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This publication includes lecture notes of papers presented at the 2002 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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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 characterized by fine to very narrow leaves. The species used as turf include both bunch types [Chewings fescue (*Festuca rubra* L. subsp. *falax* Thuill.), hard fescue (*F. brevipila* (Hack.) Krajina, formerly *F. longifolia* Thuill.), sheeps fescue (*F. ovina* L.), and blue fescue (*F. glauca* Lam)] and rhizomatous types [slender creeping red fescue (*F. rubra* L. subsp. *littoralis*, formerly *F. rubra* L. subsp. *trichophylla* Gaud.) and strong creeping red fescue (*F. rubra* L. subsp. *rubra* Gaud.)].

Fine fescues have good drought and shade tolerance and can persist under limited soil water availability and low nitrogen fertility. Chewings fescues form a very fine, dense turf, while strong creeping and slender creeping red fescues produce a more open turf due to their rhizomatous growth habit. The strong creeping red fescues are more strongly rhizomatous and have a more open growth habit than the slender creeping red fescues. More recent hard fescue cultivars have improved turf-type characteristics and are more similar in density and texture to the Chewings fescues. Hard fescues also have lower nutrient requirements, better disease resistance under low maintenance, and a slower growth rate. Sheeps fescues and blue fescues have stiff, bluish-green leaves and perform well with little maintenance.

Strong creeping red fescues are often used as a companion grass in mixtures with Kentucky bluegrass because they are similar in color, growth habit, and density. The strong creeping red fescues have better establishment and seedling vigor than Kentucky bluegrass, and after establishment, the fescues dominate in heavily shaded areas. Hard fescues are used for soil erosion control in low maintenance areas, and sheeps fescues are used for stabilization of sandy soil and banks along irrigation canals. The sheeps and blue fescues are used in wildflower mixes for soil stabilization and as ornamentals for their attractive bluish foliage.

Fine fescues perform best under reduced nitrogen fertilization. Ideally, fine fescue should be fertilized with no more than 1 to 2 lb nitrogen per 1000 ft^2 per year. Hard, blue, and sheeps fescues require less nitrogen nutrition than the other species. With the exception of Chewings fescues, which can be mown closely to 0.5-inch height of cut, fine fescue species do not tolerate a low height of cut. They can tolerate mowing heights of 1.5 to 2.0 inches, but perform best above 2.5 inches.

Fine fescues that contain the *Neotyphodium* endophyte can exhibit enhanced insect, disease, and environmental stress tolerance. This endophyte is a fungus that grows in the crown and leaf sheath tissues of the turfgrass plant. Endophyte effects on plant growth are generally not apparent during periods of low environmental stress; however, under stressful conditions, the endophyte-plant relationship produces compounds that improve resistance to some biotic and abiotic stresses.

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 breeding program, in cooperation with the National Turfgrass Evaluation Program (NTEP), is involved in an extensive program evaluating many cultivars and experimental selections for turf performance.

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PROCEDURES

Fine fescue trials were conducted at the Rutgers Plant Biology and Pathology Research and Extension Farm at Adelphia, NJ (Tables 1, 4, 5, 6, and 7), Horticultural Research Farm II at North Brunswick, NJ (Table 2), and the Rutgers Snyder Research and Extension Farm at Pittstown, NJ (Table 3). Tests at Adelphia and Pittstown were established in open areas with good air circulation. The trial at North Brunswick was in an area with reduced air circulation. All entries were seeded in 3 X 5 ft plots at a rate of 3.7 lb/1000 ft^2. Plots were replicated three times in a randomized complete block design.

Tests were fertilized at different nitrogen rates, mowed at different heights, and subjected to varying levels of drought stress depending on the objective of the test during the evaluation period (Table 8). After establishment, tests were infrequently irrigated to avoid severe drought stress and dormancy. Plots were mowed frequently enough to avoid excessive accumulation of clippings. At Adelphia, broadleaf weeds were controlled with spring or fall applications of 2,4-D, Banvel, and MCPP; Dimension was used to control annual grassy weeds; and Merit was applied in July for grub control. At North Brunswick, Drive was applied to control the broadleaf weeds; Dimension was applied to control annual grassy weeds; and Merit was applied in July for grub control. The test at Pittstown received a spring application of Trimec Classic.

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, uniformity, color, growth habit, and freedom from disease or insect damage. Other ratings taken include seedling establishment, spring green-up, green cover, and resistance to red thread (caused by *Laetisaria fuciformis*) and summer patch (caused by *Magnaporthe poae*). All ratings were taken using a 1 to 9 scale with 9 representing the best turf characteristic (quality, best establishment, or least disease). All data were summarized and subjected to an analysis of variance. Means were separated using the least significant difference (LSD) multiple comparisons test.

RESULTS AND DISCUSSION

Data presented in Tables 1 through 5 are grouped by species and ranked by their multiple year quality average. This was done to facilitate comparison of cultivars and selections within a species. Table 6 is grouped by species and ranked by turf quality in 2002, whereas in Table 7, cultivars of all species are ranked together by the 2002 quality average. In general, the Chewings and hard and strong creeping red fescues performed better than the other species with many selections forming a dense, attractive turf (Tables 1 to 6). Although improvement in turf quality of blue, sheeps, and slender creeping red fescues continues, these species still rank lower than the others in turf quality (Tables 1 to 6).

In the 2001 test at Adelphia (Table 6), establishment in the fine fescues varied among the cultivars and selections within any given species, while strong creeping red fescue generally had better establishment. The strong creeping red fescues and Chewings fescues exhibited early spring green-up (Tables 1 and 2) and both rated higher than the other species in the 1998 Adelphia and North Brunswick tests. They also had better green color in the 1998 Adelphia test (Table 1).

Hard fescues generally had the best resistance to red thread disease (Tables 1, 2, and 4). In the 1998 test at Adelphia (Table 1), many selections of Chewings and strong creeping red fescues, as well as a few hard fescues selections, showed excellent resistance to summer patch.

Breeding efforts continue to improve turf-type characteristics in the fine fescues. Insect and disease resistance is also an important focus of the Rutgers program. We continue to look at the use of endophytes to supplement breeding efforts to improve a cultivar's natural ability to persist under stress. The success of the efforts of the Rutgers breeding program is well documented in the superior quality exhibited by many of the newer experimental selections; however, further improvements are still needed.

