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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 TALL FESCUE CULTIVARS AND SELECTIONS IN NEW JERSEY TURF TRIALS

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Tall fescue (*Festuca arundinacea* Schreb.) is a cool-season grass that is widely used as both forage and turfgrass in much of the United States. Due to significant improvements in turf quality and disease resistance, tall fescue has become a popular turfgrass species. The ability to perform well under low soil moisture conditions has made tall fescue a good option for turf managers in many situations. Other cool-season turfgrasses do not perform as well as tall fescue under conditions of high temperature and drought. For tall fescue to develop adequate drought tolerance, however, the turf must be moderately stressed so that roots can develop to lower depths in the soil.

The first introduction of tall fescue germplasm to the United States occurred in the 19th century. The species was first introduced as a forage grass; however, the first tall fescue cultivars to be used as turfgrass (Kentucky-31 and Alta) were not introduced until the early 1940s. These cultivars, along with the forage cultivar Fawn, have a coarse leaf texture, light-green color, rapid vertical growth rate, and low shoot density, resulting in poor turf quality when used for turf. Despite the great improvements that have been made in the most recently developed tall fescue cultivars, Kentucky-31 is still sold in large quantities due to its low seed price. The reason for the low cost of Kentucky-31 seed is twofold: (1) the cultivar produces large amounts of seed, and (2) tall fescue pastures seeded with Kentucky-31 in Missouri can be used as seed fields, thereby making the field useful for more than one purpose.

Many of the improved tall fescue cultivars are comparable to other cool-season turfgrass species in terms of turf quality at mowing heights of 1.5 inches and higher. This improvement is due to the efforts of plant breeders who have focused on developing tall fescue cultivars that exhibit darker green color, lower growth habit, higher shoot density, finer leaf texture, and increased resistance to disease. Recent tall fescue releases can now be used effectively for a number of medium-high maintenance situations including athletic fields, parks, and home lawns. Tall fescue can also be used in low maintenance situations such as roadsides and industrial sites.

Currently, a great amount of research is being done on the beneficial role of endophytes in tall fescue. Endophytic fungi can live in tall fescue plants and have been shown to enhance drought tolerance and insect resistance. Endophytes are not effective for insects such as white grubs that feed primarily on the roots. The development of cultivars that contain beneficial endophytes may lead to many more uses for tall fescue as a turfgrass. Plant breeders are also continually attempting to find new sources of endophytes. By diversifying the pool of available endophytes, plant breeders may be able to find endophytes that will enhance resistance to insects and diseases previously unaffected by endophytes.

PROCEDURES

Five tall fescue tests were established in New Jersey between 1998 and 2001. A single test was established each year at Adelphia (Tables 1, 2, 3, and 5) and in 2001 at North Brunswick (Table 4). All tests at Adelphia were established in August or September by hand sowing 0.88 oz of seed per 3 X 5 ft plot (3.7 lb/1000 ft^2). The test at North Brunswick was seeded in August and the plots were 4 X 6 ft (1.4 oz of seed per plot; 3.6 lb/1000 ft^2). A 6-inch border was left unseeded around each plot to reduce contamination between the plots. Each entry was replicated three times in a randomized complete block design.

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The tests were managed under different nitrogen and mowing regimes (Table 6), and all tests were mowed with a reel mower with clippings returned. The mowing of the plots was frequent enough to prevent excessive accumulation of clippings. Soil pH was kept between 6.0 and 6.5 with agricultural limestone. Broadleaf weeds were controlled with spring or fall applications of 2,4-D + dicamba. Prograss and Dimension were used to control annual grassy weeds. The tests were maintained at low to medium fertility levels and 1.5-inch mowing heights. During the summer, fertilizer applications were timed to encourage disease development.

All tests were evaluated for turf quality throughout the growing season. Turf quality ratings are based on a combination of factors including color, density, leaf texture, growth habit, uniformity, and freedom from disease or insect damage. The plots were occasionally rated for individual characteristics such as resistance to diseases (especially brown patch), establishment, seedling emergence, drought stress, and spring green-up. Rating was done visually using a 1 to 9 scale, with 9 representing the best turf quality or most desirable turf characteristic. All data were summarized and subjected to an analysis of variance. Means were separated using the least significant difference (LSD) multiple comparisons test.

The 2001 test at Adelphia was inoculated with *Rhizoctonia solani* (which causes brown patch) in July. The 1999 and 2000 tests were inoculated in previous summers. The purpose of these inoculations was to create intense, uniform disease pressure throughout the tests. In 2002, there was not sufficient brown patch disease to get an accurate brown patch disease rating.

RESULTS AND DISCUSSION

Results of the tall fescue tests can be found in Tables 1 through 5. Three tests (Tables 1 to 3) are ranked by the overall (multiple-year) turf quality averages; the 2001 tests (Tables 4 and 5) are ranked by the 2002 turf quality average. Rankings based strictly on turf quality do not necessarily reflect the performance of cultivars for individual characteristics such as color, disease resistance, establishment, etc. Because turfgrass performance of a given cultivar can change significantly throughout the growing season, turf managers should pay close attention to all available data and not rely strictly on the overall turf quality average when comparing cultivars.

Turf Quality

Since the first turf-type tall fescues were developed, great improvements have been made in overall turf quality. The early forage cultivars, such as Kentucky-31, consistently rank near the bottom of the tests in regard to turf quality. Tall fescue breeding is currently improving turf quality at a brisk pace. A given cultivar may rank very high in one test, while ranking quite low, relative to more recently-developed entries, in a test seeded just 2 or 3 years later; therefore, turfgrass managers should continually research all available data.

Disease Resistance

The major disease of tall fescue is brown patch. Currently, brown patch resistance in commercially available cultivars is very low; there are no turf-type tall fescue cultivars with complete resistance to this disease. If proper environmental conditions exist, all available cultivars will sustain damage from brown patch. Dense turf produces a microenvironment more favorable to brown patch. At Rutgers, the focus of tall fescue breeding has shifted from selecting extremely dense types to selecting germplasm that exhibits a slightly more open canopy. Cultivars of this type of tall fescue are described as being 'semi-dwarf.' Our research and observations have shown that semi-dwarf tall fescue cultivars will often out-perform 'dwarf' tall fescue cultivars over an extended period of time. Although these more open-type selections may not have the optimum density for some turf situations, the anticipated reduction in brown patch severity may greatly enhance summer turf quality.

Another method that we have used to develop cultivars with increased brown patch resistance is mowed spaced-plant evaluation. By growing individual plants under mowed conditions and then inoculating the plants with disease, we are able to select for individual genotypes that show resistance. Selections that have been developed using this method are now being evaluated in the breeding program at Rutgers.

In New Jersey, most improved tall fescue cultivars are able to recover fully from brown patch soon

after the disease subsides; therefore, treating for the disease may not be worthwhile in most situations.

Color

The most noticeable aesthetic quality of turfgrass is color. Breeding efforts over the past few decades have focused on the development of tall fescue cultivars that exhibit a darker green color. The dark green color of newer cultivars is reflected in the overall quality ratings in each of the tables. Much of the recent improvement that has been made in newer cultivars such as Bingo, SR 8250, and Raptor can be attributed to a change in color from medium green (i.e. Rebel Jr. and Falcon II) to dark green. Winter color and fall color retention can also be important factors to consider when selecting a tall fescue cultivar.

