

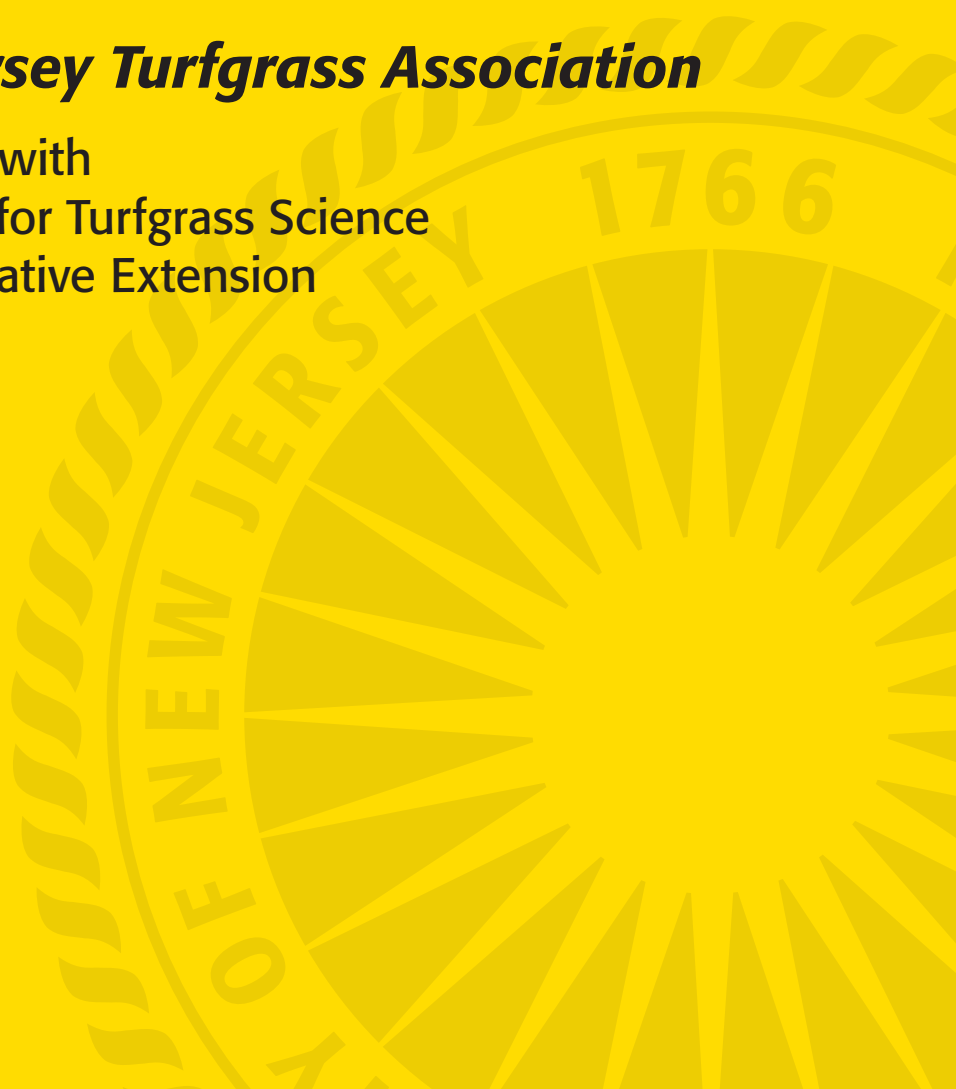
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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, School of Environmental and Biological Sciences, Rutgers, The State 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 2009 New Jersey Turfgrass Expo. Publication of these lectures provides a readily avail-

able 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.

Special thanks are given to those who have submitted papers for this proceedings, to the New Jersey Turfgrass Association for financial assistance, and to Barbara Fitzgerald and Anne Diglio for administrative and secretarial support.

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

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The fine fescues (*Festuca* spp.) are a group of several species of fine-leaved cool-season turfgrasses. As a group they perform well in acidic soils, under infertile or droughty conditions, and are well adapted to moderate levels of shade, which makes them better suited to low maintenance situations than most cool-season turfgrasses. They can form a dense cover that may persist for years without any maintenance inputs. Surrounding the base of trees where light intensity is low and there is competition for water and nutrients, they usually survive long after other species have disappeared. Under these conditions, fine fescues often out-compete other cool-season turfgrasses which would normally predominate under more favorable levels of light, moisture and nutrition. Fine fescues in general are not well adapted to wet soil conditions.

For turfgrass purposes we deal primarily with six fine fescue species, three of which are subspecies of *F. rubra*. Strong creeping red (*F. rubra* L. subsp. *rubra*) and slender creeping red fescue (*F. rubra* L. var. *litoralis* Vasey ex Beal) are commonly referred to as creeping red fescue since they both spread by rhizomes. The strong creepers, as the name implies, have more vigorous rhizomes and a more open, aggressive growth habit. The third subspecies of red fescue, Chewings fescue (*F. rubra* L. subsp. *fallax* (Thuill.) Nyman) is a bunch type grass. Hard fescue (*F. brevipila* R. Tracey) is the other major species used for turf, with the sheeps (*F. ovina* L.), and blue (*F. glauca* Vill.) fescues playing lesser roles.

The Chewings fescues are usually dense and low growing, with the ability to tolerate a lower mowing height than the other fine fescues. Their ability to perform well in areas that have less than optimal growing conditions and to provide a longer-lasting cover if

maintenance is reduced or abandoned, makes them a popular addition to home lawn mixes. In general, the Chewings fescues perform best in regions with cooler summer climates, such as maritime locations.

Hard fescues are generally dark green and are known to maintain good color during moderate periods of drought stress. They form a very dense cover and are generally considered more tolerant of heat, drought and low fertility than the Chewings fescues. They are fairly resistant to disease, even under low maintenance, which makes them well-adapted for use on steep banks for erosion control and in many other low maintenance situations.

Sheeps and blue fescues range in color from various shades of blue or green to a silvery-blue or silvery-green. As a result, they are not generally added to mixtures with other turfgrasses. Their non-aggressive, bunch-type growth habit allows them to be added to wildflower mixes where they make an interesting addition of color, while aiding in erosion prevention, and they don't out-compete the flowers. Their use is also becoming more popular in ornamental landscapes where they are used for the unique and dramatic color contrast they can provide.

Fine fescues can become soft, succulent, and thatchy when heavily fertilized, leaving them more susceptible to diseases and summer heat stress problems. Ideally, fine fescues shouldn't be fertilized more than about 1 to 2 lb nitrogen/1000 ft² per year. In light of current demands for water conservation and the heightened concern about fertilizer usage, fine fescue turf is becoming a species the turf industry can use in certain situations to address some of these issues.

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Many newer cultivars of fine fescue contain a *Neotyphodium* endophyte which provides the added benefit of reduced chemical inputs by significantly increasing resistance to many turf insects, some diseases, and improved drought tolerance. The endophyte is a fungus that grows in the plant within the leaf sheath and crown. The benefits of the endophyte are seldom seen during low stress growing conditions, but are often dramatic under stressful conditions.

Two other species that are being studied for low maintenance situations are tufted hairgrass (*Deschampsia cespitosa* L.) and *Koeleria* sp. Both of these species are well adapted to low maintenance under some climatic conditions, but are not yet well adapted to our long, hot, and humid summers. Work is being done to make improvements in these areas, and to evaluate their potential to become viable low maintenance turfs in our climate.

The Rutgers turfgrass breeding program continues to make improvements in many of the characteristics desired for superior fine fescue turf. Additional improvements are needed especially in the areas of disease and insect resistance, and vigilance is required to ensure that good quality fine fescues continue to be developed. Rutgers continues to cooperate with the National Turfgrass Evaluation Program (NTEP), which is involved in evaluating many cultivars, collections and experimental selections, for turf performance, across a wide range of geographical locations.

PROCEDURES

Five fine fescue turf trials were conducted at the Rutgers Biology and Pathology Research and Extension Station in Adelphia, NJ (Tables 1 to 5). In addition, a low maintenance turf trial was also conducted at this site (Table 6), which analyzed various species along with fine fescues under extremely low maintenance. All tests consist of 3 x 5 ft plots with the fine fescues sown at 3.7 lb/1000 ft². In the low maintenance test, various species were sown at rates indicative of a low maintenance seeding rate for that species.