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Table 1. Performance of fine fescue cultivars and selections in a turf trial seeded in September 1998 at Adelphia, NJ. (Includes all entries in the 1998 National Fine-leafed Fescue Trial sponsored by the National Turfgrass Evaluation Program - NTEP)

		Turf Quality[1]					Spring Green-up[2]	Red Thread[3]	Summer Patch[3]	Green Color (%)
	Cultivar or Selection	1998-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	March 2002	June 2002	July 2002	Oct. 2002
	CHEWINGS FESCUE									
1	Intrigue	5.7	5.6	5.5	5.3	6.2	4.3	8.0	8.7	86.7
2	Ambassador	5.7	5.9	5.5	5.1	6.2	4.0	7.0	9.0	85.0
3	Longfellow II	5.7	6.1	5.5	5.2	5.8	4.3	7.3	8.0	86.7
4	ABT CHW-2	5.7	6.1	5.3	5.3	5.9	5.7	8.7	8.3	88.3
5	SRO FF7	5.6	6.0	5.3	5.1	5.9	4.0	6.3	8.3	95.0
6	Treazure	5.2	5.7	4.9	4.7	5.5	5.7	8.7	8.7	85.0
7	ABT CHW-1	5.1	5.5	4.8	4.7	5.4	3.0	7.7	8.7	88.3
8	FC 28	5.1	5.3	5.1	5.0	5.0	5.7	7.7	6.0	86.7
9	Ambrose	5.1	5.6	4.7	4.9	5.1	3.0	6.5	8.0	75.0
10	Pick FRC A-93	5.1	5.0	5.0	4.7	5.6	3.7	7.0	8.7	86.7
11	SRO FF6	5.0	5.3	5.1	5.0	4.8	7.0	6.0	5.7	86.7
12	FC 39	5.0	5.2	5.1	4.8	5.1	5.3	6.3	8.0	85.0
13	SR 5100	5.0	5.3	4.5	4.8	5.3	6.3	8.7	8.7	80.0
14	FC 11	5.0	5.3	5.0	4.7	4.7	4.3	4.3	5.7	86.7
15	Magic	4.8	5.1	4.6	4.6	5.0	4.0	6.0	8.0	86.7
16	BAR CHF 8 FUS2	4.8	5.6	5.2	4.6	4.0	5.7	3.7	5.3	70.0
17	Culombra	4.8	5.3	4.9	4.3	4.8	6.3	5.7	6.3	75.0
18	Wrigley	4.8	5.2	5.0	4.7	4.3	5.7	5.7	4.0	65.0
19	FC 49	4.8	4.7	4.6	4.7	5.2	4.7	7.3	6.3	88.3
20	Hood	4.8	5.3	4.4	4.8	4.8	5.3	5.7	7.3	88.3

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 1998-2002 Avg.	Turf Quality[1] 1999 Avg.	Turf Quality[1] 2000 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.	Spring Green-up[2] March 2002	Red Thread[3] June 2002	Summer Patch[3] July 2002	Green Color (%) Oct. 2002
					CHEWINGS FESCUE (cont.)					
21	Brittany	4.8	5.0	4.6	4.6	4.8	4.7	5.0	6.7	75.0
22	PST-4HM	4.8	5.2	4.9	4.8	4.2	1.7	7.3	5.7	48.3
23	Silhouette	4.7	5.1	4.5	4.4	4.7	3.3	4.0	5.7	83.3
24	Shadow II	4.6	5.7	4.6	4.2	4.0	5.3	3.3	5.0	76.7
25	Banner III	4.5	4.9	4.2	4.3	4.7	5.0	4.7	5.7	80.0
26	Sandpiper	4.5	4.8	4.6	4.3	4.3	6.3	7.0	6.7	81.7
27	Bridgeport	4.5	4.7	4.4	4.4	4.5	5.7	6.3	7.7	81.7
28	LRF-98-490	4.4	4.8	4.0	4.3	4.6	6.7	6.3	8.7	88.3
29	FC 51	4.4	4.3	4.2	4.4	4.5	3.3	6.3	6.7	81.7
30	Jamestown II	4.3	4.4	4.0	4.5	4.4	6.0	6.3	7.0	86.7
31	MB-63	4.3	5.2	4.6	4.0	3.5	6.7	2.3	5.0	53.3
32	FC 50	4.3	4.3	4.4	4.2	4.2	2.7	4.7	5.0	73.3
33	Tiffany	3.9	4.9	4.1	3.6	3.2	5.0	3.3	2.7	36.7
34	FLED	3.5	3.3	3.5	3.6	3.8	5.7	6.7	6.7	80.0
35	ACF 083	3.3	5.0	3.7	2.7	1.8	7.7	2.7	2.7	21.7
					HARD FESCUE					
1	ABT-HF1	5.8	6.1	5.6	5.7	5.7	2.3	8.0	7.0	43.3
2	SRX 3961	5.4	6.4	5.2	4.9	5.1	1.0	7.7	6.0	15.0
3	Berkshire	5.4	5.9	5.3	5.1	5.3	1.7	8.0	6.7	36.7
4	SRO FF4	5.4	5.4	5.1	5.2	5.8	1.3	8.3	8.7	41.7
5	SRO FF2	5.3	5.8	5.1	5.0	5.2	1.0	7.7	6.7	30.0

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 1998-2002 Avg.	Turf Quality[1] 1999 Avg.	Turf Quality[1] 2000 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.	Spring Green-up[2] March 2002	Red Thread[3] June 2002	Summer Patch[3] July 2002	Green Color (%) Oct. 2002
	HARD FESCUE (cont.)									
6	Eureka II	5.2	5.3	4.9	5.2	5.4	1.3	8.7	7.0	41.7
7	Stonehenge	5.1	5.1	5.0	4.9	5.5	1.3	8.7	7.7	28.3
8	Heron	5.1	4.6	4.9	4.9	5.9	1.3	8.3	8.7	51.7
9	ABT-HF-3	5.0	5.1	5.1	4.5	5.4	1.7	7.3	8.3	60.0
10	Oxford	4.9	5.6	5.6	4.8	3.6	4.3	5.3	2.7	18.3
11	LL 22	4.9	5.0	4.9	4.8	4.8	1.0	8.3	7.3	48.3
12	Minotaur	4.9	4.9	5.0	4.4	5.1	2.3	6.7	8.0	68.3
13	ABT-HF-4	4.8	5.5	5.1	4.6	4.0	1.7	6.3	4.7	23.3
14	Discovery	4.8	5.5	5.1	4.7	3.6	1.3	6.3	2.3	13.3
15	FL 54	4.7	5.5	4.7	4.6	4.2	2.3	6.7	3.7	28.3
16	EL 20	4.7	4.9	4.6	4.7	4.8	1.0	7.3	5.7	25.0
17	Chariot	4.7	5.1	4.5	4.6	4.7	3.3	7.3	7.0	33.3
18	Osprey	4.6	5.4	4.8	4.4	3.6	1.0	7.0	2.3	23.3
19	Pick FF A-97	4.6	4.5	4.5	4.9	4.3	3.0	7.3	4.3	56.7
20	SRO FF3	4.5	5.0	4.7	4.3	4.0	4.7	5.3	6.0	71.7
21	ABT-HF-2	4.5	5.5	4.9	4.2	3.4	1.7	5.7	2.0	16.7
22	PST-4MB	4.3	4.6	4.4	4.0	4.2	1.0	7.0	5.3	53.3
23	Attila	4.3	4.6	4.5	4.2	3.8	3.0	6.7	4.0	43.3
24	LRF-98-488	4.3	4.2	4.3	4.1	4.4	3.0	6.7	8.0	78.3
25	Scaldis II	4.3	4.5	4.4	4.1	4.0	2.3	7.7	4.3	33.3