SUMMARY

As plant breeders continue to develop cultivars with improved turf quality, tall fescue is certain to be used on a much broader basis. Improvements in shade tolerance, density, leaf texture, and color have made tall fescue a viable option in many turfgrass situations. These improvements have also made it possible for tall fescue to be used effectively in mixtures with other turfgrass species, especially Kentucky bluegrass. Tall fescue performs better than most other cool-season turfgrasses under high temperature and low moisture conditions. Endophyte-infected tall fescue cultivars are useful in certain stress situations, and will continue to be studied. The major weakness of tall fescue is brown patch susceptibility; therefore, the Rutgers breeding program is focusing on developing cultivars that can better handle brown patch disease pressure.

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Table 1. Performance of tall fescue cultivars and selections in a turf trial seeded in September 1998 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
1	DLSD	6.1	5.6	6.1	6.6	6.1
2	Raptor	6.1	5.9	6.5	5.9	6.1
3	Biltmore	6.1	5.8	6.2	6.2	6.2
4	MC1 comp	5.9	5.6	6.6	5.6	5.9
5	8001	5.9	5.8	6.3	5.8	5.7
6	Bingo	5.7	5.5	5.8	5.8	5.6
7	601 comp	5.7	5.7	5.4	5.6	5.8
8	Focus	5.6	5.5	5.7	5.6	5.6
9	Finesse	5.4	5.2	5.3	5.3	5.8
10	Rembrandt	5.4	5.3	5.3	5.5	5.4
11	LRF-98-440	5.3	5.4	5.3	5.3	5.3
12	SR 8250	5.3	5.1	5.5	5.1	5.6
13	Masterpiece	5.2	5.3	5.2	5.1	5.4
14	LRF-98-442	5.2	5.2	5.2	4.9	5.5
15	Pride	5.2	5.1	5.4	5.1	5.2
16	LRF-98-436	5.2	5.0	5.0	5.5	5.3
17	Plantation	5.2	5.1	5.1	5.1	5.4
18	LRF-98-251	5.2	5.0	4.9	5.1	5.6
19	98GA12	5.1	5.1	4.6	5.6	5.2
20	MS5 comp	5.0	5.4	4.8	4.9	5.1
21	Picasso	5.0	5.2	5.0	4.9	5.0
22	Rebel Sentry	5.0	5.5	4.8	4.7	5.0
23	R5GR-98	4.9	5.1	4.5	5.2	5.0
24	MS4 comp	4.9	5.3	4.9	4.6	4.8
25	LRF-98-441	4.9	4.6	5.0	5.3	4.7
26	98GA11	4.8	4.7	4.9	4.7	4.9
27	Millennium	4.8	4.8	4.5	4.8	5.0
28	Brandy	4.7	5.0	4.1	4.6	5.0
29	R5MM-98	4.7	4.8	4.8	4.4	4.7
30	98GA7	4.7	4.6	4.5	4.7	4.8
31	LA 46	4.7	3.7	4.3	5.1	5.5
32	EA 40	4.7	4.3	4.7	4.9	4.6
33	EA 96	4.6	4.3	4.5	5.3	4.4
34	R5PCP-98	4.6	4.2	4.4	4.8	5.1
35	98GA3	4.6	4.6	4.3	4.9	4.7

(Continued)

Table 1 (continued).

	Cultivar or Selection	1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
		----------Turf Quality[1]----------				
36	MA 95	4.6	4.4	4.2	4.7	5.0
37	MA 87	4.5	4.8	4.4	4.4	4.3
38	Wolfpack	4.5	4.5	4.4	4.7	4.5
39	R5EH-98	4.5	4.8	4.3	4.4	4.4
40	Starfire	4.5	4.6	4.4	4.2	4.6
41	Rebel 3D	4.4	4.8	4.3	4.2	4.5
42	Tar Heel	4.4	4.4	4.5	4.5	4.2
43	Santa Fe	4.4	4.0	3.8	5.1	4.8
44	Cochise	4.4	4.4	4.3	4.3	4.6
45	Laramie	4.4	5.0	4.0	4.1	4.4
46	98GA10	4.4	4.5	3.8	4.6	4.5
47	MA 104	4.3	3.8	4.5	4.5	4.6
48	MA 90	4.3	4.2	4.0	4.5	4.6
49	MA 71	4.3	4.4	4.2	4.4	4.1
50	Coronado Gold	4.3	4.2	4.4	4.5	4.0
51	MA 74	4.3	3.8	4.4	4.3	4.5
52	Ninja	4.3	4.2	4.0	4.0	4.8
53	LA 107	4.2	3.8	4.1	4.4	4.7
54	Rebel 2000	4.2	4.5	3.8	4.0	4.5
55	MA 91	4.2	3.9	4.2	4.3	4.3
56	AG-T981	4.1	4.4	4.0	4.3	3.8
57	Cochise II	4.1	4.7	3.8	4.0	3.9
58	LA 45	4.1	3.8	4.2	4.1	4.2
59	LA 113	4.1	3.9	3.7	4.2	4.5
60	Pixie	4.0	4.6	3.8	3.7	4.0
61	MA 98	4.0	4.1	3.9	4.0	3.8
62	AG-T982	4.0	4.2	3.7	3.9	4.0
63	Rebel Jr.	3.9	4.3	3.9	3.5	3.9
64	Cortez	3.7	3.9	3.2	3.7	3.9
65	98GA2	2.8	2.8	2.5	2.9	2.9
66	Arid	2.7	3.2	2.3	2.7	2.5
67	98GA8	2.7	2.4	2.2	2.9	3.1
68	98GA4	2.6	2.4	2.3	2.7	3.0
69	Reveille[2]	2.5	1.8	2.0	2.7	3.4
70	98GA6	1.7	1.5	1.5	1.8	2.1

(Continued)

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 1999-2002 Avg.	1999 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
71	98GA5	1.6	1.5	1.5	1.6	1.8
72	98GA1	1.5	1.8	1.5	1.3	1.5
73	Kentucky-31	1.4	1.8	1.2	1.2	1.3
74	98GA9	1.3	1.4	1.3	1.1	1.3
	LSD at 5% =	0.5	0.5	0.8	0.8	0.8

[1] 9 = best turf quality
[2] Texas bluegrass x Kentucky bluegrass hybrid

Table 2. Performance of tall fescue cultivars and selections in a turf trial seeded in August 1999 at Adelphia, NJ.