Plots were replicated three times in a randomized complete block design. Tests were maintained at different fertility levels and mowing heights that depended upon the objectives of the test as well as

the occurrence of disease or insects. Mowing height and fertilizer input histories of all tests are outlined in Table 7. All tests were treated with pre-emergent herbicides and broadleaf weed control. The fine fescue trials were irrigated to prevent severe stress. After establishment the low maintenance trial received no additional water other than natural rainfall. The fine fescue trials were typically mowed frequently with reel mowers to avoid excessive accumulation of clippings, while the low maintenance test was maintained with a rotary mower.

The 2008 Trial (Table 5) includes the 2008 National Fineleaf Fescue Test established in cooperation with National Turfgrass Evaluation Program (NTEP), and the 2006 trial in Table 3 contains entries of the Cooperative Turfgrass Breeders Test (CTBT).

Evaluation

Evaluations of all tests were made by visual ratings of plots throughout the year. Tests were rated on a scale of 1 to 9, where 9 represented the most desirable turf characteristic. Turf quality is a subjective rating that includes density, texture, color, growth habit, resistance to diseases or insects, and overall performance. Trials were rated monthly throughout the growing season for turf quality. Ratings other than quality, such as disease, percent cover, or live turf, were also evaluated using the 1 to 9 scale. Ratings were made by different evaluators to help minimize personal preference biases towards a particular trait.

Data for all trials were statistically analyzed using analysis of variance, and means were separated using Fisher's protected least significant difference (LSD) means separation test. Results for tests reported in Tables 1 to 5 are presented with selections grouped according to species and ranked according to the best overall turf performance (multiple-year quality average). Results presented in Table 6 were not sorted by species and were ranked solely by overall turf quality average so that species trends could be easily seen and to identify individuals that performed much better or worse than similar entries.

Care should be used when drawing conclusions from some of these trials. First, these tests were grown as monocultures in full sun. These conditions tend to cause different stresses that may not occur under normal growing conditions. Second, the 2008 tests (Tables 5 and 6) were in their first year of evalu-

ation. Some cultivars perform much differently during establishment than they do after a mature sod has developed.

RESULTS AND DISCUSSION

In the 2005 trial presented in Table 1, the multi-year average showed that in the four years since the trial began, the strong creeping red fescues were the highest performers as a group, followed closely by the hard fescues and the Chewings fescues. In addition, within all of the species, many of the new selections and experimental varieties dominated the top spots. The ability of these new experimental selections to outperform the commercially available varieties attests to the continued improvements being made in fine fescue breeding.

In the 2006 trial (Table 2), the Chewings fescues performed better than the strong creeping and hard fescues. A rating for resistance to dollar spot, caused by the fungus *Sclerotinia homoeocarpa*, is also reported. It is interesting to note that in the Aug. 10 rating, Miser strong creeping fescue exhibited outstanding performance whereas most of the other strong creeping fescues were rated rather poorly. This probably contributed to the top 2009 quality ranking of this cultivar and significantly helped its overall quality average. Although Scaldis II and two experimental selections were the only other strong creeping fescues with good resistance to dollar spot, resistance to this disease for most of the Chewings fescues and all of the hard fescues was excellent. These same trends were seen in the 2006 trial presented in Table 3. Here, however, more strong creeping fescues exhibited good dollar spot resistance in addition to many of the Chewings and all of the hard fescues.

The performance of the entries in the 2007 trial are presented in Table 4 and include a rating for dollar spot as well as red thread, which is caused by the fungus *Laetisaria fuciformis*. General trends evident were similar to the older tests for turf quality and dollar spot. The red thread rating showed that most entries of all species were somewhat susceptible to this disease, but few were severely damaged.

The 2008 fine fescue trial (Table 5) contains all entries of the 2008 Fineleaf Fescue Test established in cooperation with NTEP. This trial, in its first year of evaluation, contains a single year average for turf quality as well as a rating for percent establishment. This visual estimate of the percentage of the plot

area covered by a healthy turf canopy is somewhat affected by vigor as well as germination rate. Percent establishment was good for most of the Chewings, hard, and strong creeping fescues but was rather weak for many of the lesser-used fine fescue species. This is interesting since the turf quality of many of these species was relatively poor, a trend that persisted throughout the course of this trial as well as in all other tests. Improvements in turf quality are needed in these species if they are to make an impact on the turf industry in our area.

The 2008 low maintenance test is presented in Table 6. This trial was also in its first year of evaluation. Due to a severe rust epidemic on bluegrasses this past season, the Kentucky bluegrass and Texas x Kentucky bluegrass hybrids included in this trial were rated for disease resistance. It is interesting to note that many of the hybrids performed better than the Kentucky bluegrass species. It may be worth investigating if the source of this resistance is from the Texas bluegrass parentage or from some superior Kentucky bluegrass used in the crosses.

This trial (Table 6) was not sorted by species to permit comparisons among species nor to identify the exceptional performance of any individual grass. Of interest is the performance of some tall fescues and colonial bentgrasses that ranked near the top of the test. It should be noted that since these turf plots received some fertilizer and water during establishment, the real impact of the low maintenance regime is not yet evident. If previous trends continue, the performance of many of these entries will decline during the next few years. We expect that the hard fescues eventually will demonstrate persistence under harsh conditions and will outperform most of the other species. The advantage hard fescues have over most of the other fine fescues is better resistance to red thread under very low maintenance. It will be interesting to note the interactions among some of these grasses as the cumulative impact of low maintenance becomes evident and to look not only for the trends among the various species, but for outstanding selections within the different species. These data will provide breeders the opportunity to improve the performance of each species under low maintenance.

Overall, it is encouraging to see that many of the higher ranking fine fescues within all species are new experimental selections. Although advances in breeding efforts continue, there is still need for considerable improvement in resistance to leaf spot and

red thread, resistance to summer patch (particularly in the hard fescues), and increased seed production. One little studied area that could make a significant impact on the use of fine fescues in a wider array of situations is the improvement of wear tolerance, particularly under drought stress conditions. Breeding efforts at Rutgers continue in an effort to develop high quality turfgrasses with the ability to make a great environmental impact with minimal environmental cost.

ACKNOWLEDGMENTS

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Table 1. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2005 at Adelphia, NJ.

Cultivar or Selection	-----Turf Quality ¹ -----				
	2006-2009 Avg.	2006 Avg.	2007 Avg.	2008 Avg.	2009 Avg.
STRONG CREEPING RED FESCUE					
1 OR2 comp	6.3	6.3	6.1	6.4	6.3
2 OR3 comp	6.1	6.4	6.0	6.2	5.9
3 OR4 comp	6.0	6.2	5.4	6.3	5.9
4 Miser	5.7	6.1	5.5	5.6	5.7
5 IS-FRR 43	5.3	5.5	4.7	5.3	5.5
6 RAD-FR 7	5.2	5.0	4.7	5.2	5.8
7 PST-Syn-48ED	5.1	5.3	4.8	5.3	5.1
8 IS-FRR 44	4.9	5.2	4.7	5.1	4.7
9 RAD-FR 8	4.6	5.0	4.5	4.5	4.5
10 SR 5250	4.5	5.2	4.4	4.2	4.3
11 Cindy Lou	4.5	4.8	4.1	4.5	4.5
12 PST-Syn-48Y	4.5	4.6	4.4	4.7	4.1
13 Gibraltar	4.4	5.1	4.5	3.6	4.2
14 PST-Syn-48ET	4.2	4.3	4.1	4.5	4.1
15 Aberdeen	4.2	4.8	4.6	3.7	3.7
16 SRX CA 529	4.2	4.3	4.1	4.1	4.1
17 PST-Syn-4SLT	4.1	4.3	4.2	4.1	3.9
18 ASC 266	4.1	4.6	4.1	4.2	3.3
19 SRX CA 521	3.8	4.4	4.0	3.1	3.6
20 Audubon	3.6	3.4	3.9	4.0	3.2
21 Splendor	3.6	4.3	3.9	2.9	3.2
22 Pathfinder	3.5	3.7	3.7	2.9	3.9
23 Swing	3.5	4.4	3.8	2.9	3.0
24 PST-Syn-4EQG	3.4	3.8	3.2	2.9	3.8
25 SR 5210	3.4	3.7	3.3	3.4	3.3
26 Polka	3.0	3.5	3.2	2.6	2.7
HARD FESCUE					
1 OH1 comp	5.9	5.2	6.2	5.9	6.4
2 Viking	5.9	5.8	6.0	5.9	5.9
3 PST-4HES	5.9	5.9	5.9	5.8	5.9
4 SRX CA 396	5.8	5.7	5.9	5.9	5.6
5 IS-FL 38	5.8	5.5	5.9	5.7	5.9