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 1998-2002 Avg.	Turf Quality[1] 1999 Avg.	Turf Quality[1] 2000 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.	Spring Green-up[2] March 2002	Red Thread[3] June 2002	Summer Patch[3] July 2002	Green Color (%) Oct. 2002
					HARD FESCUE (cont.)					
26	Rescue 911	4.2	4.4	4.7	4.5	3.4	2.7	5.0	3.7	45.0
27	Reliant II	4.2	5.4	4.7	4.3	2.7	1.3	4.0	1.7	26.7
28	Bighorn	4.2	4.6	4.2	4.0	4.1	1.0	7.7	7.3	56.7
29	Nordic	4.2	5.4	4.4	4.1	3.0	1.3	4.7	2.3	23.3
30	EL 41	4.2	5.1	4.7	3.8	3.1	1.0	6.3	3.0	50.0
31	Scaldis	4.2	4.4	4.4	4.0	3.8	3.3	6.3	4.7	33.3
32	SRO FF1	4.1	5.1	4.8	3.9	2.5	1.7	4.0	1.0	15.0
33	MB-82	4.1	4.8	4.1	4.3	3.1	2.3	5.0	2.3	15.0
34	Ecostar	4.0	5.1	4.6	3.7	2.6	1.0	5.3	1.7	33.3
35	LRF-98-489	4.0	4.0	3.9	3.7	4.3	2.3	8.7	9.0	81.7
36	Defiant	3.9	4.8	4.2	3.5	3.1	2.7	3.7	2.7	23.3
37	LRF-98-487	3.9	4.2	3.6	3.5	4.3	2.0	8.3	8.3	78.3
38	Hardtop	3.9	5.1	4.2	3.4	2.8	2.7	5.0	2.0	16.7
39	LRF-98-491	3.3	3.7	3.0	2.8	3.8	2.3	7.0	7.7	65.0
					SLENDER CREEPING RED FESCUE					
1	BAR SCF 8 FUS 3	4.5	5.3	4.2	4.5	4.1	4.0	3.7	6.3	66.7
2	ASR 049	4.4	5.5	3.1	4.5	4.5	4.0	4.7	6.3	66.7
3	SRO FF8	4.1	4.7	4.3	4.3	3.3	5.3	2.7	4.7	36.7
4	Dawson E+	4.1	4.6	4.3	4.1	3.1	4.0	3.7	4.3	31.7
5	SRO FF9	4.0	4.8	3.9	4.0	3.1	4.3	3.0	3.7	43.3
6	Seabreeze	3.9	5.1	4.2	3.9	2.6	5.7	3.0	2.0	35.0
7	SRO FF10	3.2	4.4	2.2	2.8	3.4	3.7	7.0	4.7	28.3

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 1998-2002 Avg.	Turf Quality[1] 1999 Avg.	Turf Quality[1] 2000 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.	Spring Green-up[2] March 2002	Red Thread[3] June 2002	Summer Patch[3] July 2002	Green Color (%) Oct. 2002
	STRONG CREEPING RED FESCUE									
1	Cindy Lou	5.9	5.6	6.1	5.6	6.3	6.0	8.3	9.0	95.0
2	Jasper II	5.8	5.8	5.9	5.2	6.4	7.0	7.3	9.0	91.7
3	SRX 52961	5.8	5.7	6.0	5.4	5.9	8.3	7.0	8.3	93.3
4	Gibraltar	5.7	5.7	5.6	5.3	6.2	5.7	7.3	9.0	91.7
5	Aberdeen	5.6	5.2	5.7	5.2	6.0	7.0	6.7	8.7	93.3
6	ABT-CR-3	5.5	5.4	5.5	5.0	6.0	6.3	8.0	8.7	91.7
7	Navigator	5.3	4.8	5.6	5.3	5.4	7.0	8.3	9.0	91.7
8	FLE Comp	5.3	5.2	5.2	5.0	5.6	6.3	7.3	9.0	83.3
9	ABT CR-2	5.1	5.5	5.1	5.0	4.7	6.0	2.0	7.0	80.0
10	ASC 082	4.6	4.3	4.3	4.8	5.1	7.0	5.0	8.0	85.0
11	PathFinder	4.6	5.1	4.1	4.5	4.8	7.0	2.7	7.0	86.7
12	SR 5210	4.5	4.1	4.7	4.4	4.9	7.0	4.0	8.7	86.7
13	Florentine	4.4	5.3	4.3	4.4	3.3	6.3	2.3	5.3	65.0
14	DGSC 94	4.3	4.8	4.2	4.5	3.8	7.7	2.0	4.7	61.7
15	Shademaster II	4.3	4.7	3.9	4.8	3.8	7.7	3.7	6.7	56.7
16	SRO FF12	4.2	4.4	4.1	4.5	3.8	6.0	3.3	6.3	61.7
17	Shademark	4.2	4.7	4.1	4.0	3.8	7.3	2.3	6.3	86.7
18	Bargena III	4.1	4.8	3.8	4.2	3.5	7.0	3.0	6.0	70.0
19	Inverness	4.0	4.9	4.3	4.0	3.0	5.7	2.0	2.7	55.0
20	FR-47	4.0	4.2	3.8	3.9	4.1	4.3	4.3	6.3	66.7

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 1998-2002 Avg.	Turf Quality[1] 1999 Avg.	Turf Quality[1] 2000 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.	Spring Green-up[2] March 2002	Red Thread[3] June 2002	Summer Patch[3] July 2002	Green Color (%) Oct. 2002
	STRONG CREEPING RED FESCUE (cont.)									
21	PST-4FR	4.0	4.8	3.3	4.5	3.5	8.0	2.7	4.7	63.3
22	FR-46	4.0	4.0	3.8	4.0	4.1	3.7	4.3	6.0	70.0
23	ASC 172	3.9	3.4	3.6	4.0	4.6	4.7	5.0	8.3	61.7
24	FR-27	3.9	4.2	3.7	3.9	3.8	4.0	3.0	5.7	71.7
25	SRO FF11	3.9	3.8	4.1	3.9	3.6	5.7	4.7	4.0	66.7
26	Trapeze	3.9	4.2	3.4	4.0	3.8	6.3	2.7	4.7	86.7
27	FR-01-4-25	3.8	3.7	3.8	4.0	3.8	5.7	3.0	4.3	73.3
28	Rose	3.8	4.5	3.7	3.7	3.1	7.7	3.0	3.7	60.0
29	Salsa	3.7	4.4	3.2	3.6	3.3	8.3	2.3	5.0	81.7
30	Common Creeper	3.3	3.0	3.0	3.7	3.4	4.7	5.0	6.0	63.3
31	Boreal	3.1	3.2	3.2	3.2	2.9	6.0	4.7	5.3	65.0
	BLUE FESCUE									
1	SR 3200	4.1	4.0	4.0	3.9	4.3	2.0	8.3	8.7	53.3
	SHEEPS FESCUE									
1	Quatro	4.5	4.7	4.6	4.4	4.4	8.0	6.3	4.7	71.7
	DESCHAMPSIA									
1	SR 6000	3.4	4.5	2.8	2.8	3.5	2.5	7.5	9.0	90.0

Table 1 (continued).