		Turf Quality[1]			
	Cultivar or Selection	2000-2002 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
1	Signia	6.0	6.3	5.9	5.9
2	EPB comp	6.0	5.9	5.9	6.2
3	BE-3 comp	5.9	5.9	5.8	6.0
4	ATF 594	5.9	6.1	5.7	5.8
5	DWP	5.9	5.5	6.0	6.1
6	TF 41	5.9	5.7	5.9	6.0
7	Pick TF 5-99	5.8	5.5	6.1	5.8
8	Rebel Exeda	5.8	5.7	5.9	5.8
9	BE-1 comp	5.8	5.7	5.8	5.9
10	SR 8550	5.8	5.9	5.5	5.9
11	Forte	5.8	5.7	5.6	6.0
12	ATF 629	5.8	5.7	5.7	5.8
13	Bingo	5.7	5.9	5.6	5.7
14	WAF	5.7	5.6	5.6	5.8
15	P58 comp	5.6	5.4	5.8	5.6
16	Pick RT-95	5.5	5.3	5.8	5.5
17	94 RUT TF-2	5.5	5.3	5.6	5.7
18	Adam's Valley	5.5	5.5	5.8	5.2
19	ATF 708	5.5	5.7	5.5	5.3
20	E67 comp	5.5	5.5	5.1	5.8
21	Focus	5.4	5.5	5.7	5.1
22	8001 comp	5.4	5.6	5.2	5.3
23	ATF 593	5.3	5.4	5.3	5.4
24	Biltmore	5.3	4.7	5.5	5.6
25	Arid 3	5.3	5.3	5.2	5.4
26	Picasso	5.3	5.3	5.4	5.2
27	Arabia	5.2	5.4	5.0	5.2
28	MC 1 CX	5.2	5.0	5.2	5.3
29	Plantation	5.2	5.0	5.1	5.3
30	Pick TF 4-99	5.1	4.6	5.3	5.6
31	PST-DDL	5.1	5.0	5.2	5.1
32	Rembrandt	5.1	4.7	5.4	5.1
33	ATF 703	5.0	5.1	5.1	4.9
34	Masterpiece	5.0	5.0	5.3	4.8
35	Greystone	5.0	4.8	5.0	5.2

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2000-2002 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
36	Sunpro	5.0	4.9	5.0	5.0
37	Barrington	5.0	5.2	4.9	4.9
38	OPP2	5.0	4.8	4.9	5.2
39	GS Bulk M-99	5.0	5.2	5.0	4.7
40	Pick H-97	5.0	4.9	5.0	5.0
41	Pick FAXF-95	4.9	4.9	5.0	4.9
42	FA 24-91-99	4.9	4.5	5.3	5.0
43	LA 107R	4.9	4.5	5.1	5.1
44	MA 127	4.9	4.4	5.0	5.3
45	Barrera	4.8	5.3	4.4	4.9
46	Tracer	4.8	5.0	4.8	4.7
47	SYN R5LT-99	4.8	4.6	4.7	5.1
48	Barlexas	4.8	5.2	4.6	4.5
49	TF 40	4.8	4.8	4.9	4.6
50	TF6	4.7	4.6	4.6	5.0
51	Leopard	4.7	4.7	4.8	4.8
52	ATF 704	4.7	4.8	4.7	4.6
53	Arizona	4.7	5.1	4.3	4.8
54	94 RUT TF-1	4.7	4.6	4.8	4.6
55	LWE	4.7	4.7	5.1	4.2
56	RTP	4.6	4.9	4.6	4.5
57	6LV	4.6	4.7	4.9	4.4
58	Laramie	4.6	5.0	4.8	4.1
59	SMS	4.6	4.6	4.8	4.5
60	T991	4.6	4.6	5.1	4.2
61	TF 5-97	4.6	4.8	4.5	4.4
62	WATF	4.5	4.2	4.7	4.6
63	FA 487	4.5	4.4	4.5	4.7
64	6D	4.5	4.5	4.8	4.2
65	Santa Fe	4.5	4.0	4.8	4.7
66	Brandy	4.5	4.7	4.2	4.5
67	LA 128	4.5	4.3	4.5	4.6
68	ATF 706	4.5	4.6	4.7	4.1
69	Prospect	4.5	4.5	4.6	4.3
70	Millennium	4.5	4.3	4.8	4.3

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2000-2002 Avg.	2000 Avg.	2001 Avg.	2002 Avg.
71	Starfire	4.4	4.7	4.1	4.4
72	MA 131	4.4	4.2	4.7	4.3
73	Arid II	4.4	4.3	4.3	4.5
74	Lancer	4.4	4.7	4.5	3.9
75	Insignia	4.3	4.2	4.2	4.6
76	SYN R5EH-99	4.3	4.5	4.4	4.1
77	Bravo	4.3	4.8	4.4	3.8
78	Houndog 5	4.3	4.5	4.3	4.1
79	MA 135	4.3	4.0	4.5	4.4
80	MA 123	4.2	4.3	4.3	4.1
81	ATF 707	4.2	4.5	4.2	4.0
82	Lion	4.2	4.3	3.9	4.5
83	Frontera	4.2	3.7	4.1	4.7
84	Coronado	4.2	4.7	4.0	3.8
85	TF E-97	4.2	4.3	4.0	4.3
86	Onyx	4.2	4.1	4.1	4.4
87	Pixie	4.2	4.7	4.0	3.8
88	Watchdog	4.1	4.2	4.1	4.2
89	Wolfpack	4.0	3.9	4.1	4.1
90	MA 132	4.0	3.8	4.0	4.2
91	Stetson	4.0	4.3	4.0	3.5
92	Shortstop II	4.0	3.9	3.9	4.0
93	LA 126	3.8	3.6	3.8	4.1
94	GS Bulk E-99	3.8	4.0	3.8	3.5
95	Crossfire II	3.7	4.2	3.3	3.5
96	Vegas	3.4	3.8	3.2	3.2
97	Talisman	3.1	2.1	3.5	3.6
98	Phoenix	2.5	2.6	2.3	2.6
99	Austin	1.8	1.5	1.4	2.6
100	Kentucky-31	1.2	1.2	1.1	1.2
	LSD at 5% =	0.6	0.9	0.8	0.7

[1] 9 = best turf quality

Table 3. Performance of tall fescue cultivars and selections in a turf trial seeded in August 2000 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 2001-2002 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.
1	Guardian-21	6.7	6.8	6.6
2	Justice	6.4	6.0	6.7
3	RB3 comp	6.3	6.4	6.2
4	Titanium	6.2	6.5	6.0
5	10,001 comp	6.1	6.2	6.0
6	EA 171	6.0	6.0	5.9
7	TF-35	6.0	6.1	5.8
8	2nd Millennium	5.9	6.1	5.7
9	Forte	5.9	6.1	5.8
10	Syn 578	5.9	6.1	5.7
11	TF-34	5.9	6.1	5.6
12	P58	5.9	6.1	5.6
13	Blackwatch	5.9	6.2	5.5
14	Raptor	5.9	6.1	5.6
15	Magellan	5.8	6.1	5.5
16	Bingo	5.8	5.9	5.8
17	OD1 comp	5.8	6.0	5.6
18	Biltmore	5.8	5.8	5.7
19	OD2 comp	5.7	5.9	5.4
20	Syn 5K1	5.7	5.9	5.5
21	00 GFA	5.6	5.9	5.4
22	00-H FA	5.6	5.6	5.6
23	Syn 5BAB	5.6	5.7	5.4
24	Rendition	5.6	5.6	5.5
25	SR 8600	5.6	5.9	5.2
26	Syn 5DWF	5.5	5.6	5.3
27	SR 8550	5.5	5.6	5.3
28	00-BFA	5.4	5.7	5.2
29	Santa Fe	5.4	5.2	5.6
30	TF-34	5.4	5.3	5.5
31	Syn 5MP	5.4	5.4	5.4
32	Mustang III	5.4	5.6	5.2
33	Syn 5T2	5.4	5.8	5.0
34	SRX 8DDMPP	5.4	5.4	5.3
35	Syn 5BEH	5.4	5.4	5.3