(Continued)

Table 1 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				
	2006-2009 Avg.	2006 Avg.	2007 Avg.	2008 Avg.	2009 Avg.
HARD FESCUE (cont.)					
6 SR 3150	5.5	5.6	5.9	5.2	5.3
7 PST-4NY	5.3	5.1	5.4	5.2	5.3
8 SRX NJU	5.1	5.0	5.2	4.9	5.4
9 PST-Syn-4HQG	5.1	5.0	5.1	5.6	4.6
10 PST-Syn-4HEY	5.0	4.4	5.3	5.5	5.0
11 SRX 3K	5.0	4.6	4.9	5.3	5.2
12 Aurora II	5.0	4.8	5.1	5.1	5.0
13 Stonehenge	4.8	4.6	5.2	5.0	4.5
14 Aurora Gold	4.7	4.5	4.8	5.1	4.6
15 SR 3100	4.5	3.7	4.6	4.9	4.7
16 SRX CA 3DE	4.3	4.7	4.2	4.0	4.2
CHEWINGS FESCUE					
1 RAD-FC 9	5.9	6.4	5.7	5.9	5.8
2 OC2 comp	5.9	6.3	5.9	5.5	5.8
3 OC3 comp	5.6	5.5	5.4	5.8	5.8
4 PST-Syn-4S111	5.5	5.7	5.8	5.5	5.0
5 SR 5130	5.4	6.0	5.8	5.0	4.8
6 Longfellow II	5.2	5.4	5.3	5.3	4.7
7 PST-Syn-4EGC	5.2	5.9	5.1	5.1	4.6
8 IS-FRC 23	5.1	5.3	5.0	4.9	5.1
9 Ambassador	5.0	5.4	5.0	4.9	4.8
10 OC1 comp	5.0	5.3	4.8	4.8	5.0
11 Ambrose	5.0	5.0	5.2	5.0	4.6
12 IS-FRC 12	4.8	5.0	5.0	5.0	4.3
13 Culumbra II	4.7	5.0	4.7	4.9	4.4
14 Shadow II	4.7	5.0	4.9	4.6	4.3
15 JF-3	4.6	4.5	4.8	4.8	4.3
16 Compass	4.4	4.7	4.7	4.2	4.1
17 SR 5100	4.3	4.7	4.6	4.1	3.9
HARD x BLUE FESCUE					
1 SRX 3BHO	4.8	4.5	4.7	5.3	4.7

(Continued)

Table 1 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				
	2006-2009 Avg.	2006 Avg.	2007 Avg.	2008 Avg.	2009 Avg.
BLUE FESCUE					
1 PST-4BU3	4.7	4.4	5.1	5.0	4.5
2 Little Bighorn	3.9	3.8	3.9	4.1	3.7
3 SR 3210	3.5	4.0	3.5	3.8	2.9
4 SR 3200	3.3	3.5	3.1	3.6	2.9
SLENDER CREEPING RED FESCUE					
1 Shoreline	4.6	5.5	4.3	4.7	3.9
2 Seabreeze GT	4.2	5.1	4.3	3.6	3.7
3 Shaker	4.0	5.0	3.7	3.9	3.5
4 Dawson	3.4	4.2	3.8	3.0	2.5
LSD at 5% =	0.7	0.9	0.7	1.1	0.9

¹9 = best turf quality

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

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Aug. 10 2009
	2007- 2009 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	
CHEWINGS FESCUE					
1 RAD-FC11	6.5	6.3	6.6	6.5	9.0
2 RAD-FC10	6.4	6.8	6.1	6.3	8.7
3 RAD-FC3	6.1	6.6	5.6	6.0	8.3
4 RAD-FCQS	6.0	6.2	5.7	6.1	8.7
5 Integra II	5.9	6.1	5.6	6.0	9.0
6 OC1	5.8	5.7	5.8	6.0	8.7
7 IS-FRC 26	5.7	5.8	5.7	5.7	9.0
8 IS-FRC 27	5.7	5.9	5.5	5.7	8.7
9 RAD-FCFCYS	5.6	6.2	5.1	5.4	8.0
10 Compass	5.5	5.7	5.6	5.4	6.3
11 SR 5130	5.3	6.1	5.0	4.7	5.7
12 Longfellow II	5.3	5.3	5.2	5.2	6.3
13 Shadow II	5.0	5.3	4.9	4.8	3.7
14 Culumbra II	5.0	5.8	4.6	4.5	3.0
15 CHFSHHY	4.8	4.7	4.8	5.1	6.7
16 PST-Syn-4CT	4.8	5.2	4.4	4.7	7.3
17 7 Seas	4.7	4.9	4.8	4.5	5.0
18 PST-4C29 Bulk	4.4	4.9	4.0	4.1	3.7
19 SR 5100	4.0	4.0	3.8	4.2	4.3
STRONG CREEPING RED FESCUE					
1 Miser	5.8	5.7	5.7	5.9	8.7
2 ZT comp	5.4	5.8	5.4	4.9	3.7
3 IS-FRR 52	5.2	5.2	5.0	5.3	8.0
4 RAD-FR13	5.1	5.3	5.1	5.0	6.0
5 RCM	5.1	5.0	5.1	5.3	8.0
6 MYSFRR-30	4.6	5.2	4.9	3.8	2.0
7 RAD-FR4	4.6	5.1	4.8	3.8	3.7
8 RAD-FRQS	4.5	5.4	4.5	3.7	3.7
9 Epic	4.5	5.4	3.9	4.2	3.7
10 RAD-FR12	4.5	5.4	4.1	4.0	3.3

(Continued)

Table 2 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Aug. 10 2009
	2007- 2009 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	
STRONG CREEPING RED FESCUE (cont.)					
11 Scaldis II	4.4	4.5	4.4	4.3	6.7
12 RAD-FRES	4.4	4.8	4.3	4.1	4.0
13 SRX CA529	4.4	4.6	4.5	4.1	1.7
14 Tiara	4.3	4.6	4.2	4.1	3.7
15 Lustrous	4.2	4.9	3.9	3.9	2.3
16 Navigator	4.2	4.6	4.2	3.7	2.0
17 SR 5250	4.1	4.9	4.0	3.5	1.3
18 Gibraltar	4.1	4.4	4.1	3.8	2.7
19 SRX CA521	4.0	4.4	4.0	3.7	1.3
20 RAD-FR15	4.0	4.8	4.0	3.3	1.7
21 Aberdeen	4.0	4.7	4.3	2.9	1.0
22 Razor	4.0	4.4	4.0	3.6	2.0
23 RAD-FR14	4.0	4.7	3.9	3.4	3.0
24 Camilla	3.9	4.4	4.0	3.4	1.3
25 Inverness	3.9	4.3	4.1	3.3	1.7
26 Swing	3.7	4.2	3.5	3.5	3.7
27 Polka	3.5	4.2	3.4	3.0	2.3
28 SR 5210	3.2	3.6	3.2	2.9	2.0
HARD FESCUE					
1 IS-FL 40	5.7	5.1	6.2	5.8	8.7
2 Viking	5.5	5.4	5.9	5.2	8.7
3 Stonehenge	5.3	5.6	5.3	4.9	8.0
4 Predator	5.3	5.2	5.4	5.2	8.0
5 SR 3100	5.2	5.4	5.2	5.0	7.7
6 SRX CA396	5.1	5.1	5.4	4.9	8.7
7 IS-FL 39	5.1	4.5	5.4	5.3	8.7
8 SR 3150	4.9	4.7	5.3	4.7	8.3
9 Chariot	4.9	4.9	4.9	4.8	7.0
10 SRX NJU	4.8	4.7	5.2	4.5	8.3
11 Heron	4.7	5.0	5.0	4.3	7.0
12 Aurora II	4.7	4.4	4.8	4.8	7.7
13 EXPHF	4.7	4.8	5.0	4.1	7.7
14 SRX 3K	4.3	4.5	4.3	4.2	7.0

(Continued)