Cultivar or Selection	Turf Quality[1] 1998-2002 Avg.	Turf Quality[1] 1999 Avg.	Turf Quality[1] 2000 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.	Spring Green-up[2] March 2002	Red Thread[3] June 2002	Summer Patch[3] July 2002	Green Color (%) Oct. 2002
LSD at 5% =	0.5	0.5	0.7	0.7	0.9	1.7	2.2	2.0	27.0

[1] 9 = best turf quality
[2] 9 = earliest spring green-up
[3] 9 = least disease

Table 2. Performance of fine fescue cultivars and selections in a turf trial seeded in September 1998 at North Brunswick, NJ. (Includes all entries in the 1998 National Fine-leafed Fescue Trial sponsored by the National Turfgrass Evaluation Program - NTEP)

		Turf Quality[1]					Spring Green-up[2]	Red Thread[3]
	Cultivar or Selection	1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	April 2002	May 2002
	CHEWINGS FESCUE							
1	Intrigue	6.0	6.1	5.9	6.0	6.0	4.7	6.0
2	Longfellow II	6.0	6.6	6.2	5.8	5.6	5.0	6.3
3	ABT-CHW-2	6.0	6.4	6.3	6.0	5.4	7.0	6.3
4	Ambassador	5.9	5.9	5.7	6.2	5.7	5.0	5.3
5	Ambrose	5.8	5.8	5.9	5.8	5.5	2.3	6.3
6	SRO FF7	5.7	6.3	6.0	5.5	4.8	4.7	6.0
7	Treazure	5.5	5.9	5.6	5.5	5.1	6.3	5.0
8	Pick FRC A-93	5.4	5.2	5.8	5.2	5.1	4.7	5.0
9	SR 5100	5.3	5.0	5.7	5.5	5.0	4.3	4.0
10	Magic	5.0	4.9	5.3	5.0	4.7	4.7	5.0
11	Shadow II	5.0	5.6	5.2	4.7	4.3	8.0	4.0
12	Bridgeport	4.7	4.9	4.9	4.8	4.3	6.3	4.0
13	Brittany	4.5	4.5	5.2	4.6	3.9	6.0	2.7
14	MB-63	4.5	4.6	4.9	4.8	3.8	7.7	2.7
15	SRO FF6	4.5	5.1	4.9	4.2	3.6	6.7	5.7
16	Silhouette	4.4	4.9	4.8	4.1	3.7	5.3	4.3
17	Tiffany	4.4	4.9	4.9	4.3	3.3	7.0	3.7
18	Culombra	4.4	4.6	4.8	4.2	4.1	5.3	6.0
19	PST-4HM	4.1	4.9	4.3	2.7	4.4	3.7	8.7
20	ABT-CHW-1	4.1	4.3	4.4	3.3	4.2	4.7	5.7
21	Sandpiper	3.9	4.2	4.5	3.6	3.1	3.7	4.3
22	Banner III	3.9	4.4	4.4	3.4	3.4	4.0	4.0
23	Wrigley	3.8	4.6	4.0	3.1	3.5	8.3	6.3
24	BAR CHF 8 FUF2	3.7	3.9	4.0	3.3	3.7	6.3	3.7
25	ACF 083	3.6	4.6	3.9	3.2	2.6	8.3	5.0
26	Jamestown II	3.5	3.6	3.7	3.2	3.3	7.0	6.0
	HARD FESCUE							
1	ABT-HF1	5.9	6.2	5.5	4.6	7.1	6.3	8.7
2	Berkshire	5.6	6.5	5.6	4.2	6.2	5.3	8.3
3	Minotaur	5.2	5.9	5.0	4.2	5.6	3.3	7.3
4	PST-4MB	5.2	5.7	5.0	4.5	5.5	2.0	7.3
5	ABT-HF-3	5.1	5.8	4.8	4.2	5.6	3.0	8.3

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	Spring Green-up[2] April 2002	Red Thread[3] May 2002
	HARD FESCUE (cont.)							
6	Stonehenge	5.0	4.7	5.0	4.2	6.3	4.3	7.7
7	SRX 3961	5.0	6.2	5.0	3.8	5.1	4.0	8.0
8	Chariot	4.9	5.0	4.9	4.0	5.8	4.0	8.0
9	ABT-HF-2	4.8	6.0	5.1	3.7	4.3	5.3	8.7
10	Rescue 911	4.6	5.3	4.7	3.6	4.7	2.3	8.3
11	Pick FF A-97	4.5	5.1	4.5	3.7	5.0	3.0	7.3
12	Eureka II	4.5	5.2	4.2	3.4	5.0	3.0	8.3
13	ABT-HF-4	4.5	5.7	4.4	3.5	4.3	1.3	7.3
14	Discovery	4.4	5.0	4.3	3.5	4.8	5.0	7.0
15	SRO FF3	4.4	5.2	4.1	4.1	4.1	4.7	7.3
16	Oxford	4.3	5.7	4.9	3.3	3.5	4.7	7.3
17	SRO FF4	4.3	5.2	3.9	3.4	4.6	2.7	8.0
18	Hardtop	4.2	5.4	4.6	3.2	3.6	6.7	7.7
19	Reliant II	4.2	5.6	4.2	3.1	3.7	4.7	8.0
20	Heron	4.2	4.6	4.2	3.5	4.6	2.7	6.7
21	Nordic	4.2	5.3	4.4	3.1	3.9	3.0	8.0
22	SRO FF1	4.2	5.9	4.0	3.2	3.6	3.7	6.0
23	SRO FF2	4.2	5.7	3.9	3.4	4.0	2.7	7.7
24	Defiant	3.8	4.8	3.9	3.0	3.4	4.3	5.7
25	Osprey	3.8	4.7	3.8	3.0	3.6	4.0	6.0
26	Attila E	3.5	4.9	3.5	2.6	2.9	3.7	7.0
27	Scaldis	3.5	4.4	3.3	2.6	3.7	2.0	5.0
28	Scaldis II	3.3	3.8	3.1	2.6	3.8	3.7	5.7
29	Bighorn	3.3	4.6	3.5	2.4	2.7	2.3	6.0
30	MB-82	3.3	4.0	3.0	2.5	3.7	2.7	6.3
	SLENDER CREEPING RED FESCUE							
1	BAR SCF 8 FUS 3	4.1	5.1	4.4	3.5	3.6	4.0	4.0
2	Seabreeze	3.3	3.8	3.6	3.0	2.7	5.0	3.0
3	SRO FF8	3.3	3.8	3.6	3.0	2.8	5.3	2.7
4	ASR 049	3.2	4.4	3.5	2.5	2.6	4.0	3.0
5	SRO FF9	3.0	3.9	2.7	2.8	2.7	5.0	4.7
6	Dawson E+	2.7	3.5	2.2	2.2	2.8	5.3	4.3
7	SRO FF10	2.5	3.8	1.8	2.2	2.3	4.7	4.5

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	Spring Green-up[2] April 2002	Red Thread[3] May 2002
	STRONG CREEPING RED FESCUE							
1	Jasper II	6.2	6.5	6.4	6.4	5.7	7.3	4.7
2	Cindy Lou	6.2	6.0	6.4	6.3	6.3	6.3	7.3
3	Navigator	6.1	6.0	5.7	6.5	6.1	6.3	7.0
4	SRX 52961	6.1	6.1	6.2	6.2	6.0	7.7	6.3
5	Gibraltar	6.0	6.3	5.9	6.3	5.5	6.3	6.7
6	ABT-CR-3	5.9	6.5	5.8	5.9	5.3	6.7	4.7
7	Aberdeen	5.8	5.9	5.8	5.6	5.7	7.3	4.7
8	FLE comp	5.6	5.5	5.7	6.0	5.2	8.0	5.7
9	ABT-CR-2	5.1	6.6	4.8	4.2	4.9	5.3	3.7
10	ASC 082	4.8	5.3	4.8	4.8	4.3	5.3	3.0
11	Pathfinder	4.8	5.9	4.5	4.6	4.1	7.7	2.7
12	SR 5210	4.8	4.6	4.7	4.9	5.1	6.3	4.3
13	Florentine	4.7	5.6	5.0	4.1	3.8	7.3	3.7
14	DGSC 94	4.6	4.9	4.7	4.4	4.2	7.3	2.0
15	Shademaster II	4.5	5.3	5.1	3.6	4.1	7.7	3.3
16	Gen 92	4.4	5.2	4.6	4.1	3.6	6.3	4.3
17	SRO FF12	4.4	4.8	4.4	4.5	3.9	7.7	4.7
18	Bargena III	4.3	5.2	4.9	3.7	3.4	7.7	2.3
19	PST-4FR	4.2	5.6	4.5	3.0	3.6	7.7	2.7
20	Rose	4.1	4.4	4.4	3.9	3.7	7.3	2.3
21	Inverness	4.1	5.6	4.8	3.1	2.9	7.0	2.3
22	ASC 172	4.0	4.9	4.1	3.7	3.1	2.7	3.3
23	Shademark	3.9	4.4	3.8	3.8	3.5	7.3	2.0
24	Salsa	3.4	4.7	3.1	3.1	2.9	8.7	4.0
25	Common Creeper	3.0	3.3	3.2	2.8	2.6	5.0	4.7
26	SRO FF11	3.0	3.4	3.1	2.9	2.7	6.0	5.0
27	Claudia	2.5	1.8	2.3	2.7	3.1	4.7	5.3
28	Boreal	2.4	2.7	2.3	2.2	2.4	3.7	5.7
	SHEEPS FESCUE							
1	Quatro	3.9	4.2	3.8	3.4	4.2	7.0	7.0

