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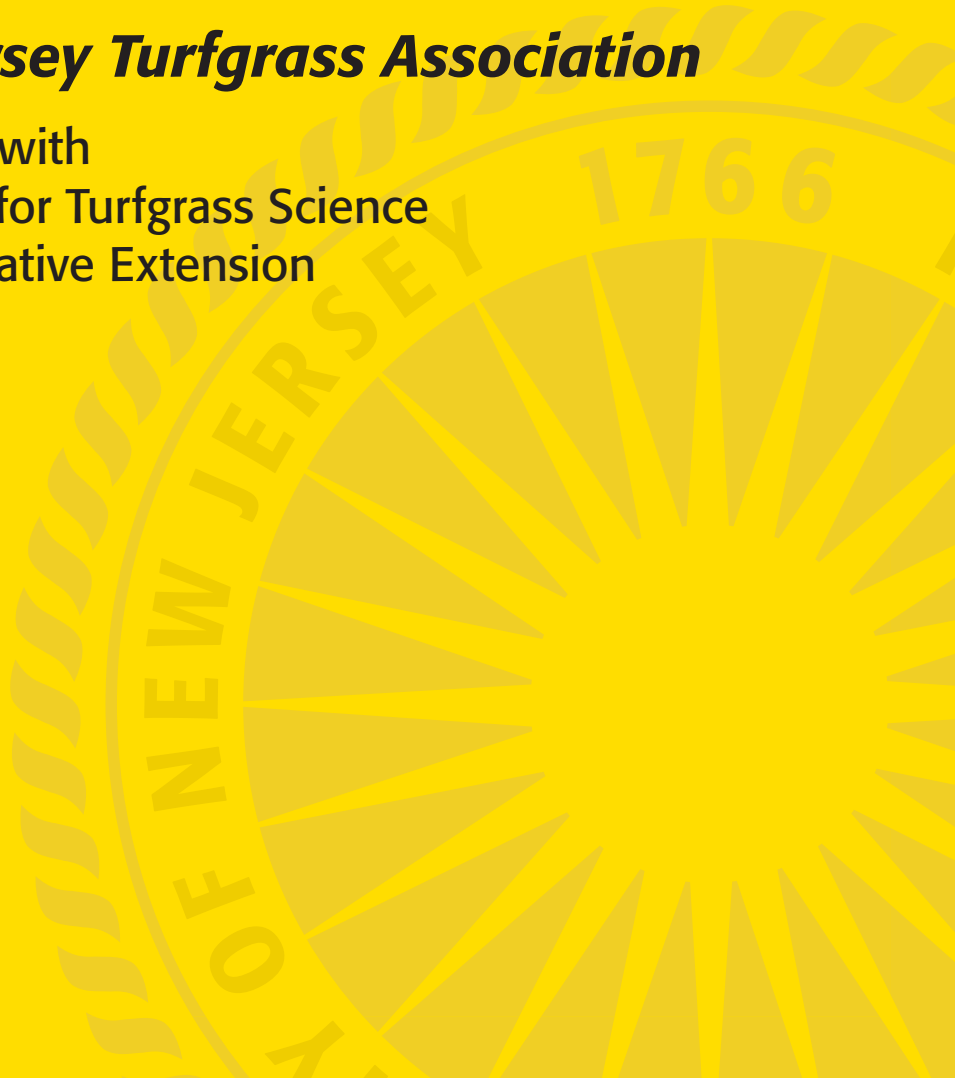

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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences, Rutgers, The State 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 2006 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 TALL FESCUE CULTIVARS AND SELECTIONS IN NEW JERSEY TURF TRIALS

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Tall fescue (*Festuca arundinacea* Schreb.) is a cool-season grass native to Europe and parts of Africa. The grass was introduced to the United States in the 1800s when settlers planted it as a forage grass. After the release of the first tall fescue cultivars in the 1940s, the turfgrass was used to reduce soil erosion along roadsides and waterways. Although tall fescue thrives in a broad range of environments, due largely to excellent heat and drought tolerance, these earlier cultivars lacked the overall turf quality for use in home lawns.

It was not until the cultivar Rebel was released in 1979 (Funk et al., 1981) that tall fescue was considered for use as a turfgrass for home lawns. Since that time, turfgrass breeders have improved the grass to produce cultivars with a darker color, finer leaf texture, lower growth habit, denser turf canopy, and increased resistance to disease. Recent tall fescue releases can now be used effectively for a number of medium-high maintenance turf situations such as athletic fields, parks, home lawns, and roughs on some golf courses. Tall fescue is also widely adapted to many different soil types and does not require as many fertilizer inputs as most other cool-season turfgrasses. In addition, this species has a deep rooting system and thus performs well under low soil moisture. 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-inch and higher.

Current studies at Rutgers include the examination of the beneficial role played by endophytes in tall fescue. Endophytes are fungi that live in the leaf sheath and stem tissue of tall fescue plants and release different alkaloids that have been shown to enhance drought tolerance and insect resistance. The development of cultivars that contain beneficial endophytes may lead to many more uses for tall fescue as a turfgrass.

In other areas of study, plant breeders are also focusing on increasing the production of rhizomes in tall fescue. Tall fescue is considered a bunch type turfgrass; the turf density of these grasses decreases with time. In addition, since rhizomes store carbohydrates that can be used by the plant for more rapid recovery following damage due to traffic or stress, tall fescue is slow to recover following injury. To screen tall fescue germplasm for traffic tolerance, field trials using a wear machine have been designed. Both mowed-spaced plots as well as mowed turf plots are trafficked using the wear machine, and damage and recovery are rated to identify superior performing genotypes to be used in the development of new cultivars with improved traffic tolerance and recovery from stress.

Advancement in resistance to brown patch (caused by the fungus *Rhizoctonia solani*) has also been an important breeding objective in tall fescue. Each year, mowed-spaced plots and mowed turf trials are inoculated with the brown patch fungus. This provides uniform infection across the trials and improves the ability to identify resistant germplasm. Plants that exhibit excellent resistance are selected to develop cultivars that are tolerant to the disease.

PROCEDURES

Four tall fescue tests were established in New Jersey between 2002 and 2005. A single test was established each year at the Rutgers Plant Biology and Pathology Research and Extension Farm at Adelphia, NJ (Tables 1 to 4). All tests at were estab-

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lished in August or September by hand sowing 0.88 oz of seed per 3 x 5 ft plot (3.7 lb seed/1000 ft^2). All tests were arranged in a randomized complete block design with three replications. Each plot had a 6-inch unseeded border to limit contamination. Broadleaf weeds were controlled with spring or fall applications of 2,4-D, dicamba (Banvel), and MCPP. Dithiopyr (Dimension) was applied in the spring to control annual grassy weeds. In July, metalaxyl (Subdue) was applied to prevent Pythium blight.

Single applications of fertilizer did not exceed 1.0 lb nitrogen (N)/1000 ft^2. The amount and timing of N applied to turf varied to encourage disease and other stresses. Tests were mowed regularly (approximately 2 to 3 times per week) with reel mowers to maintain a 1.5-inch height of cut. The annual rate of N and mowing height for each test is presented in Table 5. Based on soil test results, lime was applied as needed to maintain a pH of 6.0 to 6.5. All tests were irrigated when necessary to avoid drought stress.