Table 2 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Aug. 10 2009
	2007- 2009 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	
HARD x BLUE FESCUE					
1 SRX 3BHO	4.9	4.4	5.3	4.8	6.3
BLUE FESCUE					
1 Little Bighorn	3.8	4.4	3.6	3.3	3.0
2 SR 3210	3.1	2.6	3.2	3.3	5.7
3 SR 3200	2.7	2.3	2.7	3.1	4.7
SLENDER CREEPING RED FESCUE					
1 SRX 55R	4.5	4.8	4.5	4.1	4.3
2 PSG 55QRS	4.3	4.5	4.7	3.8	3.0
3 Seabreeze GT	4.1	4.9	4.1	3.3	2.7
4 Raggae	3.6	4.3	3.2	3.4	2.7
5 Dawson	3.4	3.8	3.7	2.7	1.0
SHEEP FESCUE					
1 04-SHF	3.8	4.2	3.6	3.5	6.0
2 Azure	3.3	3.3	3.1	3.6	5.7
3 10126	3.1	2.8	2.8	3.6	6.7
TUFTED HAIRGRASS					
1 SED	2.7	3.8	2.2	2.0	5.0
2 SLD	2.3	3.3	2.0	1.6	4.7
LSD at 5% =	0.6	0.7	0.9	0.8	2.3

¹9 = best turf quality²9 = least disease

Table 3. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2006 at Adelphia, NJ. (Contains entries in the Cooperative Turfgrass Breeders Test – CTBT.)

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Aug. 10 2009
	2007- 2009 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	
CHEWINGS FESCUE					
1 IS-FRC 26	5.9	6.1	6.0	5.7	8.7
2 OC1	5.7	5.6	5.7	5.8	8.7
3 7 Seas	5.6	5.6	5.3	5.9	8.3
4 ACF251	5.6	5.9	5.5	5.4	8.0
5 Compass	5.6	5.7	5.2	5.8	8.0
6 4TZ	5.6	5.7	5.3	5.7	9.0
7 Integra II	5.5	5.4	5.5	5.7	8.7
8 IS-FRC 27	5.5	5.7	5.2	5.7	8.0
9 ACF246	5.5	5.6	5.3	5.6	7.0
10 ACF257	5.5	5.6	5.5	5.4	9.0
11 ACF249	5.4	5.6	5.2	5.5	7.0
12 ACF256	5.4	5.9	5.4	4.8	4.0
13 ACF264	5.4	5.6	5.2	5.3	6.7
14 Intrigue	5.3	5.8	4.9	5.3	8.3
15 ACF252	5.3	5.6	5.0	5.3	8.0
16 R4TC	5.3	5.1	5.3	5.5	8.7
17 IS-FRC 23	5.3	5.7	4.8	5.4	7.7
18 ACF259	5.1	5.1	5.2	5.1	7.7
19 Silhouette	5.1	5.2	5.0	5.2	7.3
20 ACF261	5.1	5.6	4.8	4.8	4.3
21 SR 5130	5.1	5.8	4.9	4.5	4.7
22 4CSD+	5.0	4.9	4.8	5.3	8.0
23 Shadow II	4.9	5.2	4.6	4.9	6.0
24 Culumbra II	4.9	5.7	4.7	4.3	1.3
25 ACF255	4.9	5.6	4.7	4.4	4.0
26 ACF262	4.9	5.2	4.8	4.6	4.0
27 ACF266	4.7	5.2	4.3	4.5	3.3
28 ACF245	4.7	5.0	4.2	4.8	5.7
29 4RC	4.5	4.9	4.0	4.4	7.3
30 4CH6 Bulk	4.4	4.7	4.3	4.0	1.7
31 4CBEL	4.2	4.6	4.2	3.7	5.0
32 Koket	4.1	4.2	4.1	4.1	7.3
33 4EC	4.1	4.3	3.9	4.0	6.0
34 SR 5100	3.8	3.8	3.7	3.9	5.3

(Continued)

Table 3 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Aug. 10 2009
	2007- 2009 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	
HARD FESCUE					
1 IS-FL 40	5.7	5.4	6.2	5.6	8.0
2 4HES	5.4	5.1	5.7	5.5	8.7
3 AHF176	5.4	5.4	5.7	5.1	8.3
4 SRX NJU	5.4	5.2	5.9	5.1	9.0
5 AHF177	5.3	5.2	5.4	5.1	7.3
6 IS-FL 38	5.3	5.4	5.5	4.9	7.3
7 Predator	5.2	5.2	5.3	5.1	7.3
8 SR 3150	5.2	5.3	5.5	4.8	8.0
9 HOE	5.2	5.5	5.5	4.6	7.0
10 STR CA396	5.0	5.1	5.5	4.5	8.7
11 4NY	5.0	4.7	5.4	4.9	8.0
12 IS-FL 39	4.9	4.6	5.2	4.9	8.3
13 PST-4HM	4.8	4.8	4.9	4.7	7.0
14 Spartan II	4.7	4.3	5.2	4.6	6.0
15 PST-4CU3	4.3	4.8	4.2	3.9	4.7
16 Discovery	4.3	4.3	4.5	4.1	7.3
17 SRX 3K	4.3	4.0	4.7	4.2	7.7
18 Scaldis II	4.3	4.1	4.6	4.2	5.7
STRONG CREEPING RED FESCUE					
1 Fortitude	5.5	5.4	5.6	5.6	8.3
2 Miser	5.5	5.5	5.4	5.7	8.0
3 IS-FRR 51	5.3	5.1	5.1	5.6	7.7
4 DLF-RCM	5.1	4.9	5.1	5.3	8.3
5 IS-FRR 50	5.0	5.2	4.8	5.0	8.0
6 Celestial	5.0	5.6	4.8	4.6	4.0
7 48Y	5.0	5.2	4.6	5.0	6.3
8 RaZor	4.9	5.2	5.0	4.5	4.3
9 Gibraltar	4.9	4.8	4.9	4.9	6.7
10 Lustrous	4.9	4.9	4.9	4.8	8.7
11 ASC293	4.6	5.3	4.6	4.0	2.0
12 IS-FRR 44	4.6	5.4	4.7	3.8	1.0
13 ASC301	4.6	5.3	4.4	4.2	2.0
14 ASC295	4.5	5.4	4.2	3.8	3.0
15 STR CA529	4.4	4.9	4.4	4.0	2.0

(Continued)

Table 3 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----				Dollar Spot ² Aug. 10 2009
	2007- 2009 Avg.	2007 Avg.	2008 Avg.	2009 Avg.	
STRONG CREEPING RED FESCUE (cont.)					
16 Epic	4.4	5.3	4.2	3.6	1.7
17 ASC266	4.3	4.8	4.0	4.2	4.0
18 ASC310	4.3	4.2	4.2	4.5	6.3
19 8000	4.3	5.0	4.0	3.8	1.7
20 SR 5250	4.3	4.9	4.2	3.7	1.0
21 Cindy Lou	4.2	4.8	4.2	3.6	2.0
22 STR CA521	3.9	4.5	3.9	3.4	1.7
23 4CRE	3.8	4.0	4.1	3.4	1.7
24 4FRR	3.8	4.1	3.9	3.4	2.3
25 Boreal	3.1	3.2	3.0	3.0	2.3
SLENDER CREEPING RED FESCUE					
1 SRX 55R	4.6	4.9	4.5	4.4	5.7
2 Shaker	4.4	5.0	4.4	3.9	4.7
3 Sealink	4.4	4.7	4.7	3.8	1.7
4 PSG 55QRS	4.4	4.5	4.4	4.2	6.0
5 Dawson	4.1	4.1	4.0	4.4	5.7
6 Seabreeze GT	4.0	4.5	3.9	3.7	3.7
BLUE x HARD FESCUE					
1 PST-4BIL	4.9	4.8	5.5	4.5	7.7
2 4BU3	4.5	4.4	5.0	4.2	7.0
HARD x BLUE FESCUE					
1 SRX 3BHO	4.3	4.2	4.4	4.4	7.3
BLUE FESCUE					
1 SR 3210	3.3	2.9	3.0	4.0	6.7
LSD at 5% =	0.5	0.6	0.7	0.6	2.1

¹9 = best turf quality²9 = least disease

Table 4. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2007 at Adelphia, NJ.

