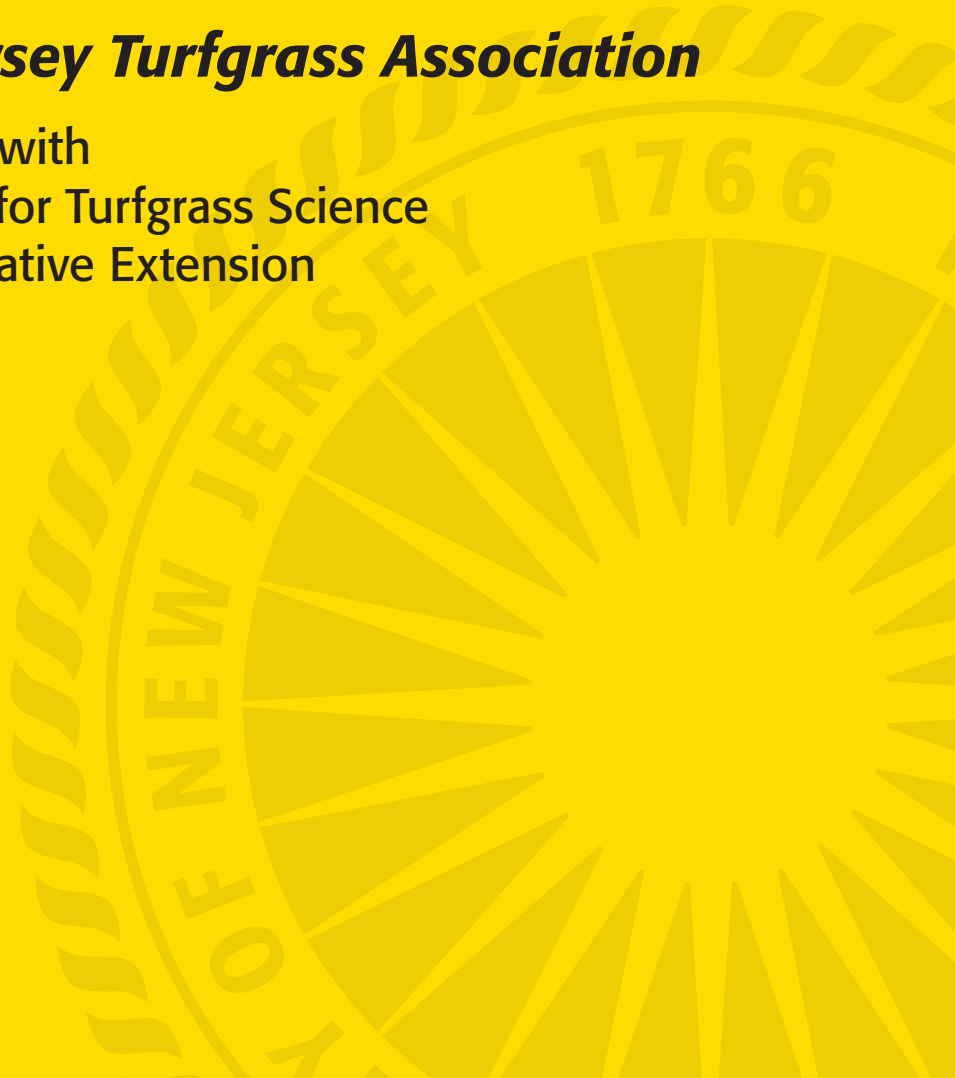

2007 RUTGERS TURFGRASS PROCEEDINGS

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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 2007 New Jersey Turfgrass Expo. Publication of these lectures provides a readily available source of information covering a wide range of topics and includes technical and popular presentations of importance to the turfgrass industry.

This proceedings also includes research papers that contain original research findings and reviews of selected subjects in turfgrass science. These papers are presented primarily to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

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Dr. Ann Brooks Gould, Editor
Dr. Bruce B. Clarke, Coordinator

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

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The fine fescues include several species from the genus *Festuca*. They are commonly identified by their very fine leaf texture. The species used for turf include both bunch types [Chewings fescue (*Festuca rubra* L. subsp. *fallax* (Thuill.) Nyman), hard fescue (*F. brevipila* R. Tracey), sheep fescue (*F. ovina* L.), and blue fescue (*F. glauca* Vill.)] and rhizomatous types [slender creeping red fescue (*F. rubra* L. var. *littoralis* Vasey ex Beal) and strong creeping red fescue (*F. rubra* L. subsp. *rubra*)].

Fine fescues are well suited for many dry-land and low maintenance sites because they tolerate drought and shade and have a low requirement for nitrogen fertility. Strong creeping and slender creeping red fescues spread by producing rhizomes and tend to form an open turf canopy. Of the two, the strong creeping red fescues are more rhizomatous and have a more open growth habit. Strong creeping red fescues are often used as a companion grass in mixtures with cultivars of Kentucky bluegrass that have complementary color, growth habit, and density. Compared to most Kentucky bluegrasses, these fescues have better seedling vigor and establishment, and will dominate in heavily shaded areas where Kentucky bluegrass is not well adapted.

Hard fescues are bunch type grasses that are fairly resistant to disease under low maintenance. These fescues grow slowly, which helps to reduce maintenance costs, and they are commonly used for control of soil erosion in low maintenance areas.

Chewings fescues are also bunch type grasses, and compared to slender and strong creeping red fescues, most of the recently released Chewings cultivars have improved turf-type characteristics such as higher density and finer leaf texture. Chewings fescues can tolerate a lower mowing height than the red fescues, thus they may be more persistent when blended with Kentucky bluegrasses.

Sheep and blue fescues have stiff, bluish-green leaves and perform better under very low maintenance. Both species are used in wildflower mixes for soil stabilization, and sheep fescues are also used to stabilize sandy soils and banks along irrigation canals. The brilliant bluish foliage of these species is also useful in ornamental landscape plantings. Currently, the Rutgers breeding program is developing blue fescue x hard fescue hybrids to combine the valuable traits of blue fescue with the higher turf quality of hard fescue.

Although *Deschampsia* and *Koeleria* are two emerging turfgrass species that are well adapted to low maintenance, they lack the heat and traffic tolerance needed to persist as a turfgrass in the transition zone of the United States. Current projects are designed to identify selections from these species that have improved turf-type characteristics. Due to their striking appearance, especially during flowering, *Deschampsia* and *Koeleria* may also prove to be valuable additions to the ornamental landscape.

Fine fescues grow best under reduced nitrogen fertilization. Ideally, fine fescue should be fertilized with no more than 1 to 2 lb nitrogen/1000 ft^2 per year (Turgeon, 2005). Hard, blue, and sheep fescues require less nitrogen fertilizer than the other fine fescue species. With the exception of Chewings fescue, which can be mown closely (0.5-inch height of cut), the other fine fescue species do not tolerate a low height of cut. Mowing heights of 2.5 inches or higher are typically recommended for fine fescues.

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Fine fescues that contain the *Neotyphodium* endophyte can exhibit enhanced tolerance to insects, diseases, and environmental stress (Smiley et al., 2005). This endophyte is a fungus that grows internally in the crown and leaf sheath tissues of the turfgrass plant. The impact of endophytes on plant growth are generally not apparent during periods of low environmental stress; under stressful conditions, however, the endophyte-plant relationship produces compounds that improve resistance to many insects that feed above ground, some diseases such as red thread (caused by the fungus *Laetisaria fuciformis*) (Bonos et al., 2005; Popay and Bonos, 2005), and some abiotic stresses including drought.

Breeding efforts continue to enhance turf characteristics of the fine fescues and improve resistance to diseases, insects, and environmental stresses. Incorporation of endophytes into improved plant material provides an efficient way to increase stress tolerance. The Rutgers turfgrass breeding program, in cooperation with the National Turfgrass Evaluation Program (NTEP), is involved in an extensive program to evaluate many cultivars and experimental selections for turf performance.