All tests were rated throughout the growing season for visual turf quality (i.e., overall appearance, turf color, uniformity, density, mowing quality, reduced rate of vertical growth, leaf texture, and damage due to insects and diseases). Additional evaluations such as establishment, spring green-up, color, density, leaf texture, and damage due to disease were rated when significant differences were evident. All ratings were based on a 1 to 9 scale, with 9 representing the best turf characteristic. Plots were evaluated by a number of turfgrass specialists to reduce the impact of personal bias for particular characteristics. All data were summarized and subjected to an analysis of variance. Means were separated using Fisher's protected least significant difference (LSD) means separation test.

To screen for resistance to brown patch, the 2003, 2004, and 2005 tall fescue tests (Tables 2 to 4) were inoculated with *Rhizoctonia solani* in July at a rate of 0.2 g inoculum/m^2. The 2002 tall fescue test was screened for wear tolerance. During the month of July, a novel wear machine (Bonos et al., 2001) was used to apply wear uniformly over each turf plot. Only half of the turf plot received wear while the other half of the turf plot was left untreated.

RESULTS AND DISCUSSION

Results of three tall fescue tests (Tables 1 to 3) are ranked by overall (multiple-year) turf quality averages. Entries in Table 4 are ranked by the 2006 turf quality average. A high quality average is generally indicative of better disease resistance, darker green color, greater turf density and uniformity, finer leaf texture, lower growth habit, improved mowing quality, and less damage due to insects.

Turf Quality

Each year, noticeable improvements in overall turf quality are evident in the newly released cultivars of tall fescue. The grass is a suitable choice for most cool-season turfgrass situations due to advancements made by turf breeders in color, leaf texture, and density. In all tall fescue trials evaluated in 2006 (Tables 1 to 4), cultivars such as Justice, DaVinci, Falcon IV, and Six Point performed consistently well. Note that in many cases, a cultivar developed in 2002 ranked very high in the turf trial established that year, but when compared to more recently-developed entries, the same cultivar ranked lower in a test seeded just 2 or 3 years later. This is due to the rapidity with which overall turf quality can be improved in tall fescue. Turfgrass managers are encouraged to continually study all available data so that the best cultivars can be selected for each turf situation.

Disease Resistance

The major disease of tall fescue in cool-humid environments is brown patch. As of yet, there are no turf-type tall fescue cultivars with complete resistance to this disease. When environmental conditions favor disease development, some damage will be sustained by all available cultivars. A dense turf produces a microenvironment more favorable to the pathogen and facilitates its spread. Thus, tall fescues with a more open leaf canopy (i.e., less dense) are being selected in breeding efforts to reduce disease pressure. Although these more open-type selections may not have the optimum density for some turf situations, the reduction in brown patch severity may greatly enhance summer turf quality.

Results in Tables 2 to 4 indicate that while significant differences in brown patch susceptibility existed among the cultivars and selections evaluated, each plot was affected to some degree by the disease. Cultivars such as Six Point, Justice, and Falcon IV displayed moderate to excellent resistance to brown patch at most locations.

Wear Tolerance

One characteristic that limits the use of tall fescue for turf situations such as athletic fields is its slow recovery after traffic stress occurs. Identifying experimental selections and cultivars of tall fescue that are able to recover quickly from damage caused by wear would have a great impact on the utility of tall fescue. Recovery ratings after wear was applied to tall fescue turf plots are reported in Table 1. The cultivars Biltmore, Falcon IV, and Finelawn Elite all were highly tolerant of wear.

SUMMARY

As plant breeders continue to develop cultivars with improved turf quality and disease resistance, tall fescue will certainly be used more widely in the turf industry. Due to improvements in shade tolerance, density, leaf texture, and color, tall fescue has become a more popular choice for many turfgrass situations. These improvements have also made it possible for this turfgrass to be used effectively in mixtures with other turfgrass species, especially Kentucky bluegrass (*Poa pratensis* L.). Tall fescue performs better than most other cool-season turfgrasses under high temperature and low moisture conditions due in part to its deep, extensive root system. Endophyte-infected tall fescue cultivars are useful in certain stress situations and will continue to be studied. The major weakness of tall fescue is its susceptibility to brown patch, thus the Rutgers breeding program is focusing on developing cultivars that can better handle brown patch disease pressure.

ACKNOWLEDGMENTS

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Table 1. Performance of tall fescue cultivars and selections in a turf trial established in September 2002 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 2003-2006 Avg.	2003 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	Wear[2] 2006 Avg.
1	ATL comp	6.7	6.9	6.7	6.7	6.3	5.3
2	ATE comp	6.4	6.1	6.8	6.3	6.4	5.3
3	ATN comp	6.4	6.5	6.6	6.1	6.3	5.8
4	Falcon V	6.3	6.7	6.9	6.0	5.6	5.0
5	Falcon IV	6.3	6.5	6.7	5.9	6.0	6.0
6	WAM comp	6.1	6.3	6.6	5.8	5.7	5.3
7	CIS-TF-71	6.0	6.7	5.8	5.8	5.8	5.7
8	ATC comp	5.9	6.1	6.2	5.7	5.7	4.8
9	Avenger	5.8	6.2	6.0	5.8	5.4	5.7
10	Hunter	5.8	6.2	5.7	5.8	5.7	4.7
11	Justice	5.8	6.6	5.7	5.4	5.6	4.3
12	02-D FA	5.8	5.9	5.6	6.0	5.6	6.3
13	Firebird	5.8	6.5	5.7	5.3	5.6	5.8
14	Cayenne	5.8	6.0	5.8	5.6	5.6	5.2
15	CIS-TF-72	5.8	6.3	5.6	5.6	5.6	4.8
16	WAE comp	5.7	5.6	6.1	5.5	5.6	5.0
17	CIS-TF-80	5.7	5.8	5.8	5.6	5.5	6.3
18	DaVinci	5.7	6.0	5.9	5.8	5.0	5.0
19	Biltmore	5.7	5.6	5.8	5.4	5.9	7.0
20	02-CFA	5.6	5.8	5.8	5.4	5.6	5.3
21	Guardian-21	5.6	5.6	5.5	5.6	5.7	5.8
22	02-E FA	5.5	5.9	5.6	5.2	5.4	4.3
23	Titanium	5.5	5.5	5.6	5.4	5.4	5.2
24	FA14-AB-02	5.5	5.8	5.5	5.3	5.3	5.7
25	Cochise III	5.5	6.1	5.2	4.9	5.5	5.7
26	02-I FA	5.4	6.1	5.0	5.1	5.4	5.2
27	02-B FA	5.4	5.8	4.9	5.4	5.4	5.8
28	Virtuoso	5.3	5.7	5.6	5.0	5.0	5.7
29	CIS-TF-61	5.3	5.7	5.3	5.0	5.3	4.7
30	ATF-903	5.3	5.2	5.6	5.2	5.3	5.2
31	Houndog 6	5.3	6.2	4.8	4.9	5.4	4.8
32	02-H FA	5.3	5.0	5.3	5.6	5.4	4.7
33	Constitution	5.3	5.5	5.3	5.0	5.5	5.3
34	SRX 8DDMPP	5.3	5.9	5.2	4.8	5.4	5.2
35	CIS-TF-93	5.3	5.3	5.7	5.2	5.0	4.5

(Continued)