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² June 11 2009	Dollar Spot ² Aug. 10 2009
	2008- 2009 Avg.	2008 Avg.	2009 Avg.		
CHEWINGS FESCUE					
1 RAD-FC23	5.9	6.1	5.6	6.0	7.7
2 CW2 Comp	5.7	5.6	5.8	5.0	8.0
3 RAD-FC9	5.7	5.5	5.8	6.7	8.0
4 AM-FRC 26	5.7	5.7	5.6	5.3	8.0
5 RAD-FC24	5.5	5.5	5.5	4.7	8.0
6 CW1 Comp	5.5	5.5	5.5	4.7	8.3
7 SR 5130	5.4	5.6	5.2	5.7	5.3
8 RAD-FC22	5.2	5.2	5.2	5.0	7.3
9 OC1	5.2	5.2	5.2	5.0	8.0
10 PST-Syn-4CTE	5.2	5.3	5.0	5.0	7.7
11 Longfellow II	5.1	5.2	5.0	5.0	6.7
12 IS-FRC 30	5.1	5.2	5.1	4.7	7.7
13 Treazure II	5.0	5.0	5.0	4.7	7.0
14 Silhouette	4.9	4.8	5.0	6.3	6.7
15 Ambrosa	4.9	5.1	4.6	3.7	5.7
16 PST-4RC	4.8	4.9	4.7	5.3	7.3
17 Shadow II	4.8	4.9	4.7	5.3	6.0
18 PST-Syn-4CIB	4.8	4.6	4.9	5.7	8.0
19 J-5	4.6	4.5	4.6	6.3	6.0
20 Culumbra II	4.5	4.3	4.6	4.3	5.3
21 Jamestown II	3.8	3.7	3.9	5.3	6.0
22 SR 5100	2.9	2.0	3.8	4.7	6.7
HARD FESCUE					
1 IS-FL 40	5.7	5.7	5.7	5.3	8.7
2 MG2 Comp	5.7	5.4	5.9	5.7	8.0
3 EG1 Comp	5.6	5.7	5.4	5.3	9.0
4 Predator	5.5	5.4	5.6	4.3	8.3
5 MG4 Comp	5.5	5.5	5.6	6.0	7.7
6 MG3 Comp	5.5	5.3	5.6	4.3	8.0
7 MG1 Comp	5.4	5.1	5.6	5.3	8.7
8 SR 3150	5.3	5.3	5.4	5.0	9.0
9 PST-4HES	5.3	5.1	5.4	5.3	9.0
10 EG2 Comp	5.3	5.1	5.4	5.0	8.7

(Continued)

Table 4 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² June 11 2009	Dollar Spot ² Aug. 10 2009
	2008- 2009 Avg.	2008 Avg.	2009 Avg.		
HARD FESCUE (cont.)					
11 7 Seas	5.3	5.4	5.1	4.3	8.0
12 WB	5.2	5.1	5.4	5.3	8.3
13 PST-4CU3	5.2	5.6	4.7	4.3	7.7
14 SRX NJU	5.1	5.1	5.2	6.3	8.3
15 Ecostar	5.1	5.2	5.0	5.0	8.0
16 SR 3100	5.1	5.1	5.1	4.3	8.3
17 Viking	5.1	4.7	5.4	3.7	8.0
18 PST-4NY	5.1	5.0	5.1	4.7	8.0
19 Reliant IV	5.0	4.9	5.1	4.7	9.0
20 Beacon	5.0	4.8	5.3	5.7	8.0
21 AM-FL39	5.0	4.9	5.1	5.0	9.0
22 IS-FL 42	5.0	4.6	5.4	5.3	8.7
23 Rescue 911	5.0	5.2	4.7	6.0	8.7
24 Aurora II	4.6	4.6	4.7	5.7	8.0
25 Razor	4.2	4.7	3.7	5.0	4.0
26 Aberdeen	4.1	4.6	3.5	5.0	4.7
27 Epic	3.9	4.0	3.8	5.3	2.7
28 Scaldis II	3.8	3.0	4.7	5.3	7.0
STRONG CREEPING RED FESCUE					
1 RM Comp	5.6	5.8	5.4	5.3	8.3
2 IS-FRR 52	5.5	5.4	5.6	5.7	8.7
3 IS-FRR 51	5.5	5.4	5.5	5.3	8.3
4 OS2 Comp	5.4	5.5	5.2	5.0	7.3
5 OS4 Comp	5.4	5.6	5.1	5.7	6.7
6 RAD-FR7	5.3	5.3	5.4	5.7	7.3
7 CAR Comp	5.1	5.4	4.9	6.0	7.0
8 OS1 Comp	5.0	5.2	4.9	4.7	5.7
9 IS-FRR 55	5.0	5.1	4.8	5.0	7.3
10 PST-4CRE	4.9	5.4	4.4	7.0	6.7
11 RCR Comp	4.9	5.2	4.5	5.3	6.0
12 PST-48Y7	4.9	4.9	4.9	5.0	7.0
13 OS3 Comp	4.8	4.7	4.9	6.0	5.7
14 RAD-FR21	4.7	5.3	4.1	4.3	5.0
15 SJC Comp	4.6	4.6	4.7	6.0	5.0

(Continued)

Table 4 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² June 11 2009	Dollar Spot ² Aug. 10 2009
	2008- 2009 Avg.	2008 Avg.	2009 Avg.		
STRONG CREEPING RED FESCUE (cont.)					
16 Garnet	4.6	4.8	4.4	4.7	6.3
17 RAD-FR25	4.5	5.3	3.7	4.0	4.0
18 Jasper II	4.5	4.8	4.1	5.3	6.0
19 PST-8000	4.4	5.1	3.6	5.0	2.7
20 SR 5250	4.3	4.5	4.0	3.3	4.3
21 Audubon	4.3	4.4	4.1	4.0	5.3
22 BAR FR 4001	4.2	4.5	3.8	3.3	4.0
23 Crossbow	4.1	5.0	3.2	3.7	3.3
24 RAD-FR26	4.1	4.9	3.2	5.7	2.3
25 Gibraltar	4.0	4.1	3.9	6.0	5.3
26 Wendy Jean	3.9	4.4	3.4	3.3	3.0
27 Splendor	3.7	4.0	3.3	5.0	2.7
28 Cindy Lou	3.6	4.2	3.1	3.3	2.3
29 SR 5210	3.4	3.6	3.2	4.3	5.3
30 Aruba	2.9	3.0	2.8	5.7	5.3
HARD X BLUE FESCUE					
1 SRX 3BHO	5.2	5.2	5.1	5.0	7.7
2 SRX 3K	5.1	5.1	5.1	4.0	8.3
BLUE X HARD FESCUE					
1 PST-4BU3	4.8	5.1	4.4	5.0	7.3
SLENDER CREEPING RED FESCUE					
1 Shoreline	4.5	4.9	4.1	4.7	6.3
2 SRX 5500	4.5	4.4	4.5	5.0	7.3
3 Dawson	3.9	3.9	4.0	5.0	7.0
4 Seabreeze GT	3.9	4.0	3.8	6.3	4.7
SHEEP FESCUE					
1 Little Bighorn	4.1	4.4	3.8	3.7	6.3
2 RAD-FO7	3.9	3.7	4.1	4.7	7.0
3 Azure	3.8	4.1	3.6	4.0	6.7

(Continued)

Table 4 (continued).

Cultivar or Selection	-----Turf Quality ¹ -----			Red Thread ² June 11 2009	Dollar Spot ² Aug. 10 2009
	2008- 2009 Avg.	2008 Avg.	2009 Avg.		
BLUE FESCUE					
1 SR 3200	3.5	3.1	4.0	4.7	6.7
2 SR 3210	3.4	3.2	3.5	4.7	6.0
DESCHAMPSIA					
1 BBP+EDD	2.4	2.6	2.2	4.0	6.7
LSD at 5% =	0.7	0.9	0.8	2.0	1.8

¹9 = best turf quality

²9 = least disease

Table 5. Performance of fine fescue cultivars and selections in a turf trial seeded in September 2008 at Adelphia, NJ. (Includes all entries from the 2008 NTEP Fine Fescue Trial.)