PROCEDURES

Fine fescue trials were conducted at the Rutgers Horticultural Research Farm II at North Brunswick, NJ (Table 1) and the Rutgers Plant Biology and Pathology Research and Extension Farm at Adelphia, NJ (Tables 2 to 7). An additional low maintenance test consisting of the fine fescues, tall fescue (*Festuca arundinacea* Schreb.), Texas x Kentucky bluegrass hybrids (*Poa arachnifera* Torr. x *P. pratensis* L. hybrids), Kentucky bluegrass (*P. pratensis* L.), colonial bentgrass (*Agrostis capillaris* L.), and selections of *Deschampsia* sp. was conducted at the Rutgers Plant Biology and Pathology Research and Extension Farm at Adelphia, NJ (Table 5).

Tests at Adelphia were established in open areas with good air circulation. The trial at North Brunswick was in an area with reduced air circulation and thus with greater disease pressure. All fine fescue entries were seeded in 3 x 5 ft plots at a rate of 3.7 lb/1000ft^2. In the low maintenance trial, tall fescue, Texas x Kentucky bluegrass hybrids, Kentucky bluegrass, *Deschampsia*, and colonial bentgrass were seeded in 3 x 5 ft plots at a rate of 3.7, 2.2, 2.2, 2.2, and 0.5 lb/1000ft^2, respectively. Plots were replicated three times in a randomized complete block design.

Tests were fertilized at different rates of nitrogen (N) and were maintained at different mowing heights (Table 8). After establishment, tests reported in Tables 1 to 4, 6, and 7 were irrigated only to avoid severe drought stress and dormancy. Plots were mowed frequently to avoid excessive accumulation of clippings. At Adelphia, broadleaf weeds were controlled with spring or fall applications of 2,4-D, dicamba, and MCPP; Dimension (dithiopyr) was used in spring and fall to control annual grassy weeds; and Merit (imidacloprid) was applied in July for grub control. At North Brunswick, Dimension was applied to control annual grassy weeds; and Merit was applied in July for grub control.

The low maintenance test (Table 5) received a total of 2 lb N/1000ft^2 in 2006 and 1 lb N/1000ft^2 in 2007. No supplemental irrigation was applied. The trial was mowed with a Toro Groundsmaster rotary mower once per week at 2.5 inches (Table 8). These conditions were applied to simulate a typical low maintenance lawn in NJ.

The seven tests were evaluated throughout the year by visually rating for turf quality. Turf quality is a subjective rating that is based on density, texture, brightness, uniformity, color, growth habit, and damage due to diseases or insects. Other attributes evaluated included cover (%), resistance to red thread and leaf spot (caused by *Dreschlera* spp.), color, and spring green-up. All ratings, except for cover, were taken using a 1 to 9 scale where 9 represented the best turf quality, darkest green color, or least disease. Cover was evaluated on a 0 to 100% scale where 100 represented complete turfgrass cover. All data were subjected to analysis of variance. Means were separated using Fisher's protected least significant difference (LSD) means separation test.

RESULTS AND DISCUSSION

To facilitate the comparison of cultivars and selections within a species, data presented in Tables 1 through 4 and 6 through 7 are grouped by species and ranked by their multiple year quality average. Entries in Table 5 are ranked according to the turf quality average for 2007. Additional characteristics observed in various tests are discussed below.

Turf Quality

In general, the Chewings, hard, and strong creeping red fescues performed better than the other

species; many selections formed a dense, attractive turf (Tables 1 to 4, 6 to 7). Turf quality was good for the Chewings fescues SR 5130, 7 Seas, and Zodiac; the hard fescues Gotham, Spartan II, and Viking; and the strong creeping red fescues Fortitude, Epic, and Cindy Lou. Although improvement in the turf quality of *Deschampsia*, *Koeleria*, and blue, sheep, and slender creeping red fescues continues, these species still rank lower than the others in overall turf quality (Tables 1 to 7). It is interesting to note that hard fescue x blue fescue hybrids have dramatically improved compared to the blue fescue entries (Tables 2 to 4 and 7). The overall average quality of experimental selection SRX3BHO, a hard fescue x blue fescue hybrid, outperformed strong creeping red fescue (Table 3). This is an example of the progress possible for improving open-pollinated turfgrass species.

Cover

Cover is a measure of the competitive ability of a turfgrass on a long-term basis; cultivars and selections with more complete cover are better able to persist under the environment of a given trial, whereas poor cover is characteristic of a declining turf stand. Cover for Zodiac Chewings fescue and Fortitude strong creeping red fescue was almost 100% after 4 years of growth (Table 1). Alternatively, cover for the hard fescues ranged from 78 to 40% (Gotham and Scaldis, respectively) (Table 1). Most of the thinning in the hard fescues was attributed to previous damage from summer patch (caused by the fungus *Magnaporthe poae*) combined with the slow recuperative ability of the species.

Low Maintenance Cultivar Evaluation

In 2005, eight cool-season turfgrass species (hard, strong creeping red, and Chewings fescues, tall fescue, Kentucky bluegrass, Texas x Kentucky bluegrass hybrids, colonial bentgrass, and *Deschampsia* sp.) were evaluated for performance under low maintenance conditions at the Plant Biology Research and Extension farm at Adelphia, NJ. This study is important since many lawns in New Jersey are maintained under low maintenance. In addition, there is growing interest to reduce fertilization and irrigation in turfgrass areas.

In general, the fine fescues exhibited the best turf quality under low maintenance (Table 5). The turf quality of HOE and OH1 comp hard fescues was best, followed by Oxford and Nordic hard fescues and OR3 comp strong creeping red fescue. Of the Chewings fescues included in the trial, OC2 and OC3 comp performed better than the other Chewings fescues entries. The experimental selection A03TB-417 was the top performing Texas x Kentucky bluegrass hybrid, and of the Kentucky bluegrass cultivars, the turf quality of Aura and Princeton P-105 was best. Spring green-up within the low maintenence cultivars and selections was also variable, ranging from 6.0 (OR3 strong creeping red fescue and Falcon IV tall fescue) to 2.0 (Sonic Kentucky bluegrass) (Table 5). This trait is especially obvious during late winter or early spring.

Disease Resistance

Disease resistance within the fescue species can be quite variable. Leaf spot is a foliar disease that affects all cool-season turfgrasses. Differences in tolerance to this disease were evident among many of the cultivars and selections tested (Table 6). As a group, Chewings and hard fescues exhibit good resistance to leaf spot: disease resistance of RAD-FC10 and RAD-FC3 Chewings fescue and Stonehenge hard fescue was good. Other cultivars and selections, including SR 5250 and SRX CA529 strong creeping red fescue, were extremely susceptible to this disease.

Red thread is a problem for cool-season turfgrasses grown under low nitrogen conditions. In general, the Chewings and hard fescues were more tolerant of red thread compared to strong creeping red fescues (Tables 1, 4, and 7).

SUMMARY

Breeding efforts continue to improve turf-type characteristics in the fine fescues. In an effort to increase the overall sustainability of the turfgrass system, special attention is paid to drought, insect, and disease resistance in the Rutgers turfgrass breeding program. The goal of the program is to develop turfgrasses adapted to stressful conditions with improved turf quality and requiring fewer inputs. We continue to use endophytes to compliment breeding efforts to improve the natural ability of a cultivar to persist under stress. The Rutgers breeding program continues to develop experimental selections with better quality; further improvements, however, are always needed.

ACKNOWLEDGMENTS

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Table 1. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2003 at North Brunswick, NJ. (Includes all entries of the 2003 National Fine Fescue Test - NTEP.)