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2001-2002 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.
36	Syn-R54M-00	5.3	5.5	5.1
37	Syn 5NAS	5.3	5.5	5.1
38	EA 172	5.3	5.1	5.5
39	Syn 5KU	5.3	5.6	5.0
40	E-97	5.3	5.6	5.0
41	57E	5.3	5.4	5.1
42	FA6-91	5.3	5.5	5.0
43	Picasso	5.3	5.4	5.1
44	Syn 5H2	5.2	5.3	5.1
45	Matador	5.2	5.6	4.8
46	MA 176	5.2	5.4	5.0
47	SRX 8601 E	5.2	5.2	5.1
48	00-A FA	5.2	5.3	5.1
49	BE-1	5.2	5.1	5.2
50	Rembrandt	5.2	5.2	5.1
51	TF H-97	5.2	5.4	4.9
52	DLSD	5.2	5.4	4.9
53	Syn 5BZ	5.2	5.4	4.9
54	EA 180	5.2	5.3	5.0
55	5BE	5.1	5.3	5.0
56	Syn 5A3	5.1	5.2	5.0
57	5301	5.1	5.2	5.0
58	MA 157	5.1	5.1	5.1
59	Syn TUO	5.1	5.1	5.1
60	Southern Comfort	5.1	5.4	4.8
61	Syn-R5JM-00	5.0	5.1	5.0
62	MA 160	5.0	5.1	4.9
63	EA 155	5.0	5.1	4.9
64	TF-41	5.0	5.0	5.0
65	00-CFA	5.0	5.3	4.6
66	CAE comp	5.0	5.1	4.8
67	MC1	5.0	5.0	4.9
68	00-J FA	5.0	5.4	4.5
69	SRX 8BPDDE	4.9	5.2	4.6
70	Sun Pro	4.9	5.1	4.8

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2001-2002 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.
71	Plantation	4.9	5.1	4.7
72	Laramie	4.9	5.1	4.7
73	SRX 8DDEOO	4.9	4.9	4.8
74	SRX 8 FFT	4.9	5.3	4.5
75	MA 127	4.9	4.9	4.9
76	Syn 5S2	4.9	5.0	4.7
77	Pick FA B93	4.9	4.9	4.8
78	Crewcut II	4.8	5.2	4.5
79	TF J-97	4.8	5.1	4.5
80	Syn BRO	4.8	4.9	4.7
81	EA 163	4.8	4.8	4.7
82	8RF2	4.7	4.5	5.0
83	Pure Gold	4.7	4.8	4.6
84	MA 165	4.7	4.6	4.8
85	MA 177	4.7	4.8	4.6
86	Millennium	4.7	4.8	4.5
87	TF-40	4.7	4.7	4.6
88	Syn 5G9	4.7	4.8	4.5
89	SRX 8CDEW	4.7	4.7	4.6
90	Prospect	4.7	4.6	4.7
91	MA 178	4.6	4.6	4.7
92	Syn 5CH	4.6	4.9	4.3
93	SRX 8EDFF	4.6	4.7	4.5
94	SRX 8 BPDDNE	4.6	4.9	4.3
95	8 S M2	4.6	4.9	4.3
96	8OP22	4.6	4.5	4.7
97	RT-95	4.6	4.6	4.6
98	Bravo	4.6	5.1	4.0
99	ORE-00TF	4.6	4.9	4.2
100	MA 158	4.5	4.4	4.6
101	P89 * SpL	4.5	4.9	4.2
102	00-D FA	4.5	4.8	4.2
103	00-I FA	4.5	4.8	4.2
104	Olympic Gold	4.5	4.5	4.5
105	GS bulk M2	4.5	4.6	4.4

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2001-2002 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.
106	Tar Heel	4.5	4.4	4.5
107	Starfire	4.5	4.5	4.4
108	Shortstop II	4.4	4.7	4.1
109	00-E FA	4.4	4.5	4.4
110	SR 8500	4.4	4.6	4.2
111	Coronado Gold	4.4	4.6	4.2
112	MA 98	4.4	4.3	4.5
113	GS bulk E1	4.4	4.5	4.2
114	Coronado	4.3	4.5	4.2
115	SRX 8MO961	4.3	4.7	4.0
116	5UD	4.3	4.4	4.2
117	Houndog 5	4.3	4.5	4.0
118	TF-43	4.3	4.2	4.3
119	Tomahawk E+	4.2	4.3	4.0
120	Apache II	4.2	4.6	3.8
121	P89 * SpE	4.1	4.2	4.1
122	Lancer	4.1	4.3	3.9
123	Tomahawk	4.1	4.1	4.1
124	Syn 5HUO	4.1	4.1	4.0
125	TF-42	4.1	4.2	4.0
126	T991-00	4.1	4.0	4.1
127	Rebel Jr.	4.0	4.4	3.6
128	SRX 8 MO94	4.0	4.0	3.9
129	Talisman	3.9	4.2	3.7
130	D5 ATF 00-6	3.9	3.9	4.0
131	Crewcut	3.9	3.9	3.9
132	SR 8210	3.9	3.8	4.0
133	Crossfire II	3.8	4.1	3.4
134	SRX LJHH	3.7	3.8	3.6
135	Grande	3.7	3.9	3.5
136	Regiment	3.7	4.0	3.4
137	Wolfpack	3.6	3.7	3.6
138	Bonanza II	3.6	3.8	3.5
139	Mustang II	3.5	3.7	3.3
140	Hilltop TF	3.5	3.6	3.4

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2001-2002 Avg.	Turf Quality[1] 2001 Avg.	Turf Quality[1] 2002 Avg.
141	Eldorado	3.5	3.6	3.4
142	Confederate	3.5	3.6	3.3
143	GT 2K	3.5	3.0	3.9
144	Torpedo	1.4	1.0	1.8
145	Kentucky-31	1.2	1.3	1.1
	LSD at 5% =	0.6	0.7	0.6

[1] 9 = best turf quality

Table 4. Performance of tall fescue cultivars and selections in a turf trial seeded in August 2001 at North Brunswick, NJ. (Includes all entries of the 2001 National Tall Fescue Test.)