Cultivar or Selection	Turf Quality ¹ 2009 Avg.	Establishment (%) ² Sept. 22, 2008
STRONG CREEPING RED FESCUE		
1 PSG 5RM	6.2	73.3
2 IS-FRR 51	5.8	80.0
3 IS FRR 61	5.8	76.7
4 Splendor	5.7	88.0
5 IS-FRR-62	5.5	80.0
6 OS2	5.4	66.7
7 PSG-5RM	5.4	85.0
8 IS FRR 60	5.4	73.3
9 IS-FRR 55	5.4	76.7
10 R6 Comp	5.3	85.0
11 B6 Comp	5.3	85.0
12 OS1	5.2	76.7
13 PST-Syn-4MD8	5.2	75.0
14 PST-Syn-4OR8	5.1	76.7
15 PST-8000	5.1	80.0
16 MVS-OS-1	5.0	81.7
17 Garnet	4.9	71.7
18 Jasper II	4.9	70.0
19 PST-48Y7	4.9	75.0
20 RAD-FR13	4.8	68.3
21 RAD-FR27	4.7	89.7
22 SR 5250	4.6	80.0
23 Epic	4.5	86.3
24 Razor	4.5	93.0
25 Cardinal	4.5	86.7
26 Lustrous	4.4	91.3
27 Cindy Lou	4.4	88.3
28 BAR FR 4001	4.3	91.3
29 4DEN-CR	4.2	83.3
30 GO-ABH	4.2	93.0
31 Wendy Jean	4.2	96.3
32 ACR10-08	4.1	86.3
33 4CRBL-08	4.0	88.0
34 Pathfinder	4.0	76.7
35 Bargaena III	3.9	76.7

(Continued)

Table 5 (continued).

Cultivar or Selection	Turf Quality ¹ 2009 Avg.	Establishment (%) ² Sept. 22, 2008
STRONG CREEPING RED FESCUE (cont.)		
36 Aberdeen	3.9	86.7
37 Gibraltar	3.9	91.3
38 SR 5210	3.5	81.7
39 Boreal	2.9	68.3
40 Scaldis II	1.5	1.0
HARD FESCUE		
1 IS-FL 42	6.1	61.7
2 TH6 Comp	6.1	66.7
3 IS-FL 45	6.0	68.3
4 TH3 Comp	6.0	75.0
5 TH5 Comp	5.9	75.0
6 Predator	5.9	85.0
7 S2S	5.8	71.7
8 MN-HD1	5.6	70.0
9 WB	5.6	86.7
10 Gotham	5.6	83.3
11 HOE	5.6	78.3
12 IS-FL 46	5.5	75.0
13 NC-HFI	5.5	65.0
14 Beacon	5.4	81.7
15 Reliant IV	5.4	93.0
16 PST-4HES	5.3	83.3
17 Matterhorn	5.3	83.3
18 Spartan II	5.2	83.3
19 TH4 Comp	5.2	73.3
20 Oxford	5.2	81.7
21 Berkshire	5.2	41.7
22 GO-HBF	5.0	78.3
23 SR 3150	5.0	70.0
24 SR 3100	4.9	86.7
25 IS-FL-47	4.9	76.7
26 SRX 3K	4.5	58.3
27 Spartan	4.4	84.7
28 Eureka II	4.4	78.3
29 AHF-116	4.3	83.3
30 PST-Syn-4NOR-H	4.3	30.0

(Continued)

Table 5 (continued).

Cultivar or Selection	Turf Quality ¹ 2009 Avg.	Establishment (%) ² Sept. 22, 2008
CHEWINGS FESCUE		
1 IS-FRC 34	6.0	75.0
2 Rushmore	5.9	78.3
3 RAD-FC11	5.9	85.0
4 IS-FRC 33	5.9	56.7
5 IS-FRC 30	5.9	76.7
6 TD1 Comp	5.8	81.7
7 TD2 Comp	5.8	78.3
8 IS-FRC-33	5.7	88.0
9 PSG 5OC3	5.6	85.0
10 MVS-FRC-101	5.6	91.3
11 PSG 5OC3	5.6	76.7
12 FAIRMONT	5.5	85.0
13 IS-FRR-51	5.4	85.0
14 RAD-FC16	5.4	71.7
15 7 Seas	5.4	88.3
16 SR 5130	5.3	85.0
17 IS- FRC 35	5.2	68.3
18 Columbra II	5.1	91.3
19 Treazure II	5.1	88.0
20 Lacrosse	5.0	93.3
21 Longfellow II	5.0	91.3
22 Ambassador	4.9	90.0
23 4CH6-08	4.9	85.0
24 Silhouette	4.9	83.3
25 Zodiac	4.8	91.3
26 PST-Syn-4TS-C	4.8	76.7
27 Intrigue 2	4.6	88.0
28 PST-Syn-4C30-C	4.6	78.3
29 Ambrose	4.6	89.7
30 4SHR-CH	4.6	80.0
31 PST-4IB-C Bulk	4.6	66.7
32 PST-4CSD	4.3	80.0
33 Casade	4.3	95.0
34 OC1	4.3	83.3
35 SR 5100	4.2	93.0
36 SRX 5SDP2	4.0	84.7

(Continued)

Table 5 (continued).

Cultivar or Selection	Turf Quality ¹ 2009 Avg.	Establishment (%) ² Sept. 22, 2008
SLENDER CREEPING RED FESCUE		
1 PST-Syn-4SEA-SL	4.8	68.3
2 GO-ABC	4.7	73.3
3 Shoreline	4.6	75.0
4 SRX 5500	4.1	50.0
5 Dawson	2.9	2.3
BLUE X HARD FESCUE		
1 PST-4BU3	4.0	80.0
BLUE FESCUE		
1 SR 3210	2.6	6.7
2 SR 3200	2.1	2.3
LSD at 5% =	0.5	14.2

¹9 = best turf quality

²Cover (%) during establishment

Table 6. Performance of turfgrass selections in a low maintenance trial seeded in August 2008 at Adelphia, NJ.

Cultivar or Selection	Species	Turf Quality ¹ 2009	Establishment ² Sept. 2008	Rust ³ Nov. 2008
1 Com	Tall fescue	7.1	5.0	.
2 PSM-6351	Tall fescue	7.0	7.0	.
3 IS-FRR-51	Chewings fescue	6.9	5.7	.
4 FAIRMONT	Chewings fescue	6.7	6.3	.
5 MVS-OS-1	Strong creeping red fescue	6.7	5.0	.
6 Faith	Tall fescue	6.7	6.7	.
7 MVS-FRC-101	Chewings fescue	6.6	6.0	.
8 IS-FRR-62	Strong creeping red fescue	6.5	5.3	.
9 Epic	Strong creeping red fescue	6.5	5.7	.
10 PSG-5RM	Strong creeping red fescue	6.5	5.7	.
11 Cochise IV	Tall fescue	6.4	7.0	.
12 PRO AT-1 (BCD)	Colonial bentgrass	6.4	8.3	.
13 TH6 Comp	Hard fescue	6.4	4.3	.
14 RP2	Tall fescue	6.4	7.7	.
15 NBC Comp	Colonial bentgrass	6.4	5.7	.
16 Intrigue 2	Chewings fescue	6.3	5.7	.
17 STR 8BB5	Tall fescue	6.3	7.0	.
18 BIZM	Tall fescue	6.3	5.0	.
19 SR 5130	Chewings fescue	6.3	6.7	.
20 Mustang 4	Tall fescue	6.3	6.7	.
21 Shenandoah Elite	Tall fescue	6.3	6.0	.
22 SR 8650	Tall fescue	6.3	7.3	.
23 LW	Tall fescue	6.3	7.7	.
24 Inferno	Tall fescue	6.3	6.3	.
25 Beacon	Hard fescue	6.2	6.3	.
26 Reliant IV	Hard fescue	6.2	6.3	.
27 Viking	Hard fescue	6.2	6.7	.
28 Van Gogh	Tall fescue	6.2	5.7	.
29 TH4 Comp	Hard fescue	6.2	5.7	.
30 Spartan II	Hard fescue	6.2	5.3	.
31 BQC Comp	Colonial bentgrass	6.2	4.7	.
32 OC1	Chewings fescue	6.2	6.0	.
33 Lacrosse	Chewings fescue	6.2	6.3	.
34 Shadow II	Strong creeping red fescue	6.2	7.0	.
35 Dynamic II	Tall fescue	6.2	7.3	.

(Continued)

Table 6 (continued).