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 2003-2006 Avg.	2003 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	Wear[2] 2006 Avg.
36	Raptor	5.3	6.0	5.0	5.2	5.0	5.3
37	Tuxedo	5.3	5.4	5.2	4.9	5.5	5.0
38	02-F FA	5.3	5.6	5.1	4.9	5.4	4.7
39	ATF-805	5.3	5.3	5.1	5.4	5.2	4.5
40	02-G FA	5.2	5.3	5.1	5.3	5.3	5.3
41	CIS-TF-79	5.2	5.0	5.5	5.2	5.0	5.0
42	FA 34-4-02	5.2	5.4	5.3	4.9	5.1	5.2
43	Bingo	5.2	5.5	5.0	4.7	5.5	5.0
44	ATF-896	5.2	4.8	5.8	4.9	5.1	5.2
45	Corgi	5.2	5.3	5.0	4.9	5.4	5.7
46	Rebel Exceeda	5.2	5.6	4.8	4.8	5.4	5.3
47	FA 34-B-02	5.2	5.2	5.2	5.0	5.1	5.3
48	2nd Millennium	5.1	5.3	5.1	5.0	5.1	4.5
49	Grande II	5.1	5.3	5.4	4.9	5.0	5.3
50	Scorpian	5.1	4.9	5.2	5.0	5.4	5.3
51	Blade Runner	5.1	5.0	5.1	5.2	5.1	5.2
52	CIS-TF-63	5.1	5.0	5.5	4.7	5.1	4.7
53	Masterpiece	5.1	5.0	5.2	4.9	5.0	5.5
54	Five Point	5.1	5.4	4.9	4.7	5.3	4.5
55	Finelawn Elite	5.0	5.2	4.9	4.8	5.3	5.8
56	Penn 1901	5.0	5.4	5.0	4.8	5.0	5.3
57	Pick TF B-97	5.0	5.1	5.4	4.5	5.1	4.7
58	ATF-909	5.0	5.3	5.3	4.9	4.5	4.5
59	Forte	5.0	5.6	4.7	4.4	5.2	5.7
60	SR 8550	5.0	5.6	4.7	4.8	4.8	4.5
61	ATF-901	4.9	5.2	5.0	5.0	4.5	4.2
62	ATF-907	4.9	4.8	5.4	4.7	4.8	5.2
63	Finesse II	4.9	5.5	4.7	4.6	4.9	5.0
64	Signia	4.9	5.4	4.5	4.8	5.0	4.7
65	JT-3	4.9	5.4	4.7	4.6	4.9	5.2
66	Pick 00-AFA	4.9	5.2	4.8	4.6	5.0	4.8
67	SR 8250	4.9	5.6	4.7	4.4	4.8	5.2
68	Rendition	4.9	5.1	5.0	4.5	4.9	5.0
69	SRX 8FFT	4.9	5.5	4.8	4.8	4.4	4.3
70	ATF-897	4.9	5.0	5.2	4.5	4.8	4.8

(Continued)

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 2003-2006 Avg.	2003 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	Wear[2] 2006 Avg.
71	Gazelle	4.9	5.5	4.7	4.5	4.8	4.0
72	ATF-899	4.8	5.1	4.9	4.6	4.8	5.0
73	ATF-902	4.8	4.8	5.1	4.7	4.7	4.5
74	Matador	4.8	5.0	4.5	4.7	5.0	4.2
75	TF H-97	4.8	5.4	4.8	4.3	4.8	4.8
76	ATF-905	4.8	4.9	4.9	4.7	4.7	5.2
77	JT-4	4.8	5.1	4.7	4.5	4.9	4.2
78	TF E-97	4.8	4.8	4.7	4.8	4.8	5.0
79	Pick TF DC-97-98	4.8	4.7	5.0	4.6	4.7	5.0
80	ATF-906	4.8	4.8	5.2	4.6	4.3	4.2
81	Mustang III	4.7	4.7	4.5	4.6	5.2	5.5
82	ATF-908	4.7	4.7	5.3	4.2	4.8	3.8
83	Crossfire II	4.7	4.7	5.2	4.3	4.7	5.7
84	ATF-898	4.7	4.8	5.3	4.3	4.2	5.0
85	JT-2	4.6	5.1	4.7	4.0	4.6	4.5
86	00-C FA	4.6	4.7	4.6	4.5	4.6	5.3
87	Focus	4.6	5.1	4.3	4.1	4.7	5.2
88	Shenandoah II	4.6	4.7	4.9	4.1	4.6	5.0
89	Rebel Sentry	4.6	5.0	4.5	4.1	4.7	4.8
90	Ninja	4.6	4.7	4.5	4.4	4.6	4.7
91	Picasso	4.5	4.6	4.5	4.1	4.9	5.2
92	SRX 8RH2	4.5	4.9	4.7	4.2	4.2	5.5
93	Millennium	4.5	4.6	4.7	4.3	4.3	4.3
94	Greystone	4.4	4.6	4.7	4.0	4.4	4.0
95	DLF-209	4.4	4.4	4.3	4.4	4.6	5.5
96	CIS-TF-92	4.4	4.5	4.6	4.0	4.4	5.0
97	Durana	4.4	4.7	4.5	4.1	4.2	5.0
98	TTF-O2AA	4.4	3.9	4.5	4.4	4.7	5.8
99	ATF-904	4.3	4.6	4.5	4.0	4.2	3.7
100	Crewcut II	4.3	4.2	4.4	4.2	4.5	4.2
101	Jaguar 3	4.3	4.0	4.7	4.2	4.3	5.2
102	Arizona	4.3	4.4	4.2	4.3	4.2	4.0
103	Prospect	4.3	5.2	3.8	4.0	4.1	4.0
104	ATF-900	4.3	4.2	4.3	4.3	4.2	4.7
105	Expedetion	4.2	4.4	4.2	3.9	4.3	5.0

(Continued)

Table 1 (continued).

	Cultivar or Selection	Turf Quality[1] 2003-2006 Avg.	2003 Avg.	2004 Avg.	2005 Avg.	2006 Avg.	Wear[2] 2006 Avg.
106	DLF-210	4.2	4.4	4.0	4.1	4.3	4.5
107	Bandana	4.2	4.3	3.9	3.9	4.5	4.5
108	SRX 8RH1	4.1	3.8	4.2	3.9	4.4	4.8
109	Tulsa	4.0	3.8	4.2	3.8	4.2	3.5
110	Bonsai 2000	4.0	3.9	4.3	3.7	4.0	4.2
111	Watchdog	4.0	3.6	4.2	3.8	4.3	4.5
112	Oncue	4.0	3.8	4.0	3.8	4.2	5.0
113	Virture	3.9	4.0	4.0	3.7	3.9	5.0
114	Finelawn Petite	3.9	4.2	3.8	3.7	4.0	5.0
115	Tulsa II	3.9	3.8	3.9	3.6	4.2	5.0
116	Titan LTD	3.9	4.0	3.8	3.4	4.1	4.0
117	Regiment	3.8	3.9	3.5	3.8	3.9	4.7
118	Duster	3.6	4.0	3.4	3.3	3.7	3.3
119	Bonanza II	3.6	3.6	3.8	3.4	3.6	3.8
120	Grande	3.6	3.6	3.7	3.3	3.6	4.2
121	Mini-Mustang	3.5	3.4	3.7	3.4	3.6	4.3
122	Mustang II	3.3	3.1	3.3	3.1	3.6	4.7
123	Landmark	1.3	1.2	1.7	1.0	1.2	2.7
124	Kentucky-31	1.1	1.1	1.1	1.2	1.1	2.7
125	Jesup Plus	1.1	1.1	1.4	1.0	1.0	2.8
	LSD at 5% =	0.5	0.8	0.6	0.6	0.6	1.3

[1]9 = best turf quality
[2]9 = best wear tolerance

Table 2. Performance of tall fescue cultivars and selections in a turf trial established in September 2003 at Adelphia, NJ.