	Cultivar or Selection	Turf Quality[1] 2003-2007 Avg.	Turf Quality[1] 2004 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.	Red Thread[2] June 2007	Cover Oct. 2007 (%)
	CHEWINGS FESCUE							
1	Zodiac	5.9	6.5	4.9	5.8	6.6	8.3	98.0
2	7 Seas	5.4	6.3	4.7	5.5	5.3	6.0	92.7
3	DP 77-9885	5.2	6.2	4.5	4.7	5.5	5.7	91.7
4	Compass	5.0	5.8	4.2	4.8	5.2	4.7	91.0
5	IS-FRC 17	5.0	6.0	4.1	4.3	5.3	6.3	90.0
6	SR 5130	4.8	6.9	4.3	3.5	4.6	7.7	75.0
7	Longfellow II	4.6	5.6	3.6	4.0	5.1	6.7	90.0
8	Ambassador	4.5	5.2	3.7	4.2	4.6	5.0	85.0
9	DP 77-9886	4.4	5.3	3.9	3.9	4.5	6.7	74.3
10	Treazure II	4.0	6.2	3.3	2.6	3.8	5.3	71.7
11	J-5	3.9	4.6	3.3	3.6	4.1	5.7	78.3
12	Intrigue	3.8	4.9	3.2	3.1	3.8	7.0	75.0
13	Culumbra II	3.5	5.1	3.4	2.5	3.2	6.3	46.7
14	Cascade	3.0	3.8	2.6	2.1	3.3	6.0	58.3
	STRONG CREEPING RED FESCUE							
1	Fortitude	5.9	6.5	5.5	6.0	5.7	7.7	93.3
2	Epic	5.7	6.4	5.4	5.8	5.4	7.0	80.0
3	Cindy Lou	5.6	5.5	5.2	6.3	5.2	5.3	77.7
4	Cardinal	5.5	6.3	4.9	5.9	4.9	6.0	85.0
5	DLF-RCM	5.5	5.7	4.7	6.0	5.6	7.0	81.7

(Continued)

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 2003-2007 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	2007 Avg.	Red Thread[2] June 2007	Cover Oct. 2007 (%)
	STRONG CREEPING RED FESCUE (cont.)							
6	Garnet	5.5	6.1	5.1	6.1	4.9	6.3	88.3
7	Wendy Jean	5.3	6.0	4.8	5.6	5.0	6.0	77.7
8	DP 77-9360	5.1	5.0	5.1	5.7	4.6	5.3	75.0
9	IS-FRR 29	4.9	5.5	4.5	5.2	4.4	4.7	75.0
10	DP 77-9578	4.9	5.3	4.4	5.2	4.8	5.3	81.7
11	DP 77-9579	4.8	5.1	4.0	5.6	4.4	4.7	79.3
12	C-SMX	4.8	5.5	4.2	4.5	4.9	5.7	75.0
13	Pathfinder	4.7	4.6	4.6	5.1	4.5	5.3	86.7
14	PST-8000	4.7	5.7	4.0	4.4	4.6	6.7	85.0
15	BMXC-502	4.4	5.2	3.6	4.4	4.2	6.3	75.0
16	Celestial	4.3	5.4	3.6	4.0	4.2	3.7	75.0
17	Foxfire	4.3	5.4	3.6	4.3	3.8	5.0	66.7
18	Razor	4.0	4.7	3.8	4.3	3.2	5.3	61.7
19	Jasper II	3.8	5.4	3.1	3.7	3.1	3.3	53.3
20	Audubon	3.8	4.5	3.3	3.8	3.5	6.3	65.0
21	IS-FRR 23	3.7	4.2	3.2	3.9	3.7	4.7	68.3
22	Splendor	3.7	4.4	2.9	3.3	4.1	5.7	65.0
23	C03-4676	3.6	4.4	3.5	3.3	3.4	3.7	61.7
24	Navigator	3.5	4.3	2.9	3.2	3.5	3.3	46.7
25	Musica	3.1	5.3	3.0	1.3	2.7	7.0	38.3
26	Shademaster	3.0	2.8	2.7	2.8	3.4	3.3	58.3
27	Oracle	2.5	2.5	2.5	2.4	2.6	4.3	55.0
28	Boreal	2.2	2.2	2.0	2.1	2.6	6.0	38.3

(Continued)

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 2003-2007 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	2007 Avg.	Red Thread[2] June 2007	Cover Oct. 2007 (%)
	HARD FESCUE							
1	Gotham	4.7	5.8	4.8	3.4	5.0	7.7	78.3
2	Spartan II	4.6	5.6	4.5	3.5	5.0	7.0	75.0
3	Oxford	4.5	4.8	4.4	4.0	4.9	6.7	73.3
4	Predator	4.4	4.6	4.0	4.2	4.7	5.7	73.3
5	Berkshire	4.2	4.7	4.3	3.6	4.3	5.0	63.3
6	Firefly	4.0	5.1	3.7	3.0	4.4	6.3	71.7
7	Reliant IV	3.9	5.3	3.8	2.7	3.7	5.7	63.3
8	Minataur	3.7	3.9	3.5	3.6	3.8	6.0	73.3
9	SR 3000	3.5	4.0	3.4	2.9	3.8	5.7	63.3
10	SRX 3K	3.5	3.9	3.1	3.3	3.6	6.3	60.0
11	Chariot	3.2	4.1	3.1	2.2	3.5	7.0	56.7
12	Scaldis	2.9	3.1	2.9	2.5	3.2	7.3	40.0
	SLENDER CREEPING RED FESCUE							
1	Seabreeze	3.6	3.8	2.8	3.5	4.2	6.0	80.0
2	Shoreline	2.8	4.6	2.8	1.3	2.5	6.7	40.0
3	Dawson E	2.5	3.5	2.1	1.6	2.7	6.7	39.3
	SHEEPS FESCUE							
1	Quatro	3.2	3.9	3.3	2.6	3.2	5.0	53.3

(Continued)

Table 1 (continued).

Cultivar or Selection	Turf Quality[1] 2003-2007 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	2007 Avg.	Red Thread[2] June 2007	Cover Oct. 2007 (%)
LSD at 5% =	0.8	0.7	0.9	1.4	1.1	2.2	21.3

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

Table 2. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2003 at Adelphia, NJ. (Includes all entries of the 2003 National Fine Fescue Test - NTEP.)

	Cultivar or Selection	Turf Quality[1] 2004-2007 Avg.	Turf Quality[1] 2004 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.	Color[2] June 2007
	HARD FESCUE						
1	IS-FL 36	6.5	5.7	6.9	6.8	6.6	5.3
2	Spartan II	6.5	6.2	6.7	6.7	6.3	5.3
3	Firefly	6.4	5.9	6.7	6.4	6.7	6.3
4	IS-FL 35	6.4	5.9	6.6	6.7	6.5	5.0
5	Gotham	6.3	5.8	6.7	6.4	6.3	5.3
6	Predator	6.2	5.7	6.7	6.6	5.8	6.3
7	PST-4HES	6.1	5.7	6.3	6.4	5.8	4.3
8	SR 3150	6.1	5.3	6.5	6.5	5.8	4.3
9	SRX NJU	6.0	5.7	6.4	6.1	5.9	5.0
10	Oxford	6.0	5.6	6.0	5.9	6.4	7.0
11	Berkshire	6.0	5.5	6.2	6.2	6.0	6.0
12	Reliant IV	5.9	5.6	6.1	6.1	5.9	5.3
13	PST-4HM	5.9	5.4	6.4	6.0	5.8	6.0
14	RAD-FLPCX	5.9	5.2	5.7	6.1	6.6	7.7
15	IS-FL 29	5.7	5.2	5.7	5.9	6.0	6.0
16	PST-Syn-4NY	5.7	5.5	5.9	6.1	5.3	4.3
17	SRX 3324	5.6	5.0	6.0	5.5	5.8	5.7
18	SR 3100	5.5	5.3	5.6	5.7	5.5	5.7
19	SRX 3STDNE	5.5	5.1	5.3	5.7	5.9	5.7
20	Osprey	5.4	4.9	5.6	5.7	5.4	5.7
21	PST-Syn-4HT	5.4	4.9	5.6	5.8	5.2	5.0
22	Discovery	5.4	4.9	5.3	5.8	5.6	5.7
23	Fortitude	5.4	5.6	5.5	5.5	4.9	7.7
24	03-XHF	5.3	4.8	5.4	5.6	5.4	6.0
25	Hardtop	5.3	4.8	5.4	5.4	5.6	7.0
26	Aurora	5.2	4.8	5.4	5.5	5.2	6.0
27	Stonehenge	5.2	4.6	5.3	5.5	5.3	5.3
28	Ecostar	5.2	4.5	5.4	5.5	5.3	5.0
29	PST-4BIL	5.2	4.8	5.2	5.3	5.3	6.3
30	Chariot	5.1	4.7	5.0	5.4	5.2	5.0
31	03-HFEXP	5.1	4.6	4.9	5.5	5.4	6.7
32	SRX 3K	5.1	4.8	5.2	4.9	5.3	6.7
33	Reliant II	5.1	4.6	5.0	5.4	5.2	5.0
34	SR 3000	5.0	4.7	5.3	5.2	4.7	5.0
35	Minotaur	4.9	4.7	4.8	5.1	4.8	6.3