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001	Color[3] Oct. 2002	Density[4] Nov. 2002	Leaf Texture[5] Nov. 2002
1	Inferno	7.0	8.0	8.0	7.7	7.3
2	Justice	6.9	8.7	7.5	8.5	7.5
3	K01-8015	6.9	4.3	9.0	8.7	8.3
4	F-4	6.8	8.0	8.7	7.3	7.0
5	LIF Comp	6.8	8.0	8.0	7.3	8.0
6	Avenger	6.7	8.7	7.7	6.3	6.7
7	BR-4	6.7	7.7	8.0	7.7	7.7
8	LID Comp	6.4	7.7	6.7	7.3	7.3
9	LIL Comp	6.4	6.7	8.0	7.0	7.3
10	LII Comp	6.4	8.3	7.3	7.7	7.0
11	Biltmore	6.1	7.7	8.0	6.3	5.7
12	PST-DDL	6.0	6.7	8.0	6.3	6.0
13	DaVinci	6.0	7.7	7.3	7.0	6.7
14	PST-57E	6.0	6.7	9.0	5.5	6.5
15	Blackwatch	5.9	8.3	8.7	6.3	6.7
16	DLSD	5.9	5.7	8.3	6.3	6.7
17	Cochise III	5.9	7.7	8.3	6.0	6.0
18	Rendition	5.8	8.0	7.3	5.3	5.0
19	Bingo	5.8	5.0	7.3	7.0	6.3
20	LIM Comp	5.8	7.3	7.0	6.7	6.0
21	Padre	5.7	3.7	8.7	6.7	6.3
22	Cayenne	5.7	5.3	8.7	6.7	6.7
23	Guardian-21	5.7	5.0	8.0	6.7	5.7
24	PST-5JM	5.7	4.3	8.5	5.5	6.0
25	K01-WAF	5.7	8.0	8.0	6.7	7.0
26	Titanium	5.6	5.0	8.0	6.7	6.3
27	01-ORU1	5.6	3.7	8.0	8.0	6.7
28	2nd Millennium	5.6	5.3	8.3	7.0	7.7
29	CIS-TF-60	5.6	4.7	7.7	6.3	6.3
30	K01-E03	5.6	3.0	7.7	7.3	8.0
31	Mustang 3	5.5	6.0	9.0	7.0	5.7
32	Rembrandt	5.5	5.0	8.3	6.0	6.3
33	Matador	5.5	7.3	8.0	6.3	6.3
34	PST-5FZD	5.5	4.3	8.7	6.0	5.7
35	K01-8007	5.5	3.0	8.7	7.3	6.7

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001	Color[3] Oct. 2002	Density[4] Nov. 2002	Leaf Texture[5] Nov. 2002
36	CAS-MC1	5.4	6.0	8.0	6.7	5.7
37	Rebel Exeda	5.4	8.3	7.5	6.5	7.0
38	CIS-TF-67	5.4	4.3	8.3	6.0	6.7
39	Quest	5.4	7.0	8.3	6.0	6.0
40	01-RUTOR2	5.4	4.7	6.7	6.3	7.0
41	Forte	5.4	6.0	8.7	6.3	6.7
42	MCN-RC	5.4	7.7	8.0	6.3	6.3
43	BAR Fa 1005	5.4	5.0	7.0	5.3	6.3
44	BE-1	5.4	7.7	7.3	5.0	6.0
45	Raptor	5.3	8.0	7.7	6.0	6.3
46	PST-5TI	5.3	4.7	7.3	6.0	6.0
47	Tar Heel II	5.3	4.7	6.0	6.3	6.0
48	Kalahari	5.3	5.7	8.7	7.0	7.0
49	Pick-00-AFA	5.3	5.7	7.7	6.0	5.0
50	PST-5NAS	5.3	6.0	8.7	6.0	6.0
51	Silverado II	5.3	6.0	7.0	6.0	5.7
52	Dynasty	5.2	5.0	7.7	7.0	6.3
53	CIS-TF-65	5.2	5.0	8.7	5.7	5.7
54	Magellan	5.2	5.3	8.0	6.0	6.0
55	PST-5A1	5.2	5.3	7.3	6.7	6.0
56	PST-53T	5.2	4.0	8.0	6.0	6.3
57	Signia	5.2	6.0	7.7	5.3	5.0
58	PST-5BZ	5.2	5.3	8.3	6.0	5.7
59	JT-15	5.2	4.0	8.0	6.0	6.7
60	SR 8550	5.2	7.0	7.3	5.7	5.3
61	Masterpiece	5.2	5.0	7.7	4.7	6.0
62	K01-E09	5.1	4.0	7.3	6.3	7.0
63	Grande II	5.1	5.0	7.7	5.3	5.7
64	PST-5KI	5.1	5.7	7.3	5.7	6.0
65	PST-5LO	5.1	5.7	7.0	5.0	5.0
66	MA 127	5.1	5.0	7.3	5.3	5.7
67	UT-RB3	5.1	4.3	7.7	5.7	5.7
68	CIS-TF-77	5.1	5.7	7.0	6.3	6.7
69	Finesse II	5.0	4.7	7.0	5.7	6.7
70	ATF-593	5.0	5.7	7.7	5.0	6.0

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001	Color[3] Oct. 2002	Density[4] Nov. 2002	Leaf Texture[5] Nov. 2002
71	Scorpion	5.0	5.3	6.7	6.0	5.7
72	Silverstar	5.0	5.0	5.7	5.3	6.0
73	UT-155	5.0	5.7	8.3	5.7	5.0
74	Picasso	5.0	4.7	8.0	5.7	5.7
75	JT-13	5.0	4.0	7.7	5.0	5.3
76	CAS-157	5.0	5.7	7.3	6.0	5.3
77	Rebel Sentry	5.0	6.7	7.5	5.0	5.0
78	MRF-211	5.0	4.0	8.0	5.0	5.5
79	Bravo	4.9	8.0	6.3	4.3	4.3
80	MRF-25	4.9	5.7	8.3	5.0	4.7
81	MRF-27	4.9	5.0	7.0	5.3	5.0
82	JT-12	4.9	3.0	7.0	6.0	6.3
83	SR 8600	4.9	8.0	6.3	5.0	5.3
84	ProSeeds 5301	4.9	5.3	8.3	5.7	5.0
85	Watchdog	4.9	5.7	4.0	6.3	6.0
86	EA-163	4.9	5.3	7.7	5.3	4.7
87	Barlexas II	4.8	7.7	7.7	4.3	5.7
88	NA-TDD	4.8	2.7	7.3	4.7	5.7
89	CIS-TF-64	4.8	4.3	7.3	5.7	6.0
90	Pick TF H-97	4.8	6.7	6.0	5.0	5.3
91	Focus	4.8	5.3	7.0	5.3	5.0
92	Barrera	4.8	6.3	6.0	4.7	5.3
93	Barrington	4.8	7.0	6.0	5.5	5.0
94	PST-5TUO	4.8	4.3	8.0	5.3	5.0
95	Plantation	4.8	7.7	7.3	3.7	4.7
96	Prospect	4.8	8.0	8.0	4.0	5.0
97	Tracer	4.8	6.7	7.7	4.7	5.7
98	Roberts SM4	4.8	5.3	7.0	4.3	4.7
99	P-58	4.8	4.0	7.0	5.3	5.0
100	Wolfpack	4.8	9.0	7.0	5.5	4.5
101	PST-5KU	4.7	4.7	8.3	5.3	6.0
102	JT-6	4.7	3.3	7.3	4.7	5.7
103	ATF 802	4.7	5.3	5.7	4.7	5.0
104	PST-5S12	4.7	5.7	9.0	5.5	4.0
105	Olympic Gold	4.7	8.7	6.7	5.7	4.7