	Cultivar or Selection	Turf Quality[1] 2004-2006 Avg.	Turf Quality[1] 2004 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
1	ATO	6.8	6.4	6.6	7.4	5.5
2	MST	6.4	5.9	6.1	7.2	5.0
3	ATF-1041	6.2	6.1	5.9	6.6	4.8
4	Falcon IV	6.1	6.2	5.7	6.4	5.3
5	Six Point	6.1	6.0	5.8	6.5	5.8
6	Padre	6.0	5.7	5.9	6.3	6.2
7	Justice	6.0	5.9	5.5	6.5	6.3
8	RAD-TF 8	6.0	5.8	5.9	6.1	5.5
9	ATF-1092	5.9	6.1	5.5	6.3	5.7
10	IS-TF-80	5.9	5.9	5.7	6.2	6.3
11	ATF-1089	5.9	6.0	5.6	6.2	5.3
12	IS-TF-94	5.9	6.0	5.6	6.0	5.2
13	RAD-TF 10	5.8	5.9	5.3	6.3	5.7
14	ATF-1093	5.8	6.1	5.3	6.0	4.8
15	ATF-1109	5.8	5.9	5.5	5.9	5.8
16	ATF-1108	5.7	5.6	5.6	5.9	5.7
17	TF 7	5.7	5.7	5.3	6.1	5.8
18	SRX CARH2	5.7	5.7	5.4	6.0	5.2
19	IS-TF-93	5.7	5.6	5.5	6.0	4.5
20	ATF-1107	5.7	5.6	5.4	6.1	5.7
21	DaVinci	5.7	5.3	5.7	6.0	5.0
22	RAD-TF 9	5.6	5.2	5.6	6.1	6.0
23	ATF-1040	5.6	5.7	5.4	5.8	5.5
24	ATF-1036	5.6	5.7	5.1	6.1	4.5
25	ATF-1038	5.6	5.8	5.5	5.6	5.7
26	ATF-1096	5.6	5.7	5.4	5.7	5.0
27	ATF-1067	5.6	5.7	5.4	5.7	5.0
28	EA 185	5.6	5.8	5.2	5.7	6.3
29	PSW# 202	5.6	5.5	5.4	5.9	5.2
30	RAD-TF 16	5.6	5.6	5.2	5.8	5.7
31	ATF-1095	5.5	5.7	5.2	5.7	5.2
32	Blackwatch	5.5	5.3	5.6	5.7	5.5
33	ATF-1090	5.5	5.4	5.3	5.9	5.5
34	Cortez II	5.5	5.7	5.1	5.7	6.0
35	ATF-1088	5.5	5.9	5.0	5.6	4.5

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2004-2006 Avg.	Turf Quality[1] 2004 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
36	PSW# 212	5.5	5.5	5.0	5.9	5.7
37	ATF-1080	5.5	5.7	5.1	5.6	5.0
38	ATF-929	5.4	5.6	5.1	5.5	5.2
39	PSW# 201	5.4	5.2	5.2	5.8	5.0
40	Raptor	5.4	5.6	5.0	5.6	5.5
41	TF 18	5.4	5.4	5.4	5.4	4.8
42	Houndog 6	5.4	6.3	4.4	5.5	5.5
43	ATF-1112	5.4	5.3	5.3	5.6	6.2
44	ATF-1034	5.4	5.5	5.3	5.4	4.5
45	RAD-TF 2	5.4	5.4	5.3	5.4	5.0
46	ATF-1100	5.4	5.5	4.9	5.7	4.2
47	ATF-1111	5.4	5.6	4.8	5.6	6.3
48	SRX CABE5	5.3	5.5	5.0	5.6	4.0
49	Guardian-21	5.3	5.7	5.0	5.3	5.8
50	ATF-1110	5.3	5.6	4.9	5.5	5.7
51	SRX CABE4	5.3	5.5	4.7	5.7	4.5
52	Cayenne	5.3	5.7	4.7	5.5	5.7
53	PSW# 206	5.3	5.8	4.6	5.5	4.7
54	ATF-866	5.3	4.9	5.1	5.8	5.2
55	PSW# 203	5.3	5.2	5.0	5.6	5.7
56	IS-TF-79 E-	5.2	5.2	4.9	5.6	6.5
57	Scorpion II	5.2	5.3	4.9	5.4	5.7
58	PSW# 204	5.2	5.7	4.6	5.3	4.8
59	ATF-1105	5.2	5.5	5.3	4.8	4.2
60	SRX CABE3	5.2	5.5	4.6	5.4	5.8
61	Magellan	5.2	5.2	4.7	5.6	6.2
62	ATF-1106	5.2	5.1	5.0	5.3	5.5
63	ATF-1104	5.1	5.0	5.0	5.3	4.8
64	TF Z-96	5.1	5.3	4.9	5.1	4.7
65	SRX CAV91	5.1	5.2	4.6	5.5	4.7
66	ATF-1035	5.1	5.2	4.7	5.3	5.0
67	ATF-1073	5.0	5.1	4.8	5.2	5.3
68	SR 8550	5.0	5.2	4.7	5.2	5.2
69	ATF-1101	5.0	4.9	4.8	5.3	5.2
70	PSW# 207	5.0	5.4	4.4	5.2	4.2

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2004-2006 Avg.	Turf Quality[1] 2004 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
71	ATF-1070	5.0	5.4	4.4	5.3	4.8
72	ATF-1091	5.0	5.1	4.9	5.0	5.7
73	SRX CADD	5.0	5.3	4.4	5.3	4.7
74	SRX CARH1	5.0	4.8	4.9	5.3	5.5
75	MA 184	5.0	5.1	4.6	5.2	5.0
76	Finesse II	5.0	5.2	4.7	4.9	4.3
77	2nd Millennium	5.0	5.6	4.3	5.0	4.2
78	ATF-1068	4.9	5.0	5.1	4.8	4.8
79	ATF-1039	4.9	4.9	4.6	5.3	5.5
80	SRX CAFT2	4.9	5.5	4.4	4.9	4.2
81	ATF-1083	4.9	5.1	4.9	4.8	4.7
82	SRX 8FFT	4.9	5.5	4.3	4.9	4.3
83	PSW# 200	4.9	5.0	4.6	5.2	4.7
84	SRX CABE2	4.9	4.8	4.7	5.2	4.2
85	ATF-1167	4.9	5.2	4.3	5.2	5.0
86	RAD-TF 3	4.9	5.1	4.8	4.8	4.8
87	Forte	4.9	5.3	4.4	5.0	4.0
88	ATF-1066	4.9	5.1	4.3	5.2	5.7
89	RAD-TF 4	4.9	5.0	4.5	5.1	4.0
90	RAD-TF 17	4.9	5.1	4.4	5.0	3.7
91	SRX CA861	4.8	5.5	4.1	5.0	4.5
92	Riverside	4.8	5.2	4.3	5.0	4.7
93	Regiment	4.8	5.1	4.5	4.8	5.0
94	Finelawn Elite	4.8	5.5	4.1	4.8	4.3
95	ATF-1046	4.8	5.3	4.2	4.8	3.2
96	Bingo	4.8	5.5	4.0	4.8	5.0
97	Scorpion	4.8	4.9	4.3	5.1	5.7
98	Biltmore	4.8	5.1	4.1	5.0	4.8
99	PSW# 208	4.8	5.2	4.0	5.1	3.5
100	ATF-1064	4.7	5.1	4.2	5.0	4.7
101	ATF-1097	4.7	5.5	3.7	5.0	3.8
102	PSW# 213	4.7	4.9	4.6	4.8	4.3
103	Titanium	4.7	4.5	4.8	4.9	5.5
104	ATF-1043	4.7	4.9	4.3	4.9	4.7
105	AZ1MP-3B	4.7	4.8	4.5	4.8	5.5