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2004-2007 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	2007 Avg.	Color[2] June 2007
	HARD FESCUE (cont.)						
36	Nordic	4.8	5.3	4.3	5.1	4.4	6.0
37	PST-4CU3	4.7	4.6	4.6	5.0	4.7	5.7
38	SRX CA3DE	4.7	5.2	4.1	5.1	4.5	5.3
39	Rescue 911	4.6	4.3	4.4	5.1	4.7	5.7
40	Scaldis	4.6	4.2	4.6	4.8	4.8	5.3
	CHEWINGS FESCUE						
1	SR 5130	6.2	6.6	6.3	6.2	5.8	4.7
2	RAD-FC3	5.8	5.7	6.1	5.5	6.0	7.0
3	PST-Syn-4TL	5.8	5.8	6.3	5.6	5.4	4.0
4	IS-FRC 17	5.8	5.8	5.9	5.9	5.5	6.0
5	IS-FRC 12	5.8	5.8	6.0	5.4	5.9	5.7
6	Zodiac	5.7	5.6	6.1	5.6	5.4	5.7
7	RAD-FCPCX	5.7	5.7	5.5	5.3	6.2	6.7
8	Longfellow II	5.6	5.8	5.6	5.5	5.6	5.7
9	Ambassador	5.4	5.1	5.5	5.8	5.3	6.0
10	Treazure II	5.4	5.4	6.0	5.2	5.2	4.3
11	Compass	5.3	5.1	5.4	5.6	5.4	5.7
12	Ambrose	5.3	4.9	5.6	5.4	5.5	4.7
13	IS-FRC 8	5.3	5.5	4.9	5.1	5.5	6.0
14	RAD-FCCX	5.3	5.5	4.8	5.2	5.5	6.3
15	7 Seas	5.2	5.4	4.6	5.7	5.0	6.3
16	Culumbra II	5.1	5.8	4.6	5.7	4.4	6.7
17	Dp 77-9885	4.9	5.1	4.4	4.8	5.1	6.3
18	SRX 51FF	4.8	5.0	4.6	5.0	4.8	6.0
19	SRX OH51H	4.8	5.0	4.5	4.7	5.2	6.0
20	Dp 77-9886	4.8	4.8	5.1	4.9	4.5	4.3
21	Shadow II	4.8	4.9	4.8	4.8	4.7	4.3
22	PST-Syn-4CH3	4.7	5.1	4.5	5.0	4.4	5.0
23	B2CF	4.7	5.1	4.1	4.8	4.9	6.3
24	PST-Syn-4RC	4.7	5.3	4.5	4.5	4.5	4.0
25	J-5	4.6	4.6	4.6	4.6	4.6	5.7
26	Treasure	4.6	4.7	5.0	4.4	4.2	3.0
27	Bridgeport II	4.6	5.0	4.0	4.6	4.7	6.7
28	03-CHFSHHY	4.5	4.8	4.1	4.7	4.5	5.7
29	PST-Syn-4TY	4.5	4.7	4.9	4.2	4.2	3.7
30	Intrigue	4.5	5.1	4.0	4.8	4.1	6.0

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2004-2007 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	2007 Avg.	Color[2] June 2007
	CHEWINGS FESCUE (cont.)						
31	Brittany	4.4	4.7	4.1	4.5	4.3	5.7
32	Bargreen	4.3	4.5	4.6	4.3	3.9	4.3
33	PST-Syn-4FRC	4.2	4.5	4.2	4.3	3.8	3.3
34	Cascade	4.0	4.0	4.2	4.0	3.7	5.3
35	Jamestown II	3.7	3.7	3.1	3.9	4.1	5.0
	BLUE x HARD FESCUE HYBRIDS						
1	PST-4BUG	5.6	5.6	5.8	5.6	5.4	6.7
2	PST-4MB-BS	4.6	4.6	4.5	4.8	4.5	6.0
3	Little Bighorn	4.5	4.7	4.4	4.7	4.2	5.7
	HARD x BLUE FESCUE HYBRID						
1	SRX 3BH	5.5	5.2	5.3	5.7	5.9	7.3
	STRONG CREEPING RED FESCUE						
1	Epic	5.3	5.8	5.1	5.1	5.3	6.3
2	Cardinal	5.2	5.2	5.0	5.2	5.3	6.7
3	PST-Syn-48E	5.1	5.2	5.2	5.0	4.9	7.7
4	SR 5250	5.1	5.1	5.1	5.1	5.0	6.7
5	Musica	5.1	5.1	5.0	5.5	4.6	4.7
6	C-SMX	5.1	5.1	4.6	5.3	5.2	7.0
7	IS FRR 29	5.0	5.2	4.6	4.9	5.3	7.7
8	Dp 77-9360	5.0	5.2	4.8	5.2	4.7	7.0
9	PST-Syn-4L8	5.0	5.7	4.9	4.9	4.4	7.0
10	Wendy Jean	4.9	5.0	5.0	5.1	4.8	6.0
11	DW2	4.9	5.3	4.5	5.1	4.8	7.0
12	Crossbow	4.9	5.8	4.5	5.0	4.3	7.0
13	TL1	4.9	4.9	4.5	4.9	5.2	7.0
14	DLF-RCM	4.9	5.1	5.0	4.9	4.5	6.7
15	Dp 77-9578	4.8	5.2	4.5	4.8	4.8	6.7
16	Garnet	4.8	5.1	4.6	4.7	4.6	6.3
17	PST-8000	4.8	5.2	4.5	4.8	4.5	6.7
18	RAD-FRPCCX	4.6	5.1	4.6	4.7	4.1	6.7
19	IS-FRR 23	4.6	5.4	4.5	4.5	4.1	7.3
20	PST-Syn-4P8	4.6	4.7	4.8	4.7	4.2	7.3