Cultivar or Selection	Species	Turf Quality ¹ 2009	Establishment ²	Rust ³
			Sept. 2008	Nov. 2008
36 IS-FRR-33	Chewings fescue	6.1	5.3	.
37 Cardinal	Strong creeping red fescue	6.1	6.3	.
38 TH3 Comp	Hard fescue	6.1	5.3	.
39 Beacon	Hard fescue	6.1	6.3	.
40 PSG 50C3	Chewings fescue	6.1	5.7	.
41 A05TB-386	Texas x Kentucky bluegrass hybrid	6.0	2.7	8.0
42 SR 8550	Tall fescue	6.0	6.3	.
43 Shenandoah III	Tall fescue	6.0	7.0	.
44 ATE	Tall fescue	6.0	5.7	.
45 SDS Comp	Colonial bentgrass	6.0	4.7	.
46 A04-69	Kentucky bluegrass	6.0	4.3	6.7
47 Jasper II	Strong creeping red fescue	6.0	5.0	.
48 PST-48Y7	Strong creeping red fescue	6.0	4.7	.
49 PSG 85QR	Tall fescue	6.0	5.3	.
50 Monet	Tall fescue	6.0	6.0	.
51 IS-TF67	Tall fescue	6.0	5.7	.
52 A03TB-589	Texas x Kentucky bluegrass hybrid	5.9	5.0	4.3
53 R6 Comp	Strong creeping red fescue	5.9	6.7	.
54 A03-84	Kentucky bluegrass	5.9	4.3	6.3
55 Treasure II	Chewings fescue	5.9	7.0	.
56 Zodiac	Chewings fescue	5.9	6.7	.
57 SR 3150	Hard fescue	5.9	4.7	.
58 Gotham	Hard fescue	5.9	5.7	.
59 Falcon V	Tall fescue	5.9	6.0	.
60 PBP Comp	Colonial bentgrass	5.9	4.7	.
61 Speedway	Tall fescue	5.9	6.7	.
62 Six Point	Tall fescue	5.9	6.7	.
63 Jaguar 4G	Tall fescue	5.9	7.0	.
64 RAD-843	Kentucky bluegrass	5.8	1.0	8.7
65 A99-3182	Kentucky bluegrass	5.8	4.7	5.7
66 IS-FRR-35	Chewings fescue	5.8	5.7	.
67 TH5 Comp	Hard fescue	5.8	5.0	.
68 SR 8650	Tall fescue	5.8	6.3	.
69 Falcon IV	Tall fescue	5.8	5.3	.
70 Oxford	Hard fescue	5.8	6.0	.

(Continued)

Table 6 (continued).

Cultivar or Selection	Species	Turf Quality ¹ 2009	Establishment ²	Rust ³
			Sept. 2008	Nov. 2008
71 PST-4HES	Hard fescue	5.8	6.7	.
72 P-105	Kentucky bluegrass	5.8	6.0	7.0
73 A05-894	Kentucky bluegrass	5.8	3.7	6.7
74 Longhorn	Texas x Kentucky bluegrass hybrid	5.8	6.3	5.3
75 07-MGD Comp	Colonial bentgrass	5.8	6.0	.
76 Mystere	Kentucky bluegrass	5.7	7.0	4.0
77 A03TB-364	Texas x Kentucky bluegrass hybrid	5.7	2.0	8.7
78 FOM Comp	Tall fescue	5.6	6.0	.
79 Longfellow II	Chewings fescue	5.6	6.3	.
80 Rembrant	Tall fescue	5.6	5.7	.
81 Wendy Jean	Strong creeping red fescue	5.6	7.0	.
82 Fahrenheit 90	Texas x Kentucky bluegrass hybrid	5.5	5.7	5.3
83 PST-4CSD	Chewings fescue	5.5	4.3	.
84 SR 5250	Strong creeping red fescue	5.5	5.3	.
85 Grande II	Tall fescue	5.5	3.0	.
86 Picasso	Tall fescue	5.5	6.3	.
87 A07-5	Kentucky bluegrass	5.5	5.0	4.7
88 Endeavor II	Tall fescue	5.5	7.0	.
89 B6 Comp	Strong creeping red fescue	5.4	6.7	.
90 Ambrose	Chewings fescue	5.4	5.0	.
91 Ambassador	Chewings fescue	5.4	6.7	.
92 ASC 245	Strong creeping red fescue	5.4	5.3	.
93 Seabreeze GT	Slender creeping red fescue	5.4	6.0	.
94 Cayenne	Tall fescue	5.4	7.0	.
95 NC-HF1	Hard fescue	5.4	5.0	.
96 Blue-sation	Kentucky bluegrass	5.4	6.0	5.0
97 A99-2026	Kentucky bluegrass	5.3	5.0	5.3
98 A04TB-338	Texas x Kentucky bluegrass hybrid	5.3	3.3	8.3
99 Masterpiece	Tall fescue	5.3	6.3	.
100 FOE Comp	Tall fescue	5.3	7.3	.
101 RAD-914	Kentucky bluegrass	5.3	4.3	5.7
102 A04-1315	Kentucky bluegrass	5.3	4.3	4.7
103 Aberdeen	Strong creeping red fescue	5.3	6.3	.
104 Falcon NG	Tall fescue	5.3	7.3	.
105 Arid 3	Tall fescue	5.3	6.7	.

(Continued)

Table 6 (continued).

	Cultivar or Selection	Species	Turf Quality ¹ 2009	Establishment ²	Rust ³
				Sept. 2008	Nov. 2008
106	Audubon	Strong creeping red fescue	5.2	6.7	.
107	Turbo	Tall fescue	5.2	6.7	.
108	RAD-849	Kentucky bluegrass	5.2	2.3	8.3
109	Cascade	Chewings fescue	5.2	7.0	.
110	Pathfinder	Strong creeping red fescue	5.2	5.0	.
111	Shoreline	Slender creeping red fescue	5.2	7.3	.
112	Scorpion II	Tall fescue	5.2	5.7	.
113	Sonoma	Kentucky bluegrass	5.2	5.5	6.5
114	Guinness	Kentucky bluegrass	5.1	5.7	4.0
115	Culumbra II	Chewings fescue	5.1	7.0	.
116	Absolute	Kentucky bluegrass	5.1	5.5	4.0
117	A04TB-258	Texas x Kentucky bluegrass hybrid	5.1	2.3	9.0
118	Razor	Strong creeping red fescue	5.1	6.3	.
119	PST-4BU3	Blue fescue	5.1	6.0	.
120	DaVinci	Tall fescue	5.1	7.3	.
121	RAD-418	Kentucky bluegrass	5.1	4.0	6.7
122	A98-344	Kentucky bluegrass	5.1	5.7	4.3
123	Quest	Tall fescue	5.1	7.0	.
124	RAD-815	Kentucky bluegrass	5.0	5.3	3.7
125	A06-6	Kentucky bluegrass	5.0	3.7	5.7
126	J-5	Chewings fescue	5.0	6.3	.
127	Julia	Kentucky bluegrass	5.0	6.7	3.7
128	Tiger II	Colonial bentgrass	5.0	8.3	.
129	Cabernet	Kentucky bluegrass	5.0	4.0	5.0
130	Champagne	Kentucky bluegrass	4.9	6.0	4.0
131	A99-2950	Kentucky bluegrass	4.9	4.3	5.7
132	Marrakech	Tall fescue	4.9	6.3	.
133	RAD-897	Kentucky bluegrass	4.9	5.7	5.7
134	RAD-1224	Kentucky bluegrass	4.9	3.3	9.0
135	Swing	Strong creeping red fescue	4.9	2.0	.
136	Brockton	Tall fescue	4.9	7.0	.
137	ATF1327	Tall fescue	4.8	5.0	.
138	RAD-457	Kentucky bluegrass	4.8	6.3	3.7
139	RAD-825	Kentucky bluegrass	4.8	5.3	7.0
140	A06-26	Kentucky bluegrass	4.8	4.0	4.3

(Continued)

Table 6 (continued).