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.	Spring Green-up[2] April 2002	Red Thread[3] May 2002
	BLUE FESCUE							
1	SR 3200	3.1	4.0	3.2	2.3	2.7	3.7	5.7
	LSD at 5% =	0.7	0.8	0.8	1.0	1.2	1.8	2.3

[1] 9 = best turf quality
[2] 9 = earliest spring green-up
[3] 9 = least disease

Table 3. Performance of fine fescue cultivars and selections in a turf trial seeded in September 1998 at Pittstown, NJ.

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
	CHEWINGS FESCUE					
1	Longfellow II	5.3	5.1	5.1	5.6	5.2
2	ABT-CHW-2	5.0	5.2	4.7	4.9	5.1
3	Pick FRC A-93	4.8	5.3	4.4	4.7	4.9
4	Ambrose	4.8	5.3	4.6	4.8	4.6
5	Pick FRC B-93	4.8	5.5	4.7	4.8	4.2
6	BAR CHF 8 FUS 2	4.7	5.1	4.7	4.8	4.2
7	Wrigley	4.7	5.4	4.4	4.7	4.3
8	Shadow II	4.7	5.4	4.8	4.6	3.8
9	Intrigue	4.6	5.2	4.2	4.6	4.4
10	Hood	4.6	5.0	4.5	4.8	4.1
11	Ambassador	4.6	5.1	4.4	4.8	4.0
12	FC 49	4.6	5.2	4.2	4.8	4.0
13	FC 51	4.5	5.1	4.1	4.6	4.1
14	FC 39	4.5	5.2	4.3	4.6	3.7
15	Silhouette	4.5	5.3	3.9	4.4	4.3
16	MB-63	4.5	5.1	4.1	4.2	4.4
17	Culombra	4.4	5.0	4.1	4.5	4.1
18	FC11	4.4	5.1	4.2	4.4	3.9
19	Treazure	4.4	4.6	4.3	4.8	3.7
20	Pick FRC 2-96	4.3	4.9	3.9	4.3	4.2
21	Banner III	4.3	5.3	4.3	4.2	3.5
22	Victory RS	4.3	4.9	4.1	4.6	3.5
23	Tiffany	4.3	4.8	4.0	4.3	3.9
24	ABT-CHW-1	4.3	5.1	3.8	4.5	3.7
25	ACF 083	4.3	4.9	4.2	4.2	3.7
26	Victory II	4.2	4.7	4.0	4.3	3.9
27	Sandpiper	4.2	4.7	3.7	4.2	4.2
28	FC 50	4.2	5.0	4.1	4.3	3.2
29	Brittany	4.1	4.8	3.9	4.3	3.5
30	FC 28	4.1	5.0	3.8	4.1	3.5
31	Victory	4.1	4.7	3.9	4.3	3.4
32	Bridgeport	4.0	4.8	3.6	4.3	3.5
33	SR 5100	4.0	4.4	3.5	4.2	4.0
34	Magic	3.9	4.6	4.0	3.8	3.4
35	Pick FRC A-97	3.8	4.7	3.3	3.4	3.7

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
		CHEWINGS FESCUE (cont.)				
36	Jamestown II	3.6	4.1	3.4	3.3	3.5
37	FLED	3.4	4.0	2.9	3.5	3.1
		HARD FESCUE				
1	ABT-HF1	6.3	5.7	6.3	6.6	6.8
2	SRX 3961	6.3	5.6	6.6	6.5	6.7
3	Oxford	6.2	5.6	6.0	6.4	6.9
4	ABT-HF-2	6.2	5.8	6.0	6.3	6.5
5	Berkshire	6.1	5.9	5.9	5.9	6.8
6	ABT-HF-3	5.9	5.4	5.8	5.8	6.6
7	Heron	5.9	5.9	6.0	6.0	5.6
8	Pick GBM	5.8	5.4	6.0	5.6	6.2
9	Osprey	5.7	5.3	5.3	5.8	6.5
10	Eureka II	5.7	5.1	5.5	6.0	6.1
11	FL 54	5.7	5.4	5.7	5.8	5.9
12	Hardtop	5.6	5.3	5.3	5.7	6.2
13	EL 20	5.6	5.4	5.5	6.0	5.5
14	Nordic	5.6	5.0	5.2	6.0	6.1
15	Stonehenge	5.6	5.3	5.5	6.0	5.5
16	Chariot	5.5	5.1	5.3	5.7	6.0
17	LL 22	5.5	5.1	5.7	5.4	5.9
18	Attila E	5.5	5.2	5.3	5.8	5.7
19	Reliant II	5.5	5.3	5.3	5.7	5.6
20	ABT-HF 4	5.5	5.2	5.4	5.7	5.5
21	EL 41	5.4	5.3	5.6	5.3	5.5
22	Scaldis II	5.4	5.3	5.5	5.8	5.2
23	Syn 4U6	5.4	5.3	5.2	5.3	5.9
24	Pick FF A-97	5.4	5.3	5.1	5.5	5.6
25	Minotaur	5.3	5.0	5.0	5.5	5.9
26	Discovery	5.3	4.9	4.8	5.6	6.0
27	Rescue 911	5.3	5.1	4.9	5.3	5.9
28	PST-4HM	5.3	5.2	5.1	5.4	5.4
29	Spartan	5.1	5.0	4.9	5.4	5.0
30	Scaldis	5.0	5.3	4.9	5.0	5.0