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2004-2007 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	2007 Avg.	Color[2] June 2007
	STRONG CREEPING RED FESCUE (cont.)						
21	Splendor	4.6	5.1	4.1	4.8	4.3	8.0
22	BMXC-502	4.6	5.0	4.5	4.6	4.1	6.7
23	Dp 77-9579	4.5	4.8	4.4	4.6	4.3	6.7
24	Pathfinder	4.5	4.7	4.3	4.4	4.7	7.0
25	Aberdeen	4.4	4.7	4.4	4.5	4.1	6.7
26	PST-4UX	4.4	4.6	4.4	4.5	4.1	7.7
27	Razor	4.3	4.9	3.9	4.6	3.7	7.0
28	Celestial	4.2	4.7	3.8	4.4	4.0	7.0
29	01-Fr-1	4.2	4.7	4.0	4.4	3.8	6.7
30	Jasper II	4.2	4.7	4.2	4.4	3.6	7.0
31	SR 5210	4.2	4.2	3.9	4.5	4.1	6.7
32	Fenway	4.2	3.9	3.9	4.5	4.2	6.7
33	ASC 266	4.1	4.6	3.9	4.2	3.9	7.3
34	SRX CA529	4.1	4.9	3.9	4.7	2.9	7.0
35	Bargena III	4.1	4.5	3.8	4.2	3.9	7.3
36	SRX CA521	4.0	4.2	3.8	4.3	3.7	7.0
37	C03-4676	4.0	4.3	3.7	4.0	3.9	7.7
38	Audubon	3.9	4.7	3.4	4.3	3.3	7.3
39	PST-Syn-4CRZ	3.9	4.3	3.4	4.0	3.8	7.7
40	Navigator	3.9	4.3	3.7	4.5	2.9	7.0
41	PST-4EL	3.7	4.4	2.9	4.3	3.4	7.7
42	Florentine GT	3.7	3.8	3.2	3.9	3.7	8.7
43	Aruba	3.7	4.0	3.7	3.5	3.3	5.0
44	Shademaster	3.4	3.4	2.7	3.7	3.7	6.0
45	SR 5200E	3.4	3.4	3.1	3.5	3.4	6.3
46	Oracle	3.3	3.3	2.8	3.8	3.4	6.7
47	Bargena II	3.3	3.2	2.8	3.5	3.5	6.7
48	Boreal	3.1	3.2	2.8	3.4	3.2	6.3
	SHEEPS FESCUE						
1	Quatro	4.8	4.8	5.0	4.5	4.8	5.0

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2004-2007 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	2007 Avg.	Color[2] June 2007
	SLENDER CREEPING RED FESCUE						
1	SR 5100	4.7	5.0	4.8	5.0	4.2	4.0
2	Barcrown II	4.5	5.4	4.2	5.0	3.5	6.7
3	Shoreline	4.4	5.1	3.9	4.6	4.0	6.3
4	SRX 55SLQ	4.2	4.5	4.1	4.3	4.1	5.3
5	Barcrown	4.1	4.7	4.3	4.1	3.2	4.0
6	Seabreeze II	4.1	5.5	3.7	4.5	2.6	5.0
7	Seabreeze	4.0	4.9	3.3	4.3	3.6	6.3
8	Dawson E	3.8	4.1	3.7	4.1	3.4	6.0
	BLUE FESCUE						
1	SR 3210	4.1	4.3	4.0	4.4	3.9	7.3
2	SR 3200	3.9	3.8	4.1	4.1	3.7	5.7
	KOELERIA						
1	Barkoel	3.5	4.6	4.0	3.1	2.4	1.0
	LSD at 5% =	0.4	0.5	0.6	0.6	0.7	1.4

[1]9 = best turf quality
[2]9 = darkest green color

Table 3. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2004 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 2005-2007 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.
		HARD FESCUE			
1	IS-FL 35-04	6.8	6.9	6.4	7.1
2	IS-FL 36-04	6.8	7.2	6.1	6.9
3	RH comp	6.6	6.7	6.3	7.0
4	IS-FL 28-03	6.5	6.8	6.2	6.5
5	SRX3961	6.4	6.7	6.1	6.4
6	MH comp	6.3	6.3	5.9	6.6
7	SRX3NJU	6.3	6.9	5.7	6.3
8	IS-FL 36-03	6.2	6.2	5.9	6.5
9	SRXCA396	6.1	6.0	6.0	6.2
10	Oxford	6.0	5.9	5.8	6.1
11	IS-FL 35-03	5.9	6.2	5.6	5.8
12	Viking	5.9	5.9	5.6	6.1
13	Nordic	5.8	5.7	5.6	6.2
14	Reliant	5.8	5.4	5.7	6.2
15	Eureka II	5.7	5.4	5.7	6.1
16	BR-HF	5.7	5.5	5.7	6.0
17	PST-4BIL-BS	5.6	5.2	5.5	6.1
18	Ecostar	5.6	5.4	5.3	6.1
19	Rescue 911	5.4	5.3	5.2	5.8
20	IS-FL 28-04	5.4	5.5	5.2	5.6
21	Stonehenge	5.4	5.0	5.6	5.6
22	PST-4CU3	5.4	5.1	5.1	5.9
23	Aurora II	5.3	5.2	5.2	5.5
24	04-EXPHF	5.3	4.8	5.3	5.7
25	SR 3100	5.0	5.0	4.9	5.2
26	Little Bighorn	4.9	4.8	4.6	5.4
27	SRX 3K	4.9	4.6	4.9	5.2
28	SRXCA3DE	4.5	4.5	4.5	4.3
		CHEWINGS FESCUE			
1	Treazure II	6.0	6.6	5.7	5.6
2	PST-SYN-4CHY	5.8	6.0	5.5	5.9
3	SR 5130	5.6	5.7	5.2	5.8
4	IT comp	5.4	5.8	5.1	5.2
5	Compass	5.3	6.0	4.8	5.2

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2005-2007 Avg.	2005 Avg.	2006 Avg.	2007 Avg.
	CHEWINGS FESCUE (cont.)				
6	Longfellow	5.3	5.3	5.3	5.4
7	PST-SYN-4CHM	5.3	5.8	5.3	4.8
8	Ambassador	5.3	5.5	4.9	5.4
9	FR6-JD 03	5.2	5.4	5.2	5.1
10	SRXOH51H	5.2	5.0	5.1	5.5
11	PST-SYN-4CH3	5.2	5.5	5.2	4.8
12	IS-FRR 23	5.1	5.8	4.6	5.0
13	Shadow II	5.1	5.1	5.2	5.0
14	Longfellow II	5.1	5.3	4.7	5.2
15	PST-SYN-FRCE	4.6	5.0	4.5	4.3
16	SR 5100	4.5	4.4	4.4	4.8
17	Ambrose	4.5	4.3	4.3	4.8
18	Culumbra	4.4	4.5	4.2	4.5
19	Jamestown II	3.9	3.8	4.1	3.7
	HARD x BLUE FESCUE HYBRID				
1	SRX3BHO	5.4	5.0	5.1	6.0
	STRONG CREEPING RED FESCUE				
1	IS-FRR 43	5.2	5.5	4.8	5.2
2	LR comp	4.9	5.2	4.5	5.0
3	PST-8000	4.6	5.2	4.4	4.1
4	Pathfinder	4.5	4.5	4.4	4.8
5	Cindy Lou	4.3	4.4	4.4	3.9
6	Audubon	4.1	4.1	3.9	4.3
7	SR 5250	4.1	4.7	3.9	3.6
8	PST-4VS-BS	4.0	4.5	3.9	3.7
9	Inverness	4.0	4.0	3.9	4.0
10	ASC-266	4.0	4.5	4.0	3.3
11	SRXCA529	3.9	4.2	3.9	3.7
12	Epic	3.9	4.5	4.3	2.9
13	Foxy	3.9	4.2	3.9	3.5
14	SW RSL6032	3.9	4.4	4.1	3.2
15	Gibraltor	3.9	4.1	4.1	3.5

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2005-2007 Avg.	2005 Avg.	2006 Avg.	2007 Avg.
	STRONG CREEPING RED FESCUE (cont.)				
16	Fenway	3.9	3.8	4.2	3.5
17	Aberdeen	3.9	4.3	4.1	3.2
18	SRXCA521	3.8	4.0	4.1	3.2
19	Bar-Fr-4001	3.7	4.2	4.0	3.0
20	Celestial	3.7	4.6	3.9	2.6
21	SW RSR6064	3.6	3.5	3.6	3.7
22	SR 5210	3.6	3.4	3.7	3.5
23	SW RSR6046	3.5	4.2	3.5	2.8
24	Vista	3.4	3.9	4.0	2.4
25	Aruba	3.4	3.9	3.2	3.2
26	Navigator	3.3	3.9	3.6	2.5
27	Florentine	3.3	3.5	3.5	2.8
28	SW CYGNUS	3.1	2.9	2.9	3.6
	BLUE x HARD FESCUE HYBRID				
1	PST-SYN-4BU3-04	5.1	4.8	4.8	5.7
	SLENDER CREEPING RED FESCUE				
1	Shoreline	4.7	5.0	4.5	4.7
2	ASR050	4.4	4.1	4.3	4.7
3	Seabreeze GT	4.1	5.0	4.5	2.8
4	Dawson	3.7	4.5	3.8	2.8
5	Splendor	3.5	4.5	3.9	2.2
	SHEEPS FESCUE				
1	04-SHF	4.1	4.3	4.1	4.1
	BLUE FESCUE				
1	SR 3210	4.1	4.0	4.0	4.4
2	SR 3200	4.0	4.0	4.0	4.1
	KOELERIA				
1	SRX6KOEL	3.7	4.7	3.5	2.8
2	SRX6AA	3.7	4.6	3.7	2.7