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2004-2006 Avg.	Turf Quality[1] 2004 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
106	ATF-1075	4.7	4.7	4.5	4.9	4.5
107	AZ1MP-3A	4.7	4.6	4.6	4.9	4.7
108	FA DC-97-98	4.7	4.9	4.3	4.9	4.3
109	TF FD-97	4.7	5.4	3.8	4.9	4.5
110	Millennium	4.7	4.7	4.9	4.5	4.7
111	ATF-1074	4.7	4.7	4.5	4.8	5.2
112	Bonsai 3000	4.7	5.1	4.1	4.8	5.3
113	ATF-1102	4.7	4.6	4.6	4.8	4.0
114	Penn 1901	4.7	5.1	4.2	4.6	4.2
115	ATF-1042	4.7	5.3	4.4	4.3	4.0
116	Stonewall	4.7	5.3	4.0	4.7	5.2
117	JT-6	4.7	5.1	4.2	4.6	4.0
118	Bravado	4.7	5.5	3.7	4.8	5.2
119	RAD-TF 6	4.6	4.6	4.6	4.7	5.0
120	00-BFA	4.6	5.1	4.1	4.7	4.7
121	ATF-894	4.6	4.9	4.2	4.7	5.5
122	Gremlin	4.6	5.3	4.0	4.5	3.7
123	Pick ZMG	4.6	5.0	4.1	4.7	4.3
124	ATF-1098	4.6	4.7	4.1	4.9	4.5
125	PSW# 205	4.6	4.9	4.4	4.5	4.5
126	ATF-1078	4.6	4.5	4.5	4.7	5.0
127	ATF-1072	4.6	4.7	4.3	4.7	4.7
128	BAR Fa 1CR7	4.6	5.6	3.8	4.2	4.0
129	ATF-1082	4.5	4.9	4.2	4.6	5.2
130	Quest	4.5	4.9	4.0	4.6	5.2
131	ATF-1079	4.5	4.5	4.4	4.7	4.8
132	PSW# 211	4.5	5.2	4.0	4.3	3.7
133	Rebel Sentry	4.5	4.9	4.1	4.4	4.5
134	TF BA-97	4.5	4.9	3.9	4.6	4.3
135	Barrington	4.5	4.8	4.1	4.5	3.5
136	ATF-1076	4.5	4.6	4.4	4.3	4.3
137	Signia	4.5	5.0	4.0	4.4	4.5
138	Barrera	4.5	4.8	4.0	4.6	3.8
139	ATF-1085	4.5	4.5	4.2	4.7	4.3
140	GreyStone	4.5	4.4	4.5	4.5	4.3

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2004-2006 Avg.	Turf Quality[1] 2004 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
141	Rendition	4.5	5.3	3.8	4.3	3.5
142	ATF-1069	4.4	4.7	4.1	4.4	4.7
143	ATF-1033	4.4	4.6	4.3	4.3	4.7
144	ATF-1044	4.4	5.1	3.9	4.2	5.3
145	Mustang III	4.4	4.8	3.8	4.6	4.5
146	Coronado	4.4	4.8	4.3	4.1	4.8
147	Grande II	4.4	4.7	3.8	4.6	4.2
148	ATF-1062	4.4	4.8	4.0	4.3	4.5
149	SRX CACC2	4.4	4.8	4.0	4.3	3.8
150	SR 8600	4.4	4.9	3.8	4.4	4.0
151	ATF-1037	4.3	4.1	4.2	4.7	5.3
152	Tracer	4.3	4.8	4.0	4.2	4.3
153	Shenandoah II	4.3	4.8	3.9	4.3	4.3
154	ATF-1084	4.3	4.7	4.0	4.3	5.0
155	Rebel Exeda	4.3	4.9	3.7	4.3	4.8
156	PSW# 209	4.3	4.9	3.7	4.2	4.8
157	PSW# 210	4.3	4.8	3.8	4.2	4.2
158	ATF-1045	4.3	4.6	4.0	4.3	6.0
159	ATF-1081	4.3	4.7	3.7	4.4	5.0
160	ATF-1086	4.3	4.6	3.8	4.3	4.5
161	BarLexas II	4.3	4.9	3.8	4.1	3.7
162	SR 8250	4.3	4.9	3.8	4.1	4.0
163	ATF-1103	4.2	4.4	4.1	4.2	4.2
164	SRX OHTF	4.2	4.3	4.1	4.3	4.5
165	ATF-1094	4.2	4.8	3.8	4.0	3.8
166	ATF-1168	4.2	4.9	3.5	4.2	3.3
167	Tulsa II	4.2	4.5	3.8	4.3	5.0
168	ATF-1071	4.2	4.4	3.9	4.2	4.2
169	ATF-1077	4.2	4.5	3.8	4.3	5.0
170	Focus	4.2	4.8	3.7	4.0	4.5
171	Rembrandt	4.1	4.7	3.6	4.1	4.8
172	ATF-1087	4.1	4.7	3.5	4.1	3.8
173	SRX CAFT1	4.1	4.6	3.6	3.9	3.5
174	Crossfire II	4.1	4.3	3.7	4.1	4.5
175	SRX RH2	4.0	4.6	3.5	4.1	4.0

(Continued)

Table 2 (continued).