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
		HARD FESCUE (cont.)				
31	MB-82	5.0	4.9	5.2	5.2	4.8
32	Defiant	5.0	4.9	4.9	5.1	5.2
33	Pick FF 6-94	5.0	4.7	4.8	5.2	5.3
34	PST-4MB	4.9	4.9	4.8	5.0	5.1
35	Pick FOD-93	4.3	4.7	4.2	4.4	3.9
36	Warwick	4.2	3.2	4.2	4.7	4.8
37	Pick FOG-93	3.8	4.3	3.7	3.8	3.3
38	18909	3.3	3.5	2.8	3.1	3.8
		SLENDER CREEPING RED FESCUE				
1	BAR SCF 8 FUS3	5.2	5.8	5.5	4.6	5.1
2	ASR 049	4.6	5.5	4.8	4.2	4.1
3	Dawson E+	4.4	4.7	4.2	4.1	4.4
4	Seabreeze	4.3	4.6	4.6	4.1	3.7
		STRONG CREEPING RED FESCUE				
1	Aberdeen	5.2	5.4	5.1	5.1	5.1
2	Pick FDM	5.1	5.2	5.0	5.1	5.1
3	Cindy Lou	5.0	4.8	4.9	5.2	5.1
4	ABT-CR-3	4.8	5.1	4.9	4.7	4.6
5	Jasper II	4.8	5.1	4.7	5.0	4.5
6	Florentine	4.7	5.4	4.8	4.5	4.3
7	ABT-CR-2	4.7	5.0	4.9	4.8	4.2
8	SRX 52961	4.6	4.5	4.6	4.6	4.5
9	Navigator	4.6	4.6	4.6	4.7	4.4
10	ASC 082	4.5	4.9	4.3	4.3	4.4
11	PST-47TCR	4.5	4.8	4.6	4.3	4.2
12	BAR CF 8 FUS1	4.4	4.9	4.2	4.4	4.1
13	Pathfinder	4.4	4.7	4.6	4.6	3.7
14	FR 46	4.4	4.9	4.8	3.9	3.9
15	PST-4FR	4.3	5.1	4.4	4.4	3.4
16	Rose	4.2	4.8	4.3	4.1	3.7
17	SR 5210	4.2	4.0	4.0	4.5	4.3
18	Jasper	4.2	4.7	4.1	4.7	3.4
19	DGSC 94	4.2	4.7	4.1	4.3	3.6
20	FR-01-4-25	4.1	4.7	3.8	4.1	3.6

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
	STRONG CREEPING RED FESCUE (cont.)					
21	Salsa	4.0	4.2	4.1	3.8	4.0
22	FR27	4.0	4.7	3.9	4.1	3.4
23	Shademaster II	4.0	4.3	4.1	4.0	3.5
24	ASC 172	4.0	4.7	3.5	4.0	3.7
25	FR 47	4.0	4.2	3.5	4.1	4.0
26	Common Creeper	3.9	4.0	4.0	3.9	3.9
27	Boreal	3.9	4.2	3.7	3.6	4.2
28	Trapeze	3.9	4.6	4.2	3.9	2.9
29	Syn 42 RR	3.8	4.1	4.1	4.1	2.7
30	Claudia	3.6	3.3	3.4	3.6	4.1
31	Vista	3.6	4.6	3.8	3.6	2.2
32	Shademark	3.3	4.0	3.3	3.4	2.4
	BLUE FESCUE					
1	SR 3200	4.4	4.7	4.2	4.4	4.3
	SHEEPS FESCUE					
1	Quatro	5.3	5.1	4.8	5.6	5.9
2	Azay	4.7	4.4	4.5	4.8	5.0
3	Bighorn	4.4	4.6	4.2	4.5	4.2
4	FO 53	4.2	4.7	4.2	3.9	3.9
5	FO 52	3.9	4.6	3.8	3.8	3.7
6	Teal	3.9	4.6	3.6	3.6	3.6
	LSD at 5 % =	0.5	0.5	0.7	0.7	0.9

[1] 9 = best turf quality

Table 4. Performance of fine fescue cultivars and selections in a turf trial seeded in September 1999 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	Turf Quality[1] 2000 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.	Red Thread[2] June 2002
			CHEWINGS FESCUE			
1	DLC	5.8	5.1	6.2	6.1	6.3
2	4601 comp	5.6	5.1	5.6	6.1	7.7
3	SRX 5HH9	5.5	5.7	5.3	5.5	7.0
4	Intrigue	5.4	5.1	5.6	5.5	5.7
5	SRX 5FF9	5.3	4.7	5.4	6.0	8.3
6	FRC A-93	5.3	5.2	5.0	5.8	5.7
7	SR 5020	5.2	5.2	5.2	5.3	5.7
8	SRX 5II9	5.2	5.0	5.2	5.5	6.3
9	Ambassador	5.2	5.0	5.0	5.5	5.0
10	Shadow II	5.1	4.8	5.2	5.4	6.3
11	FRC B-93	5.1	5.8	4.9	4.5	3.0
12	Victory II	5.0	5.5	4.6	4.9	5.0
13	4EC-99	5.0	5.4	4.3	5.1	7.0
14	SRX 5GG9	4.9	5.0	4.9	4.9	4.0
15	SR 5100	4.9	5.3	4.5	4.9	4.0
16	Silhouette	4.8	4.7	4.9	4.9	4.7
17	FRC 2-96	4.7	4.9	4.9	4.4	3.3
18	Bridgeport	4.7	5.4	4.3	4.4	4.3
19	Bargreen	4.6	5.0	4.3	4.6	4.0
20	Sandpiper	4.6	5.4	4.4	3.9	3.3
21	New Chewing	4.2	4.1	4.9	3.8	3.7
22	Victory	4.2	4.0	4.1	4.5	3.3
23	FC 51	4.1	4.9	3.9	3.4	2.3
24	Barnica	3.9	5.2	3.3	3.3	2.0
25	Tiffany	3.9	4.3	4.0	3.3	1.7
26	FC 50	3.8	3.2	4.0	4.2	3.0
27	FRC A-97	3.6	4.6	3.5	2.9	3.3
			HARD FESCUE			
1	E2H	5.9	5.5	6.1	6.3	9.0
2	L2H	5.9	4.9	6.1	6.6	7.7
3	ABT HF I '99	5.9	5.5	6.0	6.1	7.7
4	ABT HF I '98	5.7	5.5	5.9	5.7	7.3
5	4AU-99	5.6	5.3	5.5	6.1	7.7

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	Turf Quality[1] 2000 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.	Red Thread[2] June 2002
			HARD FESCUE (cont.)			
6	LL 22	5.6	4.9	5.8	6.1	8.0
7	Oxford	5.5	4.9	5.9	5.8	8.0
8	Heron	5.3	4.6	5.5	5.9	7.3
9	4HM-99 BS	5.3	4.6	5.6	5.7	7.3
10	FL 54	5.3	4.6	5.6	5.7	6.7
11	Stonehenge	5.2	5.1	5.1	5.5	7.0
12	Rescue 911	5.2	5.4	4.9	5.4	7.0
13	New Hard	5.2	4.7	5.3	5.7	6.3
14	SR 3100	5.1	4.4	5.3	5.6	6.7
15	Syn 49th	4.9	4.4	5.1	5.1	7.3
16	Bardur	4.8	4.7	5.0	4.7	6.7
17	Discovery	4.8	4.3	4.8	5.3	6.0
18	4MB-99	4.7	5.0	4.4	4.7	6.3
19	4UB	4.5	3.9	4.6	5.1	7.0
20	Syn 4CU-99	4.5	4.4	4.6	4.5	6.0
21	Aurora Gold	4.3	3.7	4.4	5.0	6.3
			SLENDER CREEPING RED FESCUE			
1	New Slender	4.7	4.8	5.0	4.3	4.0
2	Barcrown	4.5	4.7	4.3	4.6	7.7
3	Syn 4IT	4.0	4.8	3.9	3.3	3.3
4	Syn 453E	3.9	4.3	4.0	3.4	2.7
			STRONG CREEPING RED FESCUE			
1	Pathfinder	5.4	5.0	5.6	5.6	6.3
2	Gibraltar	5.2	5.3	5.1	5.2	6.0
3	Syn 4CRU	5.1	5.0	5.4	5.0	4.0
4	Aberdeen	5.0	4.6	5.3	5.2	5.3
5	4BBL	5.0	5.9	4.6	4.6	5.7
6	FLE comp	5.0	4.7	5.2	5.1	5.7
7	Celestial	4.9	4.6	5.3	4.7	4.0
8	Florentine	4.8	5.3	4.6	4.6	4.7
9	Fenway	4.8	4.9	4.9	4.6	4.3
10	4676 comp	4.7	4.7	5.3	4.2	2.7