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001	Color[3] Oct. 2002	Density[4] Nov. 2002	Leaf Texture[5] Nov. 2002
106	Millennium	4.7	5.0	6.7	5.0	6.3
107	PST-5BAB	4.7	4.3	8.7	5.7	4.7
108	ATF 799	4.7	5.0	7.0	4.5	4.5
109	Pick ZMG	4.7	5.0	8.5	4.5	5.0
110	Kitty Hawk 2000	4.6	6.0	7.0	5.3	5.0
111	Titan Ltd.	4.6	9.0	4.0	4.3	4.0
112	Adam's Valley	4.6	6.7	7.3	4.3	4.3
113	Endeavor	4.6	8.3	7.0	4.0	4.3
114	MA 138	4.6	5.3	5.7	5.3	4.7
115	MA 158	4.6	5.7	7.0	4.3	4.0
116	SR 8250	4.6	6.3	5.7	4.3	4.7
117	MRF-210	4.6	5.3	7.3	4.0	4.3
118	JT-9	4.6	4.0	6.7	4.3	5.0
119	Wyatt	4.6	7.7	6.7	5.7	4.3
120	CAS-ED	4.6	4.3	7.0	6.0	5.0
121	Elisa	4.5	9.0	2.7	5.0	5.7
122	Barlexas	4.5	5.7	6.3	4.7	4.7
123	GO-OD2	4.5	5.0	8.0	4.7	5.3
124	TF66	4.5	7.0	5.3	3.7	5.0
125	Tar Heel	4.5	9.0	4.7	4.7	4.7
126	MRF-29	4.5	4.7	7.7	4.0	4.7
127	BAR Fa 1CR7	4.5	7.0	6.5	3.5	4.0
128	MRF-28	4.4	5.0	7.0	5.7	4.7
129	ATF-803	4.4	6.7	8.0	5.0	5.0
130	ATF 586	4.4	6.0	5.3	5.3	5.3
131	MRF-26	4.4	5.0	7.7	4.3	4.3
132	ATF 806	4.4	5.3	6.7	4.7	5.7
133	Jaguar 3	4.4	6.0	6.3	5.3	5.3
134	Tomahawk RT	4.4	7.7	6.3	3.3	4.0
135	Pure Gold	4.3	7.7	6.7	4.3	5.0
136	BAR Fa 1003	4.3	5.7	6.0	4.3	5.0
137	DP 50-9226	4.3	3.0	7.3	4.7	5.0
138	ATF-800	4.3	5.0	7.3	4.7	5.0
139	T991	4.3	5.0	7.3	4.3	5.3
140	Dominion	4.2	6.7	6.0	4.7	4.3

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Establishment[2] Sept. 2001	Color[3] Oct. 2002	Density[4] Nov. 2002	Leaf Texture[5] Nov. 2002
141	Coyote	4.2	5.7	7.3	3.3	4.0
142	MRF-22	4.2	5.0	6.3	3.7	3.7
143	ATF 707	4.2	6.0	5.3	3.3	4.3
144	Laramie	4.2	8.7	4.3	3.7	3.3
145	SRX 805	4.2	5.0	6.3	4.3	4.3
146	Legitimate	4.1	4.3	5.0	3.7	4.0
147	ATF 702	4.1	5.3	7.5	5.5	5.5
148	JT-18	4.1	3.0	7.0	5.0	5.3
149	01-TFOR3	4.1	5.3	4.7	5.0	4.7
150	Lancer	4.0	7.3	4.0	3.7	4.3
151	Daytona	4.0	4.7	5.7	3.0	3.3
152	Tulsa II	4.0	6.3	6.0	4.7	4.3
153	Southern Choice II	3.9	6.0	6.7	2.7	3.7
154	JTTFF-2000	3.8	6.0	6.3	3.7	4.7
155	DLF-J210	3.8	4.7	7.0	3.3	4.0
156	GO-FL3	3.7	8.7	2.7	3.3	3.7
157	MRF-24	3.7	5.0	6.3	3.0	3.0
158	ATF 704	3.7	6.7	5.5	3.5	3.0
159	Falcon II	3.6	6.3	5.7	3.3	3.7
160	Bonsai	3.6	7.7	5.3	2.7	4.0
161	Stetson	3.5	8.3	4.3	3.7	4.0
162	GO-RD4	3.5	6.0	4.7	3.3	3.7
163	GO-SIU2	3.4	5.3	5.0	2.7	4.0
164	DP 50-9082	3.4	4.7	1.3	4.3	4.3
165	Kentucky-31 E+	1.2	9.0	1.0	1.0	1.0
	LSD at 5% =	0.7	1.3	2.1	1.6	1.3

[1] 9 = best turf quality
[2] 9 = quickest establishment
[3] 9 = darkest green color
[4] 9 = best turf density
[5] 9 = finest leaf texture

Table 5. Performance of tall fescue cultivars and selections in a turf trial seeded in August 2001 at Adelphia, NJ. (Includes all entries of the 2001 National Tall Fescue Test.)

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Seedling Vigor[2] Sept. 2001	Cover (%) Sept. 2001	Color[3] Oct. 2001
1	Avenger	7.1	7.7	92.7	6.7
2	Justice	7.0	7.7	90.0	7.0
3	Inferno	7.0	7.3	95.0	6.7
4	F-4	6.6	6.7	85.0	6.0
5	DaVinci	6.5	6.3	86.7	7.7
6	BR-4	6.5	7.3	91.7	6.7
7	Blackwatch	6.5	8.0	90.0	6.3
8	Cochise III	6.4	7.3	91.7	6.0
9	L1F comp	6.4	6.0	82.7	7.3
10	L1D comp	6.4	5.3	80.0	7.3
11	Rebel Exeda	6.3	8.0	93.3	5.7
12	Biltmore	6.2	7.3	91.7	7.0
13	DLSD	6.2	6.0	78.3	6.0
14	Rendition	6.1	7.7	94.3	7.3
15	Raptor	6.0	7.0	88.3	7.0
16	Guardian-21	6.0	5.0	70.0	5.7
17	PST-57E	6.0	6.0	85.0	6.3
18	L11 comp	6.0	6.7	81.7	7.7
19	SRX 8DD MPP	6.0	8.0	93.3	6.7
20	SR 8550	5.9	7.0	86.7	7.0
21	SRX 8FFT	5.9	7.3	93.3	6.7
22	Kalahari	5.8	4.0	65.0	6.3
23	K01-WAF	5.8	7.7	86.7	4.7
24	PST-DDL	5.8	6.3	83.3	6.0
25	Rebel Sentry	5.8	7.0	86.7	7.0
26	Plantation	5.7	7.3	86.7	6.0
27	L1L comp	5.7	6.3	78.3	7.7
28	01-6TF	5.7	5.7	65.0	6.3
29	Forte	5.7	5.7	81.7	6.0
30	MCN-RC	5.6	7.0	90.0	6.3
31	CIS-TF-34	5.6	7.0	85.0	7.0
32	Matador	5.6	6.3	78.3	7.0
33	Pure Gold	5.5	7.0	90.0	5.0
34	Arabia	5.5	6.3	85.0	7.3
35	5PAL	5.5	5.3	75.0	4.7

(Continued)