	Cultivar or Selection	Turf Quality[1] 2004-2006 Avg.	Turf Quality[1] 2004 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
176	Crewcut II	4.0	4.1	3.8	4.2	4.0
177	Five Point	4.0	4.7	3.4	3.9	4.0
178	Dynasty	4.0	4.4	3.4	4.2	4.2
179	SRX RHI	3.9	4.1	4.0	3.7	3.5
180	Watchdog	3.9	4.3	3.5	4.0	4.2
181	Barrobusto	3.9	4.2	3.7	3.8	4.7
182	DTF	3.9	4.4	3.3	4.1	4.7
183	ATF-1099	3.9	4.5	3.5	3.7	4.5
184	Gazelle	3.9	4.4	3.4	3.9	4.3
185	Renegade II	3.9	4.5	3.3	3.9	5.0
186	Arizona	3.9	4.2	3.4	4.0	4.3
187	BAR Fa 1020	3.8	3.7	3.5	4.3	3.8
188	Pick BWI-02	3.8	3.3	3.8	4.4	4.7
189	SRX CABE1	3.8	4.1	3.8	3.5	3.8
190	Tulsa	3.6	3.7	3.3	3.6	4.0
191	Falcon III	3.5	3.8	3.2	3.5	4.5
192	BAR Fa 1002	3.4	3.5	3.5	3.3	4.8
193	Jaguar 3	3.4	3.6	3.2	3.5	4.8
194	Titan Ltd	3.3	3.4	3.1	3.3	3.5
195	Bonanza II	3.2	3.5	3.0	3.1	3.8
196	Grande	3.1	3.3	2.9	3.1	4.3
197	Regiment	3.1	2.8	2.9	3.4	4.2
198	Ky-31	1.2	1.1	1.3	1.2	4.3
199	Southeast	1.1	1.1	1.1	1.1	4.2
	LSD at 5% =	0.5	0.6	0.7	0.7	1.3

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

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

	Cultivar or Selection	Turf Quality[1] 2005-2006 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
1	WT Comp	6.4	6.6	6.2	7.5
2	Firenza	6.1	6.0	6.2	6.8
3	RP3 Comp	6.0	5.8	6.1	6.7
4	CR3 Comp	5.8	5.8	5.9	6.3
5	Finelawn Express	5.8	5.5	6.1	6.0
6	BT1 Comp	5.8	5.7	5.9	7.2
7	IS-TF 80	5.8	5.8	5.7	6.2
8	RAD-TF8	5.7	5.6	5.8	5.7
9	ATF-1223	5.7	5.6	5.7	5.5
10	03-12 TF#8	5.7	5.9	5.4	4.8
11	ATF-1233	5.6	5.7	5.6	5.3
12	CR2 Comp	5.6	5.5	5.8	6.5
13	Inferno	5.6	5.4	5.8	5.5
14	IS-TF 118	5.6	5.5	5.6	6.0
15	Escalade	5.6	5.4	5.7	6.0
16	PST-SYN-5L13-04	5.5	5.5	5.6	6.3
17	ATF-1203	5.5	5.5	5.6	6.0
18	CR1 Comp	5.5	5.4	5.6	6.2
19	Skyline	5.5	5.6	5.4	5.7
20	03-12 TF#6	5.5	5.4	5.5	4.5
21	PT1 Comp	5.5	5.3	5.7	6.3
22	ATF-1232	5.5	5.6	5.3	5.0
23	IS-TF 114	5.5	5.3	5.7	6.2
24	PST-SYN-5M25	5.5	5.2	5.7	6.2
25	Falcon IV	5.5	5.4	5.5	6.2
26	ATF-1224	5.4	5.4	5.5	6.0
27	ATF-1231	5.4	5.3	5.6	5.2
28	ATF-1201	5.4	5.6	5.2	5.5
29	BT2 Comp	5.4	5.2	5.6	6.7
30	ATF-1234	5.4	5.0	5.8	6.0
31	ATF-1226	5.4	5.4	5.3	4.5
32	IS-TF 94	5.4	5.2	5.5	6.3
33	Constitution	5.3	5.5	5.2	5.7
34	04-4 FA	5.3	5.1	5.5	4.8
35	Gremlin	5.3	5.3	5.3	5.2

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2005-2006 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
36	Six Point	5.3	5.2	5.4	6.2
37	03-12 TF#1	5.3	5.2	5.3	4.8
38	04-2 FA	5.2	5.3	5.2	5.0
39	Coronado TDH	5.2	5.3	5.1	5.3
40	03-12 TF Bulk	5.2	5.3	5.1	4.8
41	04-6 FA	5.2	4.9	5.4	5.5
42	Raptor	5.2	5.3	5.1	4.3
43	RAD-TF16	5.2	4.9	5.4	5.2
44	Padre	5.2	5.2	5.1	5.5
45	ATF-1236	5.1	5.0	5.2	6.5
46	03-2 TF Bulk	5.1	4.8	5.4	5.7
47	RAD-TF22	5.1	4.8	5.4	5.5
48	03-6 TF Bulk	5.1	4.8	5.4	4.8
49	03-12 TF#2	5.1	5.0	5.2	3.8
50	03-5 TF#6	5.1	4.7	5.5	6.3
51	Matador GT	5.1	5.1	5.1	5.5
52	03-2 TF#5	5.1	5.1	5.1	4.3
53	Cortez II	5.1	5.0	5.2	5.2
54	ATF-1227	5.1	5.1	5.0	4.5
55	Justice	5.1	4.6	5.6	6.3
56	RAD-TF6	5.1	4.9	5.2	5.3
57	Silverado II	5.1	4.9	5.2	4.8
58	03-2 TF#6	5.1	4.6	5.5	5.0
59	PST-SYN	5.0	5.1	5.0	6.5
60	Finelawn Elite	5.0	5.0	5.1	5.2
61	Titanium	5.0	4.8	5.2	5.7
62	RAD-TF21	5.0	4.6	5.4	5.0
63	PST-SYN-5D25	5.0	4.8	5.2	5.3
64	RAD-TF9	5.0	4.7	5.3	5.7
65	PST-5BAB	5.0	5.2	4.8	4.7
66	PST-SYN-5SIS	5.0	4.7	5.3	5.3
67	Riverside	5.0	4.9	5.1	5.2
68	03-12 TF#9	5.0	4.7	5.2	5.5
69	RAD-TF10	5.0	4.7	5.2	5.2
70	Avenger	5.0	4.6	5.3	5.3

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2005-2006 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
71	NAT-04M	4.9	4.6	5.2	5.3
72	PST-SYN-5DVD	4.9	4.8	5.0	5.2
73	SR 8550	4.9	5.0	4.8	4.2
74	Grande II	4.9	4.9	4.8	5.7
75	IS-TF 93	4.9	4.6	5.2	5.7
76	Cochise III	4.9	4.8	5.0	4.2
77	03-12 TF#4	4.9	4.8	5.0	5.3
78	03-5 TF Bulk	4.9	5.1	4.6	5.7
79	03-2 TF#1	4.9	4.5	5.2	5.2
80	Bingo	4.9	4.6	5.1	5.5
81	04-1 FA	4.8	4.6	5.1	4.5
82	04-7 FA	4.8	4.6	5.1	5.0
83	03-4 TF Bulk	4.8	4.5	5.2	5.7
84	Scorpion	4.8	4.6	5.1	4.0
85	PST-5V4 BS	4.8	4.7	4.9	5.5
86	PST-5BRO	4.8	4.7	4.8	5.8
87	RAD-TF17	4.8	4.7	4.9	5.0
88	RAD-TF23	4.8	4.7	4.9	5.7
89	PST-SYN-5BIL	4.8	4.7	4.8	5.7
90	03-7 TF Bulk	4.8	4.5	5.0	4.7
91	03-9 TF#4	4.8	4.8	4.7	4.8
92	2nd Millenium	4.8	4.4	5.1	5.0
93	04-5 FA	4.7	4.9	4.6	3.7
94	Blade Runner	4.7	5.1	4.4	4.7
95	03-12 TF#5	4.7	4.7	4.8	5.0
96	03-9 TF Bulk	4.7	4.7	4.7	4.3
97	Picasso	4.7	4.8	4.6	5.0
98	Magellan	4.7	4.8	4.7	4.8
99	03-5 TF#5	4.7	4.6	4.8	4.5
100	PST-SYN-5SLT-04	4.7	4.5	4.9	5.3
101	Cayenne	4.7	4.7	4.7	4.8
102	Shenandoah II	4.7	4.8	4.6	4.8
103	03-9 TF#3	4.7	4.5	4.8	5.2
104	Regiment II	4.7	4.5	4.8	5.2
105	Rendition	4.7	4.7	4.7	4.3