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2005-2007 Avg.	2005 Avg.	2006 Avg.	2007 Avg.
		DESCHAMPSIA			
1	BPP comp	2.8	3.1	3.1	2.0
2	SR 6000	2.7	3.2	2.5	2.5
3	EDD comp	2.4	3.4	2.1	1.7
4	SRX673-21	2.4	1.5	3.0	2.7
5	SRX673-20	2.2	1.5	2.5	2.7
6	DC-JD 03	2.1	1.9	2.4	2.1
7	Eugene BLM	1.8	1.5	1.9	2.1
	LSD at 5% =	0.8	0.7	0.9	1.2

[1]9 = best turf quality

Table 4. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2005 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 2006-2007 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.	Read Thread[2] June 2007
	STRONG CREEPING RED FESCUE				
1	OR2 comp	6.2	6.3	6.1	6.0
2	OR3 comp	6.2	6.4	6.0	5.7
3	OR4 comp	5.8	6.2	5.4	6.3
4	OR1 comp	5.8	6.1	5.5	5.7
5	IS-FRR 43	5.1	5.5	4.7	6.3
6	PST-Syn-48ED	5.1	5.3	4.8	6.3
7	IS-FRR 44	4.9	5.2	4.7	6.3
8	RAD-FR 7	4.9	5.0	4.7	5.7
9	SR 5250	4.8	5.2	4.4	5.3
10	Gibraltor	4.8	5.1	4.5	6.0
11	RAD-FR 8	4.8	5.0	4.5	5.3
12	Aberdeen	4.7	4.8	4.6	5.3
13	PST-Syn-48Y	4.5	4.6	4.4	5.7
14	Cindy Lou	4.5	4.8	4.1	5.3
15	ASC 266	4.4	4.6	4.1	5.7
16	PST-Syn-4SLT	4.3	4.3	4.2	6.3
17	PST-Syn-48ET	4.2	4.3	4.1	5.7
18	SRX CA 529	4.2	4.3	4.1	5.3
19	SRX CA 521	4.2	4.4	4.0	5.7
20	Swing	4.1	4.4	3.8	5.3
21	Pathfinder	3.7	3.7	3.7	4.3
22	Audubon	3.7	3.4	3.9	5.3
23	PST-Syn-4EQG	3.5	3.8	3.2	6.0
24	SR 5210	3.5	3.7	3.3	5.7
25	Polka	3.4	3.5	3.2	5.0
26	Splendor	4.1	4.3	3.9	5.7
	CHEWINGS FESCUE				
1	OC2 comp	6.1	6.3	5.9	7.3
2	RAD-FC 9	6.0	6.4	5.7	7.0
3	SR 5130	5.9	6.0	5.8	5.7
4	PST-Syn-4S111	5.7	5.7	5.8	6.0
5	PST-Syn-4EGC	5.5	5.9	5.1	5.7

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2006-2007 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.	Read Thread[2] June 2007
	CHEWINGS FESCUE (cont.)				
6	OC3 comp	5.5	5.5	5.4	6.7
7	Longfellow II	5.3	5.4	5.3	6.0
8	Ambassador	5.2	5.4	5.0	5.7
9	IS-FRC 23	5.2	5.3	5.0	5.7
10	Ambrose	5.1	5.0	5.2	6.3
11	OC1 comp	5.1	5.3	4.8	6.3
12	IS-FRC 12	5.0	5.0	5.0	6.0
13	Shadow II	4.9	5.0	4.9	5.7
14	Culumbra II	4.8	5.0	4.7	5.3
15	Compass	4.7	4.7	4.7	5.7
16	JF-3	4.7	4.5	4.8	6.0
17	SR 5100	4.6	4.7	4.6	5.7
	HARD FESCUE				
1	Viking	5.9	5.8	6.0	7.3
2	PST-4HES	5.9	5.9	5.9	6.7
3	SRX CA 396	5.8	5.7	5.9	7.7
4	SR 3150	5.8	5.6	5.9	7.7
5	IS-FL 38	5.7	5.5	5.9	7.0
6	OH1 comp	5.7	5.2	6.2	7.3
7	PST-4NY	5.3	5.1	5.4	7.3
8	SRX NJU	5.1	5.0	5.2	7.0
9	PST-Syn-4HQG	5.1	5.0	5.1	7.0
10	Aurora II	5.0	4.8	5.1	6.7
11	Stonehenge	4.9	4.6	5.2	6.7
12	PST-Syn-4HEY	4.9	4.4	5.3	6.3
13	SRX 3K	4.8	4.6	4.9	7.7
14	Aurora Gold	4.6	4.5	4.8	6.7
15	SRX CA 3DE	4.5	4.7	4.2	6.7
16	SR 3100	4.2	3.7	4.6	6.3

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2006-2007 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.	Read Thread[2] June 2007
	SLENDER CREEPING RED FESCUE				
1	Shoreline	4.9	5.5	4.3	6.0
2	Seabreeze GT	4.7	5.1	4.3	7.0
3	ASR 050	4.3	5.0	3.7	5.3
4	Dawson	4.0	4.2	3.8	6.0
	BLUE x HARD FESCUE HYBRIDS				
1	PST-4BU3	4.7	4.4	5.1	7.0
2	Little Bighorn	3.9	3.8	3.9	7.0
	HARD x BLUE FESCUE HYBRIDS				
1	SRX 3BHO	4.6	4.5	4.7	5.7
	BLUE FESCUE				
1	SR 3210	3.7	4.0	3.5	5.7
2	SR 3200	3.3	3.5	3.1	6.7
	LSD at 5% =	0.7	0.9	0.7	1.6

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

Table 5. Performance of turfgrass cultivars and selections in a low maintenance trial seeded in September 2005 at Adelphia, NJ.

	Cultivar or Selection	Species	Turf Quality[1] 2006-2007 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.	Spring Green-up[2] 2007
1	HOE	Hard fescue	7.9	7.5	8.3	4.3
2	OH1 Comp	Hard fescue	7.7	7.0	8.5	3.7
3	Oxford	Hard fescue	7.6	7.0	8.2	4.7
4	Nordic	Hard fescue	7.5	7.4	7.5	4.0
5	OR3 Comp	Strong creeping red fescue	7.2	7.3	7.1	6.0
6	Stonehenge	Hard fescue	7.1	7.0	7.3	4.0
7	OR2 Comp	Strong creeping red fescue	7.0	7.2	6.9	5.3
8	OR1 Comp	Strong creeping red fescue	6.9	7.3	6.5	5.0
9	OC3 Comp	Chewings fescue	6.7	6.6	6.7	3.3
10	Jasper II	Strong creeping red fescue	6.4	6.9	6.0	4.3
11	OR4 Comp	Strong creeping red fescue	6.4	6.8	6.1	5.0
12	OC2 Comp	Chewings fescue	6.4	6.6	6.3	4.0
13	Ambassador	Chewings fescue	6.2	6.7	5.9	4.7
14	Columbra II	Chewings fescue	6.2	6.1	6.3	3.7
15	OC1 Comp	Chewings fescue	6.1	5.9	6.3	4.3
16	Aura	Kentucky bluegrass	6.0	5.6	6.5	5.0
17	Princeton P-105	Kentucky bluegrass	6.0	6.2	5.8	2.0
18	A03TB-417	Texas x Kentucky bluegrass hybrid	6.0	6.4	5.7	3.0
19	Celestial	Strong creeping red fescue	6.0	6.6	5.4	4.7
20	Zinfandel	Kentucky bluegrass	6.0	6.3	5.7	3.0
21	A96-1201	Kentucky bluegrass	6.0	5.8	6.1	2.3
22	Cindy Lou	Strong creeping red fescue	6.0	6.3	5.6	5.0
23	2nd Millennium	Tall fescue	5.8	5.6	6.0	5.7
24	Ambrose	Chewings fescue	5.8	5.9	5.8	4.7
25	Falcon IV	Tall fescue	5.7	5.9	5.5	6.0