Table 5 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Seedling Vigor[2] Sept. 2001	Cover (%) Sept. 2001	Color[3] Oct. 2001
36	Quest	5.5	6.7	85.0	6.0
37	ATF 801	5.5	5.7	73.3	8.0
38	Crewcut II	5.5	6.7	86.7	5.3
39	Cayenne	5.4	5.0	66.7	7.3
40	2nd Millennium	5.4	5.3	66.7	6.7
41	01 5TF	5.4	6.0	78.3	7.0
42	Bingo	5.4	4.7	68.3	7.0
43	CAS-MC1	5.4	4.7	70.0	6.0
44	Titanium	5.3	4.7	70.0	6.3
45	SR 8600	5.3	7.0	88.3	5.3
46	ProSeeds 5301	5.3	3.7	58.3	6.3
47	BAR Fa 1005	5.3	6.0	68.3	6.7
48	SRX 8601	5.3	6.7	88.3	7.3
49	Pick 00 BFA	5.3	5.7	73.3	6.7
50	Sunpro	5.3	6.7	86.7	6.3
51	Adam's Valley	5.3	6.3	88.3	7.0
52	SR 8250	5.3	6.7	90.0	5.0
53	Barrera	5.3	5.7	81.7	6.7
54	Padre	5.3	4.0	68.3	5.7
55	01-3TF	5.3	6.3	76.7	5.7
56	K01-8015	5.2	5.0	65.0	6.7
57	CIS-TF-67	5.2	4.3	68.3	7.3
58	Picasso	5.2	4.0	66.7	6.3
59	5BUD	5.2	5.0	68.3	5.7
60	5BU	5.2	4.3	66.7	6.0
61	Barlexas II	5.2	7.0	88.3	7.0
62	Dynasty	5.2	3.7	63.3	4.0
63	01-ORU1	5.2	3.0	48.3	6.0
64	BE-1	5.2	5.0	71.7	7.0
65	Mustang 3	5.2	3.3	70.0	7.3
66	CIS-TF-41	5.2	4.7	71.7	7.7
67	FA 20-92	5.2	6.0	76.7	7.0
68	MA 158	5.1	5.3	76.7	7.7
69	PST-5A1	5.1	4.3	70.0	6.0
70	P-58	5.1	3.7	58.3	7.0

(Continued)

Table 5 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Seedling Vigor[2] Sept. 2001	Cover (%) Sept. 2001	Color[3] Oct. 2001
71	ATF 864	5.1	5.3	78.3	7.0
72	CIS-TF-77	5.1	5.0	66.7	6.0
73	Roberts SM4	5.1	4.3	65.0	7.0
74	PST-5BZ	5.1	4.3	66.7	5.7
75	UT-155	5.1	5.0	73.3	7.7
76	Olympic Gold	5.1	8.0	93.3	5.0
77	CAS-157	5.1	4.3	60.0	6.3
78	Arid 3	5.1	7.7	91.7	6.3
79	Tracer	5.0	7.0	85.0	7.0
80	PST-5S12	5.0	5.7	73.3	4.7
81	5BUL	5.0	6.0	73.3	5.7
82	SRX 8ED FF	5.0	7.0	85.0	5.7
83	PST-5TI	5.0	6.0	80.0	5.3
84	PST-5FZD	5.0	3.7	56.7	5.7
85	PST-5KI	5.0	5.7	71.7	5.0
86	01-8TF	5.0	6.3	71.7	6.3
87	GO-OD2	5.0	5.3	63.3	7.0
88	Wolfpack	5.0	7.3	91.7	3.7
89	01-4TF	5.0	6.3	76.7	6.3
90	Laramie	4.9	8.0	95.0	6.7
91	Rembrandt	4.9	5.0	66.7	5.0
92	Prospect	4.9	8.0	90.0	6.7
93	ATF 859	4.9	4.0	61.7	6.3
94	Pick 00 AFA	4.9	5.3	71.7	7.3
95	PST-53T	4.9	4.0	63.3	7.7
96	Pick TF H-97	4.9	6.3	83.3	5.7
97	Crossfire II	4.9	7.7	88.3	3.7
98	UT-RB3	4.9	4.7	61.7	7.7
99	Barrington	4.9	6.0	85.0	6.7
100	Constitution	4.9	4.3	70.0	6.0
101	01-7TF	4.9	4.7	63.3	5.7
102	Coyote	4.8	6.3	86.7	7.0
103	SRX 805	4.8	5.0	68.3	8.3
104	5BRO	4.8	3.7	56.7	4.0
105	Pick SM4	4.8	6.7	75.0	6.0

(Continued)

Table 5 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Seedling Vigor[2] Sept. 2001	Cover (%) Sept. 2001	Color[3] Oct. 2001
106	GA 011	4.8	7.0	86.7	5.0
107	Pick 00 CFA	4.8	6.3	78.3	6.0
108	ATF 799	4.8	3.7	71.7	7.0
109	Watchdog	4.8	5.7	78.3	5.0
110	CIS-TF-64	4.8	4.0	61.7	7.0
111	PST-5JM	4.8	3.7	60.0	6.7
112	Pick-00-AFA	4.8	5.7	61.7	5.0
113	Focus	4.8	5.7	75.0	6.3
114	Alamo	4.8	7.3	93.3	7.0
115	ATF 805	4.8	5.7	68.3	8.0
116	Pick TF FD-97	4.8	6.0	70.0	7.3
117	CIS-TF-65	4.8	4.3	55.0	7.7
118	Magellan	4.8	5.0	68.3	6.7
119	CIS-TF-66	4.8	5.3	71.7	7.7
120	PST-5KU	4.7	5.7	51.7	7.7
121	01-RUTOR2	4.7	2.7	46.7	6.7
122	PST-5NAS	4.7	4.7	63.3	5.7
123	PST-5LO	4.7	3.3	61.7	4.3
124	5V1	4.7	5.7	81.7	3.3
125	01-ORTF2W	4.7	4.7	66.7	6.7
126	CAS-ED	4.7	5.3	65.0	6.7
127	Titan Ltd.	4.7	6.0	93.3	3.3
128	Finesse II	4.7	4.3	61.7	7.7
129	Grande II	4.7	3.7	58.3	6.0
130	MRF-27	4.7	4.7	60.0	6.7
131	MA 127	4.7	4.3	61.7	6.3
132	Silverstar	4.7	3.3	53.3	5.3
133	EA-163	4.7	5.3	66.7	7.0
134	ATF 863	4.7	5.3	81.7	5.3
135	Silverado II	4.6	4.3	65.0	4.0
136	Tar Heel II	4.6	4.0	75.0	3.3
137	Tuxedo	4.6	4.0	55.0	8.3
138	Wyatt	4.6	5.3	90.0	3.3
139	Signia	4.6	5.3	75.0	7.7
140	CIS-TF-78	4.6	4.7	66.7	7.7

(Continued)