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2005-2006 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
106	03-11 TF Bulk	4.7	4.7	4.6	3.7
107	Guardian 21	4.6	4.4	4.8	4.7
108	Blackwatch	4.6	4.7	4.5	5.0
109	DaVinci	4.6	4.4	4.9	5.5
110	Silverstar	4.6	4.7	4.6	4.8
111	03-1 TF Bulk	4.6	4.5	4.7	4.7
112	Five Point	4.6	4.7	4.5	4.0
113	Rembrandt	4.6	4.5	4.7	5.3
114	PST-SYN-5T25	4.6	4.7	4.4	5.2
115	04-Walk	4.6	4.6	4.6	4.7
116	PST-5S12-BS	4.6	4.5	4.6	5.5
117	03-7 TF#1	4.5	4.2	4.7	5.2
118	03-9 TF#2	4.5	4.4	4.6	4.5
119	Stonewall	4.5	4.3	4.7	3.7
120	Tarheel	4.5	4.5	4.4	5.2
121	SR 8600	4.5	4.5	4.5	4.3
122	PST-SYN-5TK04	4.5	4.4	4.5	5.2
123	PST-55 HZ	4.4	4.4	4.5	4.8
124	03-9 TF#1	4.4	4.3	4.5	5.2
125	04-Dust	4.4	4.3	4.6	4.5
126	03-9 TF#6	4.4	4.2	4.6	4.3
127	03-7 TF#4	4.4	4.2	4.6	4.3
128	Crewcut II	4.4	4.2	4.5	4.5
129	Gazelle	4.3	4.7	4.0	3.2
130	Arid 3	4.3	4.4	4.2	4.5
131	03-7 TF#2	4.3	4.0	4.6	3.8
132	03-9 TF#5	4.3	4.3	4.3	5.0
133	Ninja II	4.3	4.0	4.6	4.2
134	Quest	4.3	4.4	4.2	4.8
135	FE-JD 34103	4.3	4.0	4.5	4.7
136	Wolfpack	4.3	4.1	4.4	5.0
137	Mustang 3	4.3	4.2	4.3	4.7
138	Masterpiece	4.3	4.0	4.5	5.2
139	PST-SYN-5JR4	4.2	4.1	4.3	4.8
140	Trooper	4.2	4.0	4.4	3.8

(Continued)

Table 3 (continued).

	Cultivar or Selection	Turf Quality[1] 2005-2006 Avg.	Turf Quality[1] 2005 Avg.	Turf Quality[1] 2006 Avg.	Brown Patch[2] 2006 Avg.
141	PST-SYN-5RIL	4.2	3.9	4.4	6.3
142	Dynasty	4.2	4.0	4.3	4.7
143	Biltmore	4.2	4.0	4.3	4.5
144	Sunpro	4.1	4.0	4.3	4.8
145	Renrgade II	4.1	4.2	4.0	5.0
146	03-7 TF#3	4.1	3.5	4.6	4.7
147	Arid II	4.1	4.3	3.9	4.7
148	FE-JD 41103	4.0	4.0	4.0	4.3
149	PST-SYN-5 TK3	4.0	3.8	4.1	4.3
150	Tulsa III	4.0	3.8	4.1	4.3
151	Expedition	3.9	3.7	4.0	3.5
152	03-7 TF#5	3.8	3.6	4.1	4.5
153	SR 8500	3.8	3.6	3.9	3.7
154	Alamo	3.8	3.7	3.8	4.2
155	Mini-Mustang	3.7	3.6	3.8	4.7
156	Falcon III	3.7	3.7	3.7	4.0
157	Pixie	3.6	3.5	3.6	4.7
158	Jaguar 3	3.5	3.5	3.5	4.3
159	Titan LTD	3.4	3.3	3.6	4.2
160	FE-JD 3104	3.4	3.4	3.4	4.3
161	Tulsa	3.2	2.8	3.7	4.0
162	Grande	3.2	3.1	3.3	4.2
163	Mustang II	3.0	2.9	3.1	4.0
164	Southeast	1.5	1.4	1.6	3.7
165	Ky-31	1.3	1.3	1.2	3.3
	LSD at 5% =	0.7	0.8	0.7	1.2

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

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

	Cultivar or Selection	Turf Quality[1] 2006 Avg.	Emergence[2] 2006	Brown Patch[3] 2006 Avg.
1	RK-6 Comp	6.9	7.7	6.8
2	RK-5 Comp	6.9	7.7	7.2
3	BB-2 Comp	6.8	7.3	6.8
4	BB-5 Comp	6.8	7.7	6.7
5	2005-50/9407	6.7	7.7	7.0
6	BBM	6.7	6.0	6.7
7	Van Gogh	6.6	7.3	6.7
8	RK-3 Comp	6.5	8.0	6.3
9	CE-3	6.4	7.3	5.8
10	Shenandoah III	6.4	8.3	6.5
11	Millennium 3 SRP	6.4	7.7	6.8
12	Cezanne Rz	6.3	6.3	6.8
13	PST-Syn 5POL	6.3	6.3	6.0
14	RK-4 Comp	6.3	7.0	5.7
15	STR 8LMM	6.3	7.7	6.0
16	IS-TF 94	6.3	7.7	4.7
17	RK-1 Comp	6.3	7.7	7.5
18	Inferno	6.3	8.3	5.5
19	CE-4 Comp	6.1	7.7	6.7
20	ATF 1247	6.1	7.7	5.8
21	2005-50/9440	6.1	5.3	5.0
22	Falcon IV	6.1	7.7	5.0
23	DaVinci	6.1	7.0	6.7
24	PSG 43-Bulk-05	6.1	7.3	5.8
25	PSG 44 Bulk-05	6.1	7.3	7.2
26	Bingo	6.0	7.0	5.7
27	CE-2 Comp	6.0	7.0	4.7
28	Matador GT	6.0	6.7	6.2
29	IS-TF 118	6.0	6.7	3.8
30	IS-TF 135	6.0	6.7	5.8
31	IS-TF 152	6.0	6.3	5.7
32	PST-Syn 5COR	6.0	6.3	5.7
33	Apache III	6.0	6.7	4.2
34	SR 8550	6.0	6.3	6.5
35	STR GrandeIIRh	6.0	7.7	5.7