(Continued)

Table 5 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2006-2007 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.	Spring Green-up[2] 2007
26	Rembrandt	Tall fescue	5.7	6.0	5.3	5.3
27	Eagleton	Kentucky bluegrass	5.6	4.9	6.3	3.7
28	A03TB-676	Texas x Kentucky bluegrass hybrid	5.5	5.5	5.6	4.3
29	Constitution	Tall fescue	5.5	5.7	5.2	5.3
30	Diva	Kentucky bluegrass	5.4	5.2	5.5	3.3
31	Inferno	Tall fescue	5.4	5.5	5.2	5.3
32	Titanium	Tall fescue	5.3	5.7	4.9	6.3
33	Sonic	Kentucky bluegrass	5.3	4.9	5.7	2.0
34	Five Point	Tall fescue	5.3	5.7	4.9	5.3
35	A03TB-708	Texas x Kentucky bluegrass hybrid	5.3	5.7	4.9	4.7
36	Preakness	Kentucky bluegrass	5.2	4.5	5.9	3.3
37	Midnight	Kentucky bluegrass	5.2	5.2	5.2	2.0
38	Bewitched	Kentucky bluegrass	5.2	4.8	5.6	3.3
39	Rhapsody	Kentucky bluegrass	5.2	5.2	5.2	4.7
40	Chochise III	Tall fescue	5.2	5.4	5.0	6.0
41	Mustang 3	Tall fescue	5.2	5.1	5.3	5.3
42	A03TB-559	Texas x Kentucky bluegrass hybrid	5.2	5.6	4.8	2.3
43	A03TB-718	Texas x Kentucky bluegrass hybrid	5.2	5.7	4.6	4.0
44	Cabernet	Kentucky bluegrass	5.1	4.6	5.7	4.3
45	Champagne	Kentucky bluegrass	5.1	4.7	5.4	2.7
46	Brunswick	Kentucky bluegrass	5.1	4.4	5.8	4.3
47	A03TB-431	Texas x Kentucky bluegrass hybrid	5.0	5.6	4.5	2.3
48	Tar Heel II	Tall fescue	5.0	5.1	4.9	5.3
49	A03TB-668	Texas x Kentucky bluegrass hybrid	5.0	5.1	4.9	3.0
50	Tiger II	Colonial bentgrass	5.0	5.7	4.4	2.3

(Continued)

Table 5 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2006-2007 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.	Spring Green-up[2] 2007
51	H94-305	Kentucky bluegrass	5.0	4.3	5.6	3.0
52	A99LM-15	Texas x Kentucky bluegrass hybrid	5.0	5.4	4.5	4.3
53	LT2 Comp	Colonial bentgrass	5.0	5.3	4.6	3.7
54	LT1 Comp	Colonial bentgrass	4.9	5.6	4.3	4.0
55	A02-975	Texas x Kentucky bluegrass hybrid	4.9	6.0	3.9	4.3
56	A01-881	Texas x Kentucky bluegrass hybrid	4.9	4.7	5.1	2.7
57	LT3 Comp	Colonial bentgrass	4.8	5.0	4.5	4.3
58	A03TB-568	Texas x Kentucky bluegrass hybrid	4.7	4.8	4.7	3.0
59	RSP	Kentucky bluegrass	4.6	4.8	4.5	4.3
60	Bedazzled	Kentucky bluegrass	4.6	4.4	4.8	4.0
61	Starburst	Kentucky bluegrass	4.5	4.0	5.0	4.0
62	A03TB-246	Texas x Kentucky bluegrass hybrid	4.5	5.1	3.9	3.3
63	A03TB-795	Texas x Kentucky bluegrass hybrid	4.5	4.4	4.6	4.3
64	Brooklawn	Kentucky bluegrass	4.5	4.6	4.4	3.7
65	A04TB-192	Texas x Kentucky bluegrass hybrid	4.4	5.3	3.5	3.3
66	Dragon	Kentucky bluegrass	4.3	4.1	4.6	4.0
67	A03TB-256	Texas x Kentucky bluegrass hybrid	4.3	5.0	3.6	3.0
68	Throughblue	Kentucky bluegrass	4.2	4.0	4.4	3.3
69	Unique	Kentucky bluegrass	4.2	4.4	4.1	2.7
70	A03TB-490	Texas x Kentucky bluegrass hybrid	4.1	4.4	3.9	2.7
71	LSD Comp	*Deschampsia*	4.0	4.4	3.6	3.0
72	A04TB-5	Texas x Kentucky bluegrass hybrid	4.0	5.1	2.9	2.0
73	A02-943	Texas x Kentucky bluegrass hybrid	3.8	5.0	2.6	4.3
74	A03TB-788	Texas x Kentucky bluegrass hybrid	3.8	4.3	3.3	4.0
75	ESD Comp	*Deschampsia*	3.8	4.4	3.2	2.7

(Continued)

Table 5 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2006-2007 Avg.	Turf Quality[1] 2006 Avg.	Turf Quality[1] 2007 Avg.	Spring Green-up[2] 2007
76	Southeast	Tall fescue	3.7	3.4	4.1	7.3
77	Reveille	Texas x Kentucky bluegrass hybrid	3.7	2.8	4.6	2.3
78	A03TB-286	Texas x Kentucky bluegrass hybrid	3.7	3.2	4.1	4.0
79	Moonlight	Kentucky bluegrass	3.6	3.1	4.0	5.3
80	A03TB-412	Texas x Kentucky bluegrass hybrid	3.5	3.6	3.4	2.0
81	A03TB-361	Texas x Kentucky bluegrass hybrid	3.1	3.5	2.7	3.0
82	PST-DRM	*Deschampsia*	2.8	3.2	2.4	3.7
83	Shade Champ	*Deschampsia*	2.8	3.3	2.3	2.3
84	Eugene BLM	*Deschampsia*	2.1	2.2	2.1	3.0
	LSD at 5% =		0.9	1.0	1.2	1.4

[1]9 = best turf quality
[2]9 = earliest spring green-up

Table 6. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2006 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 2007 Avg.	Leaf Spot[2] June 2007
	CHEWINGS FESCUE		
1	RAD-FC10	6.8	7.7
2	RAD-FC3	6.6	7.7
3	RAD-FC11	6.3	7.3
4	RAD-FCFCYS	6.2	7.0
5	RAD-FCQS	6.2	7.7
6	SR 5130	6.1	7.0
7	Intrigue II	6.1	7.3
8	IS-FRC 27	5.9	7.0
9	Culumbra II	5.8	7.0
10	IS-FRC 26	5.8	7.7
11	Compass	5.7	6.7
12	OC1	5.7	6.3
13	Longfellow II	5.3	6.3
14	Shadow II	5.3	7.0
15	PST-Syn-4CT	5.2	6.3
16	PST-4C29	4.9	6.0
17	7 Seas	4.9	6.7
18	CHFSHHY	4.7	5.3
19	SR 5100	4.0	6.3
	STRONG CREEPING RED FESCUE		
1	ZT comp	5.8	5.0
2	OR1	5.7	6.3
3	Epic	5.4	6.0
4	RAD-FRQS	5.4	5.0
5	RAD-FR12	5.4	5.3
6	RAD-FR13	5.3	4.3
7	IS-FRR 52	5.2	4.7
8	MYSFRR-30	5.2	5.7
9	RAD-FR4	5.1	6.0
10	RCM	5.0	4.3
11	Lustrous	4.9	5.0
12	SR 5250	4.9	3.3
13	RAD-FRES	4.8	4.0
14	RAD-FR15	4.8	4.7
15	Aberdeen	4.7	4.3

(Continued)

Table 6 (continued).