Table 5 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Seedling Vigor[2] Sept. 2001	Cover (%) Sept. 2001	Color[3] Oct. 2001
141	ATF 866	4.6	6.0	75.0	8.3
142	SRX 8CD EW	4.6	6.3	76.7	6.3
143	SR 8500	4.6	6.0	76.7	6.0
144	01-ORTF2T	4.6	4.3	60.0	7.0
145	PST-5TUO	4.6	5.0	56.7	7.0
146	MA 138	4.6	4.3	68.3	7.0
147	K01-E03	4.6	2.7	45.0	6.7
148	Millennium	4.6	6.3	81.7	5.0
149	JT-15	4.6	3.3	40.0	7.0
150	PST-5BAB	4.6	4.7	61.7	6.0
151	DLFJ 211	4.6	5.7	71.7	6.7
152	5TDH	4.6	5.0	61.7	6.3
153	SRX 82RH2	4.6	6.3	78.3	6.0
154	Arizona	4.6	5.7	78.3	7.3
155	JT-6	4.5	2.3	48.3	7.0
156	JT-12	4.5	3.7	48.3	7.3
157	MRF-29	4.5	4.0	55.0	7.7
158	Masterpiece	4.5	4.0	53.3	4.3
159	Tomahawk RT	4.5	6.7	85.0	6.0
160	01-ORTFZS	4.5	4.3	51.7	6.0
161	Tar Heel	4.5	7.0	93.3	3.3
162	T991	4.4	4.7	73.3	6.3
163	Bravo	4.4	7.7	93.3	6.0
164	ATF 894	4.4	5.7	75.0	8.7
165	JT-13	4.4	3.3	45.0	7.7
166	MRF-28	4.4	4.7	60.0	8.0
167	ATF 847	4.4	7.0	68.3	7.3
168	GS Bulk E-99	4.4	6.7	93.3	4.7
169	Pick TF BA-97	4.4	6.3	66.7	7.3
170	Pick ZMG	4.3	4.3	63.3	6.7
171	BAR Fa 1CR 7	4.3	5.7	70.0	7.7
172	ATF 857	4.3	6.0	78.3	5.7
173	Pick TF DC-97-98	4.3	5.3	71.7	7.3
174	Starlet	4.3	6.3	88.3	5.3
175	5RZS	4.3	3.7	51.7	5.0

(Continued)

Table 5 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Seedling Vigor[2] Sept. 2001	Cover (%) Sept. 2001	Color[3] Oct. 2001
176	K01-8007	4.3	4.0	58.3	8.0
177	TF 66	4.3	7.3	86.7	5.0
178	JT-9	4.3	3.3	45.0	6.7
179	Endeavor	4.3	7.0	90.0	3.3
180	Tulsa	4.3	7.0	90.0	4.0
181	K01-E09	4.2	2.7	46.7	5.3
182	Scorpion	4.2	4.7	70.0	4.7
183	MRF-210	4.2	4.7	46.7	8.0
184	MRF-25	4.2	4.3	61.7	7.3
185	ATF 860	4.2	4.7	68.3	4.7
186	ATF 806	4.2	5.0	68.3	6.3
187	ATF-803	4.2	6.0	73.3	7.0
188	Jaguar 3	4.2	4.7	56.7	4.0
189	ATF 802	4.2	4.7	61.7	6.7
190	ATF 586	4.2	6.0	76.7	4.0
191	ATF 861	4.2	6.0	75.0	4.3
192	ATF 895	4.2	4.3	65.0	7.7
193	Greystone	4.2	4.7	80.0	5.3
194	Regiment	4.2	7.7	90.0	3.7
195	BAR Fa 1003	4.1	5.0	66.7	7.3
196	CIS-TF-40	4.1	5.3	63.3	6.7
197	Barlexas	4.1	5.3	78.3	5.7
198	MRF-211	4.1	4.0	55.0	7.7
199	CIS-TF-60	4.1	3.7	55.0	8.7
200	Southern Choice II	4.1	4.3	53.3	7.3
201	Daytona	4.1	5.7	73.3	7.3
202	Tulsa II	4.1	4.7	71.7	4.3
203	NA-TDD	4.1	3.3	56.7	7.3
204	Talisman	4.1	7.3	90.0	2.7
205	MRF-26	4.0	4.3	56.7	7.3
206	ATF-800	4.0	5.0	66.7	6.3
207	Lancer	4.0	5.0	65.0	5.7
208	DLFJ 209	4.0	5.7	78.3	4.0
209	Kitty Hawk 2000	4.0	3.0	56.7	6.0
210	ATF 807	4.0	5.7	76.7	7.7

(Continued)

Table 5 (continued).

	Cultivar or Selection	Turf Quality[1] 2002 Avg.	Seedling Vigor[2] Sept. 2001	Cover (%) Sept. 2001	Color[3] Oct. 2001
211	SR 8210	4.0	6.3	75.0	3.7
212	Bonanza II	4.0	6.0	91.7	3.0
213	Grande	3.9	7.0	93.3	3.0
214	JTTFF-2000	3.9	6.3	80.0	6.7
215	DLF-J210	3.9	3.3	48.3	5.7
216	MRF-22	3.9	4.0	55.0	7.7
217	01-TFOR3	3.9	5.0	61.7	3.7
218	Stetson	3.8	7.0	93.3	3.7
219	JT-18	3.8	2.0	31.7	7.0
220	DLFJ 9178	3.8	7.0	91.7	2.0
221	Dominion	3.8	4.7	70.0	3.3
222	ATF 704	3.8	5.0	70.0	5.7
223	Mustang II	3.7	7.3	86.0	2.7
224	DP 50-9226	3.7	4.0	50.0	6.3
225	MRF-24	3.7	4.7	58.3	6.3
226	Crewcut	3.7	6.7	81.7	3.7
227	Elisa	3.6	7.7	95.0	2.3
228	01-ORTF3	3.6	4.7	60.0	5.0
229	Legitimate	3.5	3.7	43.3	4.3
230	BAR FA 1002	3.5	4.0	53.3	4.7
231	SRX 82RH1	3.5	4.3	48.3	3.3
232	Falcon II	3.4	3.7	60.0	4.3
233	ATF 865	3.4	5.0	71.7	7.0
234	GO-FL3	3.4	5.7	88.3	2.3
235	01-ORTF2	3.4	3.7	40.0	5.0
236	Bonsai	3.3	6.7	90.0	6.3
237	GO-RD4	3.2	4.0	53.3	3.3
238	ATF 707	3.2	3.0	55.0	5.7
239	GO-SIU2	3.2	5.0	50.0	5.0
240	DP 50-9082	2.6	3.7	45.0	3.5
241	Total	2.5	4.3	48.3	2.3
242	Tipton	2.0	4.0	40.0	2.3
243	Kentucky-31 E+	1.3	6.0	75.0	1.0
	LSD at 5% =	0.7	2.0	19.4	1.7

[1] 9 = best turf quality
[2] 9 = best seedling vigor
[3] 9 = darkest green color

Table 6. Yearly nitrogen (N) applied and mowing height (Ht) on tall fescue tests established at Adelphia and North Brunswick, NJ.

	1999		2000		2001		2002	
	N[1]	Ht[2]	N	Ht	N	Ht	N	Ht
Table 1 (1998 Adelphia)	2.8	1.5	2.8	1.5	2.1	1.5	2.8	1.5
Table 2 (1999 Adelphia)			2.6	1.5	2.2	1.5	3.0	1.5
Table 3 (2000 Adelphia)					2.8	1.5	3.0	1.5
Table 4 (2001 North Brunswick)							4.1	1.5
Table 5 (2001 Adelphia)							2.0	1.5

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