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2006 Avg.	Emergence[2] 2006	Brown Patch[3] 2006 Avg.
36	BB-1 Comp	6.0	7.3	7.0
37	ATF 1223	6.0	7.3	5.8
38	2005-50/9460	6.0	7.0	6.2
39	PSG 39-Bulk-05	6.0	6.7	5.7
40	Guardian 21	6.0	6.7	6.3
41	TF36	5.9	7.3	6.0
42	ATF 1199	5.9	6.3	6.5
43	PSG 42-Bulk-05	5.9	7.3	5.5
44	IS-TF 139	5.9	6.0	5.2
45	PSG 33-Bulk-05	5.9	7.0	7.0
46	Falcon NG	5.9	7.3	4.8
47	Blackwatch	5.8	7.3	6.0
48	STR RenRh	5.8	6.7	5.3
49	TF9	5.8	7.0	5.3
50	TF32	5.8	7.7	4.2
51	2005-50/9411	5.8	6.0	4.5
52	IS-TF 131	5.8	6.7	3.5
53	PST-Syn 5MAC	5.8	6.7	5.8
54	Silverado II	5.8	7.7	5.5
55	STR 8Rhz 9K	5.8	7.0	6.5
56	TF28	5.8	6.7	6.2
57	ATF 1203	5.8	6.7	5.8
58	Titanium	5.8	7.7	5.2
59	Avenger	5.8	7.7	5.7
60	PSG 36-Bulk-05	5.8	6.3	4.3
61	PST-Syn 5DSL	5.7	6.0	6.3
62	ATF 1213	5.7	6.3	5.2
63	ATF 1236	5.7	7.7	6.3
64	Raptor	5.7	7.0	5.7
65	Innovator	5.7	7.3	5.5
66	Houndog 6	5.7	7.0	5.3
67	ATF 1226	5.7	6.3	4.5
68	Skyline	5.7	7.7	4.8
69	Rembrandt	5.7	8.3	6.0
70	IS-TF 128	5.7	6.3	6.0
71	IS-TF 137	5.7	5.7	6.2
72	IS-TF 138	5.7	6.7	5.0
73	Corgi	5.7	6.7	3.7
74	TF17	5.7	6.3	5.5
75	ATF 1245	5.7	7.0	6.5

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2006 Avg.	Emergence[2] 2006	Brown Patch[3] 2006 Avg.
76	PSG 21-Bulk-05	5.7	7.7	4.3
77	PST-5BAB	5.6	6.7	6.0
78	Silverstar	5.6	7.0	6.2
79	IS-TF 147	5.6	5.7	5.8
80	PST-Syn 5DR5	5.6	6.3	6.2
81	TF34	5.6	5.7	6.7
82	PST-Syn 5BGR	5.6	6.7	4.8
83	IS-TF 130	5.6	6.3	4.8
84	TF31	5.6	7.0	5.7
85	PST-Syn 5JAG	5.6	6.0	6.0
86	PST-Syn 5MED	5.6	6.3	4.7
87	TF2	5.6	7.0	5.2
88	TF29	5.6	6.3	6.0
89	Cortez II	5.6	7.7	4.2
90	Picasso	5.6	6.7	6.5
91	PSG 32-Bulk-05	5.6	6.3	6.2
92	Grande II	5.5	6.7	5.0
93	STR 8600Rh	5.5	7.3	4.3
94	STR 8Rhz 1K	5.5	7.0	6.0
95	IS-TF 129	5.5	6.7	3.8
96	IS-TF 132	5.5	6.3	4.5
97	TF8	5.5	7.0	5.2
98	ATF 1234	5.5	6.0	6.2
99	Cochise III	5.5	7.7	5.0
100	SR 8600	5.5	8.0	5.3
101	STR 8Rhz 13K	5.5	7.3	5.0
102	TF16	5.5	7.3	5.2
103	TF19	5.5	7.3	4.5
104	PSG 41-Bulk-05	5.5	7.0	6.2
105	STR 8Rhz 19K	5.4	7.7	4.8
106	Solara	5.4	6.7	5.7
107	TF35	5.4	6.7	5.0
108	Virtue II	5.4	7.3	5.7
109	STR 8Rhz 8K	5.4	6.3	5.7
110	STR 8Rhz 14K	5.4	8.0	3.3
111	TF22	5.4	6.3	5.3
112	Blade Runner	5.4	7.3	6.2
113	Regiment II	5.3	6.3	3.3
114	TF10	5.3	6.7	3.7
115	ATF 1200	5.3	7.0	4.8

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2006 Avg.	Emergence[2] 2006	Brown Patch[3] 2006 Avg.
116	03-5 TF#3-04	5.3	6.7	5.2
117	Cayenne	5.3	7.0	5.5
118	TF21	5.3	6.7	4.8
119	Constitution	5.3	7.3	4.3
120	STR TitLtdRh	5.2	7.0	5.3
121	ATF 1224	5.2	7.0	5.8
122	Masterpiece	5.2	7.3	4.7
123	Arid 3	5.2	8.0	4.5
124	SRT DDMRh	5.2	6.0	4.3
125	TF33	5.2	6.7	5.8
126	ATF 1246	5.2	6.7	5.0
127	STR 8Rhz 18K	5.1	6.3	4.0
128	PST-Syn 5SL5	5.1	6.3	4.5
129	Watchdog	5.1	7.7	5.5
130	Jaguar 4	5.1	7.0	4.3
131	STR Reg SRh	5.1	6.3	6.0
132	Quest	5.1	7.3	5.5
133	Ninja II	5.1	6.7	4.8
134	TF30	5.0	6.7	3.8
135	PST-Syn 5MSD	5.0	6.0	5.5
136	PSG 20-Bulk-05	5.0	6.3	4.5
137	PST-Syn 5SMG	4.8	5.7	6.7
138	Expedition	4.8	7.3	4.3
139	PSG 31-Bulk-05	4.8	7.0	4.5
140	PST-Syn 5WP	4.7	6.0	6.0
141	ATF 1167	4.7	6.7	4.5
142	Titan Ltd.	4.7	6.7	5.3
143	PST-Syn 5DZ5	4.7	5.0	4.7
144	PST-Syn 580Z	4.7	5.3	5.0
145	Endeavor	4.7	7.7	5.0
146	STR 8Rhz 10K	4.7	7.7	5.5
147	Tom Cat	4.6	7.7	5.2
148	Pixie	4.6	8.0	6.0
149	STR 8MO1	4.6	7.3	5.2
150	Rhizing Star	4.5	7.7	5.2
151	IS-TF 134	4.5	6.0	5.5
152	PST-Syn 5SEG	4.5	5.0	4.2
153	ATF 1166	4.5	5.7	5.2
154	PST-Syn 525G	4.4	5.0	4.2
155	Tulsa II	4.4	6.3	4.3

(Continued)

Table 4 (continued).

	Cultivar or Selection	Turf Quality[1] 2006 Avg.	Emergence[2] 2006	Brown Patch[3] 2006 Avg.
156	PST-Syn 5ZR	4.3	3.7	5.3
157	PST-5Z5 Bulk	4.3	4.0	4.8
158	Falcon III	4.1	6.7	5.0
159	Jaguar 3	4.1	7.0	5.5
160	PST-53X Bulk	4.0	3.7	4.7
161	KY-31	1.0	7.3	3.8
	LSD at 5% =	1.2	0.7	1.7

[1]9 = best turf quality
[2]9 = best seedling emergence
[3]9 = least disease

Table 5. Yearly nitrogen (N) applied and mowing height (Ht) on tall fescue tests established at Adelphia, NJ.

	2003		2004		2005		2006	
	N[1]	Ht[2]	N	Ht	N	Ht	N	Ht
Table 1 (2002 Adelphia)	3.0	1.5	3.0	1.5	3.0	1.5	1.5	1.5
Table 2 (2003 Adelphia)			3.8	1.5	3.0	1.5	2.3	1.5
Table 3 (2004 Adelphia)					2.3	1.5	3.8	1.5
Table 4 (2005 Adelphia)							4.2	1.5

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

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