	Cultivar or Selection	Turf Quality[1] 2007 Avg.	Leaf Spot[2] June 2007
	STRONG CREEPING RED FESCUE (cont.)		
16	RAD-FR14	4.7	4.7
17	Tiara	4.6	5.0
18	Navigator	4.6	4.0
19	SRX CA529	4.6	3.0
20	Scaldis II	4.5	6.0
21	Camilla	4.4	3.7
22	SRX CA521	4.4	3.3
23	Razor	4.4	4.7
24	Gibraltor	4.4	5.0
25	Inverness	4.3	3.3
26	Polka	4.2	4.0
27	Swing	4.2	4.7
28	SR 5210	3.6	3.0
	HARD FESCUE		
1	Stonehenge	5.6	6.7
2	Viking	5.4	6.3
3	SR 3100	5.4	6.3
4	Predator	5.2	6.3
5	IS-FL 40	5.1	7.0
6	SRX CA396	5.1	6.3
7	Heron	5.0	5.7
8	Chariot	4.9	5.3
9	EXPHF	4.8	6.3
10	SRX NJU	4.7	6.7
11	SR 3150	4.7	6.3
12	IS-FL 39	4.5	5.7
13	SRX 3K	4.5	6.3
14	Little Bighorn	4.4	5.7
15	Aurora II	4.4	6.3
	SLENDER CREEPING RED FESCUE		
1	Seabreeze GT	4.9	5.7
2	SRX 55R	4.8	6.7
3	PSG 55QRS	4.5	6.0
4	Raggae	4.3	6.0
5	Dawson	3.8	5.3

(Continued)

Table 6 (continued).

	Cultivar or Selection	Turf Quality[1] 2007 Avg.	Leaf Spot[2] June 2007
	HARD x BLUE FESCUE HYBRIDS		
1	SRX 3BHO	4.4	6.0
2	SR 3210	2.6	6.0
3	SR 3200	2.3	6.3
	SHEEPS FESCUE		
1	04-SHF	4.2	6.0
2	Azure	3.3	6.0
3	PSM-10126	2.8	6.0
	DESCHAMPSIA		
1	SED comp	3.8	5.0
2	SLD comp	3.3	6.7
	LSD at 5% =	0.7	1.0

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

Table 7. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2006 at Adelphia, NJ, Test 2.

	Cultivar or Selection	Turf Quality[1] 2007 Avg.	Red Thread[2] June 2007
	CHEWINGS FESCUE		
1	Culumbra II	6.1	8.0
2	ACF 259	5.9	6.3
3	4CSD+	5.8	6.3
4	ACF 256	5.7	6.3
5	7 Seas	5.7	7.3
6	ACF 261	5.7	7.3
7	ACF 251	5.7	7.0
8	R4TC	5.6	6.7
9	ACF 245	5.6	5.3
10	ACF 255	5.6	6.7
11	SR 5100	5.6	6.0
12	ACF 249	5.5	6.3
13	Treazure II	5.4	5.0
14	Shadow II	5.4	6.7
15	ACF 252	5.4	4.7
16	IS-FRC 26	5.3	6.3
17	ACF 266	5.2	6.0
18	Koket	5.2	6.0
19	IS-FRC 27	5.2	6.0
20	Silhouette	5.2	6.3
21	PST-4CH6	5.2	5.0
22	Compass	5.1	6.3
23	OC1	5.1	7.0
24	PST-4RC	5.1	6.3
25	IS-FRC 23	5.0	5.0
26	SR 5130	4.9	4.3
27	ACF 264	4.8	6.0
28	4CBEL	4.8	6.0
29	ACF 246	4.6	5.7
30	Intrigue	4.6	5.7
31	Intrigue II	4.5	4.3
32	PST-4EC	4.2	5.7
33	ACF 262	4.0	5.7
34	ACF 257	3.8	6.3

(Continued)

Table 7 (continued).

	Cultivar or Selection	Turf Quality[1] 2007 Avg.	Red Thread[2] June 2007
	SLENDER CREEPING RED FESCUE		
1	ASR 050	5.9	6.0
2	Sealink	5.3	4.0
3	Seabreeze GT	5.1	6.3
4	Dawson	5.0	5.0
5	Shoreline	4.9	4.3
6	PSG 55QRS	4.3	6.0
	STRONG CREEPING RED FESCUE		
1	IS-FRR 44	5.8	7.3
2	PST-48Y	5.6	6.3
3	PST-4FRR	5.6	6.3
4	ASC 266	5.4	5.0
5	ASC 293	5.4	6.3
6	IS-FRR 50	5.4	6.7
7	PST-4CRE	5.3	5.3
8	Epic	5.3	4.7
9	Gibraltor	5.2	6.3
10	STR CA521	5.2	4.0
11	Razor	5.2	7.3
12	IS-FRR 51	5.2	4.7
13	Cindy Lou	4.9	4.0
14	ASC 301	4.9	3.7
15	Lustrous	4.8	5.0
16	DLF-RCM	4.8	5.0
17	Fortitude	4.5	3.0
18	Celestial	4.3	5.7
19	Boreal	4.3	6.0
20	ASC 295	4.2	5.3
21	OR1	4.2	4.0
22	STR CA529	4.1	5.0
23	SR 5250	4.1	5.7
24	8000	4.1	2.7
25	ASC 310	2.9	6.0

(Continued)

Table 7 (continued).

	Cultivar or Selection	Turf Quality[1] 2007 Avg.	Red Thread[2] June 2007
		HARD FESCUE	
1	HOE	5.7	6.7
2	PST-4HM	5.6	6.7
3	AHF 177	5.6	7.0
4	SRX 3K	5.6	6.0
5	4CU3	5.5	5.3
6	IS-FL 39	5.4	7.7
7	Predator	5.2	5.7
8	PST-4HES	5.1	5.3
9	SR 3150	5.0	6.7
10	SRX NJU	4.9	7.0
11	IS-FL 38	4.8	4.7
12	AHF 176	4.8	6.0
13	Scaldis II	4.7	6.3
14	STR CA396	4.7	5.0
15	Discovery	4.5	6.0
16	PST-4NY	4.4	6.3
17	Spartan II	4.0	2.7
18	IS-FL 40	3.2	1.7
		BLUE x HARD FESCUE HYBRIDS	
1	PST-4BU3	5.6	6.7
2	PST-4BIL	4.7	6.7
		HARD x BLUE FESCUE HYBRID	
1	SRX 3BHO	4.9	6.3
		BLUE FESCUE	
1	SR 3210	4.9	7.0
	LSD at 5% =	0.7	1.0

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

Table 8. Yearly nitrogen (N) applied and mowing height (Ht) on fine fescue tests established at Adelphia and North Brunswick, NJ.

	2004		2005		2006		2007	
	N[1]	Ht[2]	N	Ht	N	Ht	N	Ht
Table 1 (2003 North Brunswick)	1.5	1.5	2.6	1.5	1.0	1.5	1.4	1.5
Table 2 (2003 Adelphia)	1.3	1.5	2.5	1.5	1.0	1.5	1.0	1.5
Table 3 (2004 Adelphia)			1.5	1.5	1.7	1.5	1.0	1.5
Table 4 (2005 Adelphia)					1.8	1.5	1.0	1.5
Table 5 (2005 Adelphia)					2.0	2.5	1.0	2.5
Table 6 (2006 Adelphia)							1.0	1.5
Table 7 (2006 Adelphia)							1.0	1.5

[1] Annual N applied (lb/1000 ft^2)
[2] Mowing height in inches

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