	Cultivar or Selection	Species	Turf Quality ¹ 2009	Establishment ² Sept. 2008	Rust ³ Nov. 2008
141	A00-1395	Kentucky bluegrass	4.8	5.3	4.3
142	MVS-BB-ITF	Tall fescue	4.8	6.7	.
143	RAD-507	Kentucky bluegrass	4.8	3.7	8.0
144	A06-2	Kentucky bluegrass	4.8	4.7	3.7
145	A04-1347	Kentucky bluegrass	4.8	5.0	4.0
146	A02-1428	Kentucky bluegrass	4.7	4.3	5.0
147	A99-2377	Kentucky bluegrass	4.7	4.3	6.7
148	RAD-232	Kentucky bluegrass	4.7	5.7	6.3
149	SRX 5SDP2	Chewings fescue	4.7	6.7	.
150	Diva	Kentucky bluegrass	4.6	4.3	4.7
151	A05-361	Kentucky bluegrass	4.6	4.7	5.0
152	PSG-2677	Texas x Kentucky bluegrass hybrid	4.6	6.3	4.0
153	Alister	Colonial bentgrass	4.6	8.7	.
154	Blackberry	Kentucky bluegrass	4.6	5.3	3.3
155	GO-ABC	Slender creeping red fescue	4.6	3.7	.
156	SR 7100	Colonial bentgrass	4.6	8.7	.
157	Bonaire	Kentucky bluegrass	4.6	6.0	3.0
158	A04-1504	Kentucky bluegrass	4.6	4.7	5.7
159	Jamestown II	Chewings fescue	4.6	7.7	.
160	Brooklawn	Kentucky bluegrass	4.5	5.3	4.0
161	A03TB-676	Texas x Kentucky bluegrass hybrid	4.5	7.0	4.0
162	A04-1477	Kentucky bluegrass	4.5	4.0	6.0
163	A05-314	Kentucky bluegrass	4.5	6.7	4.7
164	Spitfire	Texas x Kentucky bluegrass hybrid	4.5	5.7	3.7
165	Zinfandel	Kentucky bluegrass	4.5	5.0	4.0
166	A04-1557	Kentucky bluegrass	4.4	4.3	5.3
167	SR 7150	Colonial bentgrass	4.4	9.0	.
168	Argos	Kentucky bluegrass	4.4	5.0	3.5
169	Regiment II	Tall fescue	4.4	2.3	.
170	A05TB-382	Texas x Kentucky bluegrass hybrid	4.3	4.0	7.7
171	A05TB-396	Texas x Kentucky bluegrass hybrid	4.3	3.3	7.3
172	Beyond	Kentucky bluegrass	4.3	6.5	4.0
173	Nublu Plus	Kentucky bluegrass	4.3	5.0	3.5
174	Impact	Kentucky bluegrass	4.3	5.5	5.0
175	RAD-861	Kentucky bluegrass	4.3	4.3	3.0

(Continued)

Table 6 (continued).

	Cultivar or Selection	Species	Turf Quality ¹ 2009	Establishment ²	Rust ³
				Sept. 2008	Nov. 2008
176	Bedazzled	Kentucky bluegrass	4.3	5.7	4.3
177	A99-447	Kentucky bluegrass	4.3	4.3	4.3
178	A03TB-938	Kentucky bluegrass	4.3	3.7	2.3
179	Everest	Kentucky bluegrass	4.3	6.0	4.0
180	NuChicago	Kentucky bluegrass	4.2	5.5	4.0
181	RAD-600	Kentucky bluegrass	4.2	2.0	7.0
182	A04-1470	Kentucky bluegrass	4.1	4.3	5.3
183	A08-317	Texas x Kentucky bluegrass hybrid	4.1	3.0	8.7
184	Jaguar 3	Tall fescue	4.1	7.3	.
185	A05TB-60	Texas x Kentucky bluegrass hybrid	4.1	3.3	6.3
186	Tsunami	Kentucky bluegrass	4.1	5.0	3.5
187	Solar Eclipse	Kentucky bluegrass	4.1	5.0	3.5
188	Bewitched	Kentucky bluegrass	4.0	5.3	3.0
189	A08-318	Texas x Kentucky bluegrass hybrid	4.0	2.3	6.7
190	EDD	Deschampsia	4.0	6.3	.
191	Blue Chip Plus	Kentucky bluegrass	4.0	5.0	4.0
192	Rhythm	Kentucky bluegrass	4.0	5.3	3.7
193	Baron	Kentucky bluegrass	4.0	4.7	3.3
194	NuDestiny	Kentucky bluegrass	4.0	4.0	3.0
195	Bordeaux	Kentucky bluegrass	4.0	6.5	3.0
196	Alexa II	Kentucky bluegrass	3.9	4.7	4.0
197	A93-201	Kentucky bluegrass	3.9	2.7	6.7
198	Liberator	Kentucky bluegrass	3.9	5.0	4.0
199	Freedom III	Kentucky bluegrass	3.8	5.0	3.0
200	Perfection	Kentucky bluegrass	3.8	4.5	4.0
201	Bedazzled	Kentucky bluegrass	3.8	3.3	6.3
202	Odyssey	Kentucky bluegrass	3.8	4.5	4.5
203	H04-13	Kentucky bluegrass	3.7	4.3	3.7
204	A08-316	Texas x Kentucky bluegrass hybrid	3.7	1.0	8.7
205	Sudden Impact	Kentucky bluegrass	3.7	6.5	3.0
206	SR 2284	Kentucky bluegrass	3.7	5.3	3.7
207	PST-K8-75NO	Kentucky bluegrass	3.7	2.3	5.3
208	A04TB-327	Texas x Kentucky bluegrass hybrid	3.7	2.0	8.3
209	Rugby II	Kentucky bluegrass	3.7	4.5	4.5
210	4-Season	Kentucky bluegrass	3.7	4.0	3.5

(Continued)

Table 6 (continued).

Cultivar or Selection	Species	Turf Quality ¹ 2009	Establishment ²	Rust ³	
			Sept. 2008	Nov. 2008	
211	Bandera	Texas x Kentucky bluegrass hybrid	3.6	5.7	2.0
212	Polka	Strong creeping red fescue	3.6	1.0	.
213	Ginney II	Kentucky bluegrass	3.6	4.7	3.7
214	A05TB-459	Texas x Kentucky bluegrass hybrid	3.6	3.0	6.3
215	H03-546	Kentucky bluegrass	3.5	7.0	4.0
216	A05TB-41	Texas x Kentucky bluegrass hybrid	3.5	3.7	5.7
217	PST-DCM	Deschampsia	3.5	5.7	.
218	Blueberry	Kentucky bluegrass	3.5	5.3	3.7
219	Boreal	Strong creeping red fescue	3.5	4.3	.
220	Nuglade	Kentucky bluegrass	3.4	4.5	3.5
221	PST-K8-76NO	Kentucky bluegrass	3.3	3.0	3.7
222	RAD-892	Kentucky bluegrass	3.2	2.0	5.7
223	Exeter	Colonial bentgrass	3.2	2.0	.
224	RAD-803	Kentucky bluegrass	3.2	3.0	5.0
225	AKB-449	Kentucky bluegrass	3.2	1.3	7.7
226	A05-2435	Kentucky bluegrass	3.2	4.3	4.0
227	A04TB-212	Texas x Kentucky bluegrass hybrid	3.2	2.0	8.0
228	PST-K8-80NL	Kentucky bluegrass	3.1	3.7	5.0
229	Azure	Sheeps fescue	3.1	2.0	.
230	Rush	Kentucky bluegrass	3.1	6.0	3.0
231	Total Eclipse	Kentucky bluegrass	3.0	4.0	3.0
232	RAD-928	Kentucky bluegrass	3.0	3.3	4.7
233	Everglade	Kentucky bluegrass	2.7	4.0	3.0
234	Limousine	Kentucky bluegrass	2.7	6.5	1.5
235	PST-102-1013	Kentucky bluegrass	2.2	1.0	.
236	Boutique	Kentucky bluegrass	2.1	1.0	7.0
237	Blue-Mazing	Kentucky bluegrass	1.8	1.0	.
238	A04TB-7	Texas x Kentucky bluegrass hybrid	1.8	1.0	9.0
239	Fults Pucc-Distans	Kentucky bluegrass	1.5	8.7	4.5
LSD at 5% =			1.0	1.6	1.6

¹9 = best turf quality²9 = best turf establishment³9 = least disease (". " = not rated)

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

	2006		2007		2008		2009	
	N ¹	Ht ²	N	Ht	N	Ht	N	Ht
Table 1 (2005).....	1.8	1.5	1.0	1.5	1.3	1.5	1.0	1.5
Table 2 (2006).....			1.0	1.5	1.0	1.5	1.5	1.5
Table 3 (2006).....			1.0	1.5	1.0	1.5	1.5	1.5
Table 4 (2007).....					1.3	1.5	1.5	1.5
Table 5 (2008).....							1.0	1.5
Table 6 (2008 Low Maintenance)							1.0	2.5

¹Annual N applied (lb/1000 ft²)

²Mowing height in inches