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	Turf Quality[1] 2000 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.	Red Thread[2] June 2002
	STRONG CREEPING RED FESCUE (cont.)					
11	TLS comp	4.5	4.4	4.7	4.3	5.0
12	PSC comp	4.4	4.5	4.7	4.1	4.7
13	4FR-99	4.3	4.8	4.0	4.0	3.0
14	4FRR-99	4.2	4.8	4.0	4.0	3.7
15	New Strong	4.2	4.4	4.3	3.9	3.3
16	47 TCL	4.1	4.2	4.4	3.7	3.3
17	Syn 42RR	4.1	4.7	4.0	3.6	3.0
18	Syn 4VB3	4.0	4.1	4.1	3.7	2.7
19	Common Creeper	3.8	4.7	3.3	3.3	3.3
	BLUE FESCUE					
1	4-Blue-99	4.1	4.4	4.2	3.5	2.7
	LSD at 5% =	0.7	1.4	0.5	0.9	2.0

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

Table 5. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2000 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 2001-2002 Avg.	Turf Quality[1] 2002 Avg.	Turf Quality[1] 2001 Avg.
		CHEWINGS FESCUE		
1	COM Comp	6.3	6.3	6.3
2	COE Comp	6.2	6.4	6.1
3	C-73	5.8	5.8	5.8
4	4601	5.7	5.7	5.7
5	SRX 5020	5.3	4.9	5.7
6	SRX 51FF	5.2	4.9	5.5
7	SRX 5NJD	5.1	4.8	5.5
8	SRX 5111	5.1	4.9	5.2
9	SRX 51HH	5.0	4.9	5.1
10	SYN 4CHU	5.0	4.6	5.4
11	Shadow II	5.0	4.5	5.4
12	SRX 51GG	4.9	4.7	5.2
13	00-DFRC	4.9	4.7	5.1
14	95M	4.9	4.7	5.0
15	SUP Comp	4.9	4.5	5.2
16	SR 5100	4.7	4.7	4.7
17	Tiffany	4.7	4.4	5.0
18	FRCA 93	4.6	4.3	4.9
19	Silhouette	4.5	4.0	5.0
20	Victory 2	4.4	4.1	4.7
21	FRC-B-93	4.3	4.0	4.6
22	Sandpiper	4.0	4.1	3.9
		HARD FESCUE		
1	SRX 3961	5.7	5.9	5.6
2	E2H	5.7	6.2	5.2
3	HOM Comp	5.5	5.6	5.4
4	SRX 3324	5.3	5.6	5.0
5	HOE Comp	5.3	5.4	5.1
6	SPX 35TDNE	5.0	5.4	4.7
7	Osprey	5.0	5.4	4.6
8	EL 20	4.9	5.3	4.5
9	SRX 3STDE	4.9	5.3	4.4
10	FL55	4.8	5.4	4.3

Table 5 (continued).

	Cultivar or Selection	Turf Quality[1] 2001-2002 Avg.	Turf Quality[1] 2002 Avg.	Turf Quality[1] 2001 Avg.
	HARD FESCUE (cont.)			
11	Discovery	4.8	4.9	4.7
12	LL 22	4.7	5.1	4.4
13	SRX 3MOL	4.7	4.9	4.5
14	SR 3100	4.7	4.6	4.8
15	Aurora Gold	4.6	4.9	4.3
16	FL54	4.6	5.1	4.0
17	Heron	4.5	4.9	4.2
18	Spartan	4.2	4.5	4.0
	SLENDER CREEPING RED FESCUE			
1	SRX 55SLG	4.0	4.0	4.1
2	Seabreeze	3.8	3.1	4.5
3	SRX 55SLCE	3.8	3.5	4.1
4	Count	2.5	2.0	3.1
5	Dawson E	1.5	1.9	1.2
	STRONG CREEPING RED FESCUE			
1	TL3 Comp	6.1	6.2	5.9
2	TL4 Comp	5.4	5.4	5.3
3	SMX Comp	5.4	5.4	5.3
4	DW2	5.3	5.2	5.4
5	TL2 Comp	5.3	5.4	5.1
6	Jasper II	5.3	5.0	5.5
7	TL1 Comp	5.2	5.1	5.2
8	SRX 52961	4.6	4.4	4.8
9	SYN 4FINO	4.5	4.3	4.7
10	SR 5210	4.0	4.0	4.0
11	SYN 4CRO	4.0	3.9	4.1
12	Jasper	4.0	3.8	4.2
13	SR 5200E	2.9	2.7	3.0
14	Common Creeper	2.8	3.0	2.5

Table 5 (continued).

	Cultivar or Selection	Turf Quality[1] 2001-2002 Avg.	Turf Quality[1] 2002 Avg.	Turf Quality[1] 2001 Avg.
	SHEEPS FESCUE			
1	Bighorn	3.7	3.9	3.5
	LSD at 5% =	0.5	0.9	0.7

[1] 9 = best turf quality

Table 6. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2001 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001
		CHEWINGS FESCUE	
1	EC4601	6.1	7.0
2	ACF 188	5.9	7.0
3	GAFF	5.5	7.0
4	OO-CFRc	5.4	6.7
5	01-2	5.4	6.7
6	C8-1-4CHU	5.3	4.7
7	ACF 195	5.3	7.0
8	ACF 193	5.1	7.3
9	01-3	5.0	6.7
10	FCATCX	5.0	6.7
11	FC77	5.0	6.0
12	SRX 5NJD	4.9	7.0
13	ACF 189	4.9	7.3
14	ACF 198	4.9	7.3
15	SRX 51GG	4.8	5.7
16	ZFRC 8328	4.8	6.3
17	01-1	4.8	6.3
18	Pick FRC 4-92	4.8	5.7
19	SRX51FF	4.6	7.0
20	Shadow II	4.5	3.3
21	FRC B-98	4.5	7.0
22	SRX 51II	4.4	6.0
23	01-ORCHF-SHY	4.4	5.3
24	C8-1-4SU-2001	4.3	5.0
25	Bridgeport	4.3	7.7
26	01-ORCHF-T	4.2	7.3
27	Lucinda	4.1	8.0
28	01-ORCHF-M	4.1	6.3
29	C8-9-4EC-99	4.0	7.0
30	Victory	4.0	7.0
31	SRX 5100	3.9	4.3
32	FC62	3.8	5.3
33	Sandpiper	3.7	7.0

Table 6 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001
		HARD FESCUE	
1	HE1 comp	6.7	6.7
2	SRX 3961	6.3	7.7
3	AHF 090	5.9	7.7
4	Hardtop	5.7	8.0
5	HB1 comp	5.7	6.3
6	SRX 3324	5.7	6.7
7	AHF 106	5.6	8.0
8	AHF 116	5.6	7.3
9	4AU-98	5.5	7.3
10	AHF 114	5.5	7.7
11	Rescue 911	5.5	7.3
12	SRX 3STDNE	5.4	6.3
13	C8-1-49TH-01	5.4	6.7
14	4AU-99	5.3	6.7
15	Aurora Gold	5.2	7.7
16	Ecostar	5.2	7.3
17	Discovery	5.2	2.7
18	SRX 3STDE	5.1	7.0
19	Osprey	5.1	7.3
20	SRX 3M01	5.1	5.3
21	SRX 3BHF	5.0	6.3
22	01-ORHF EXP	4.8	6.7
23	C8-1-4CU-99	4.7	7.0
24	SRX 3100	4.7	2.7
25	Stonehenge	4.6	7.0
26	4UB-99	4.3	7.0
27	DLFJ-102	3.5	7.0
28	F052	3.5	6.0
29	01-ORHF BGS	3.0	6.3
		SLENDER CREEPING RED FESCUE	
1	FL55	5.5	6.7
2	SRX 55SLCE	4.3	6.3
3	SRX 55SLG	4.2	6.0
4	Count	3.7	6.0

Table 6 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001
	STRONG CREEPING RED FESCUE		
1	01-3	6.1	7.0
2	01-1	6.1	7.3
3	01-2	5.9	6.7
4	PST-4VLS	5.9	6.0
5	C8-9-4FR-99	5.6	6.3
6	FRDW2	5.6	6.7
7	47TUR-98	5.6	6.3
8	ZFRR93-111	5.5	8.0
9	BURF-01	5.5	6.7
10	Jasper II	5.5	7.3
11	TL2	5.5	6.0
12	SRX 52961	5.2	7.3
13	Badger	5.2	7.0
14	PST-4EL	5.1	6.0
15	Florentine	5.0	8.3
16	PST-4AZ	4.9	6.3
17	PST-4CR1	4.8	5.3
18	4CRE-98	4.8	6.3
19	Seabreeze	4.8	7.3
20	4BBL	4.7	7.3
21	Fenway	4.7	8.3
22	PST-4SBU	4.6	7.0
23	SR 5210	4.6	6.7
24	4FRR-99	4.5	7.7
25	PST-4FINO	4.5	6.0
26	Dawson E+	4.2	6.7
27	ASC 251	4.2	7.3
28	DLFJ-104	4.2	7.0
29	ZFRR93-118	4.1	6.7
30	ZFRR93-107X	4.0	7.0
31	Salsa	3.8	7.0
32	DLFJ-102	3.7	8.0
33	Crestlawn	3.5	7.7
34	DLFJ-101	3.2	7.3
35	DLFJ-103	3.0	8.0
36	SRX 5200E	3.0	6.7
37	DLFJ-105	2.5	7.0

Table 6 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001
		SHEEPS FESCUE	
1	C8-1-4MB	5.1	7.0
2	MX-86	3.2	6.3
	LSD at 5% =	0.7	1.0

[1] 9 = best turf quality
[2] 9 = best establishment

Table 7. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2001 at Adelphia, NJ. (Low-maintenance.)

	Cultivar or Selection	Species	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001
1	BMRF-01	Strong Creeping	5.6	7.3
2	TL2	Strong Creeping	5.6	7.0
3	SRX 6PP74	Koeleria	5.5	4.0
4	HB1 comp	Hard x Blue Hybrid	5.4	5.3
5	Barleria	Koeleria	5.4	6.0
6	Barkoel	Koeleria	5.3	5.7
7	DLFJ-104	Strong Creeping	4.9	7.7
8	Fenway	Strong Creeping	4.8	8.0
9	DLFJ-102	Hard Fescue	4.6	7.0
10	SRX 6PP66	Koeleria	4.5	3.3
11	PST-DCM	Deschampsia	4.5	6.3
12	DLFJ-102	Strong Creeping	4.4	8.0
13	DLFJ-103	Strong Creeping	4.4	7.7
14	Dawson E+	Slender Creeping	4.4	7.0
15	Eagleton	Kentucky Bluegrass	4.4	5.0
16	PST-4CRY	Strong Creeping	4.3	5.3
17	Crestlawn	Strong Creeping	4.2	7.7
18	Salsa	Strong Creeping	4.2	8.0
19	PBE	Deschampsia	4.2	3.7
20	12828	Deschampsia	4.1	7.3
21	01-OR90AS	Koeleria	4.1	5.3
22	PST-DC1	Deschampsia	4.0	5.0
23	Moonlight	Kentucky Bluegrass	4.0	5.3
24	12804	Deschampsia	4.0	7.0
25	PST-DH6	Deschampsia	4.0	5.0
26	12803	Deschampsia	3.9	7.3
27	DCP comp	Deschampsia	3.9	2.0
28	12810	Deschampsia	3.8	6.7
29	14550	Deschampsia	3.7	6.7
30	14426	Deschampsia	3.7	5.3
31	14411	Deschampsia	3.7	6.0
32	Midnight	Kentucky Bluegrass	3.7	6.0
33	Barcampsia	Deschampsia	3.6	7.3
34	A96-1201	Kentucky Bluegrass	3.6	5.7
35	12807	Deschampsia	3.5	7.0

Table 7 (continued).

	Cultivar or Selection	Species	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001
36	DCE-01	Deschampsia	3.5	2.0
37	14383	Deschampsia	3.5	5.7
38	SRX 673-21	Deschampsia	3.5	5.3
39	PST-DCD	Deschampsia	3.5	4.0
40	DLFJ-105	Strong Creeping	3.5	7.7
41	Shade Champ	Deschampsia	3.4	5.7
42	PBL	Deschampsia	3.4	3.0
43	14421	Deschampsia	3.4	5.7
44	SRX 673-20	Deschampsia	3.3	4.0
45	DLFJ-101	Strong Creeping	3.3	7.0
46	12796	Deschampsia	3.2	7.0
47	ZDC 95-130	Deschampsia	3.2	7.0
48	SR 6000	Deschampsia	3.2	4.7
49	SRX 6G67	Koeleria	3.2	3.0
50	01-OR80691	Koeleria	3.1	1.3
51	14378	Deschampsia	3.0	7.0
52	14374	Deschampsia	3.0	7.3
53	01-OR90ASI	Koeleria	2.9	5.7
54	SRX 6G78	Koeleria	2.7	1.3
55	Nortran	Deschampsia	2.6	3.3
56	SRX 6KWAI	Koeleria	2.5	6.7
57	SRX 6DWAI	Deschampsia	1.8	9.0
	LSD at 5% =		1.0	1.4

[1] 9 = best turf quality
[2] 9 = best establishment

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

	1998		1999		2000		2001		2002	
	N[1]	Ht[2]	N	Ht	N	Ht	N	Ht	N	Ht
Table 1 (1998 Adelphia)	1.5	1.5	2.0	1.5	1.7	1.5	2.7	1.5	1.5	1.5
Table 2 (1998 North Brunswick)	1.5	1.5	1.0	1.5	1.9	1.5	2.0	1.5	1.8	1.5
Table 3 (1998 Pittstown)	1.5	3.0	1.9	3.0	1.0	2.5	1.2	2.5	0.9	2.5
Table 4 (1999 Adelphia)					1.7	1.5	2.1	1.5	1.8	1.5
Table 5 (2000 Adelphia)							2.5	1.5	1.0	1.5
Table 6 (2001 Adelphia)									1.0	1.5
Table 7 (2001 Adelphia; low-maintenance test)									0	2.5

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