Fine Fescue Full Sun Cultivar Trial

RFR-A2028

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Introduction

This is the initial establishment data of fine fescue (*Festuca* spp.) growing under full natural sun conditions. This is a National Turfgrass Evaluation Program (NTEP) standard trial and is being conducted at Iowa State University, Horticulture Research Station, Ames, Iowa, and 14 other university locations. It contains 43 seeded cultivars, 30 of which are new experimental cultivars (Table 1). Data collection will continue through 2025.

Materials and Methods

This trial was established at the Iowa State University Horticulture Research Station. The ground was cleared of all vegetative cover with a nonselective herbicide (glyphosate) before planting. The site was tilled to a 6 in.depth and the seedbed was prepped by cultipacking and leveling.

The trial was planted September 15, 2020. Plots are 5 ft by 5 ft in size, and all cultivars are replicated three times. Automatic overhead irrigation was applied to provide proper turfgrass establishment conditions. Starter fertilizer was applied at seeding at one lb P/1,000 ft², followed by 0.5 lb N/1,000 ft² October 27. The trial was cut November 2 at 3 in. with a rotary mower. Digital images were taken monthly to determine percent green cover. Digital images were captured with a light box to ensure consistent lighting. Images were scanned using Turf Analyzer. Color (1 = light green color, 6 = acceptable, and 9 = dark green color), density (1 = no turf, 6 = acceptable, and 9 = full turf stand), and turfgrass quality (1 = poor, 6 = acceptable quality, and 9 = ideal) was rated visually. Color and quality results are not presented here.

Results and Discussion

Significant differences existed between cultivars for percent cover and density during fall establishment. One month after planting, all cultivars had at least 28 percent green cover (Table 2). At the November rating date, all cultivars were above 35 percent with several above 60 percent green cover.

Turfgrass density was rated twice in the fall with all cultivars having above a 5.0 density rating in October. The November rating followed the first mowing of the stand. This mowing resulted in the appearance of a loss of turfgrass density. All cultivars had lower turfgrass density ratings on the November rating compared with the October rating.

Turfgrass color, while not presented, did improve from the October rating to the November rating as the turfgrass became more established.

Acknowledgements

The authors thank the NTEP organization for funding to conduct this project. Appreciation is given to Ethen DenBeste, Nick Bishop, and Simon Mitbo for help with plot preparation and data collection.

Treatment number	Cultivars Species		
1	Gladiator	Hard fescue	
2	Seabreeze GT	Slender creeping red	
3	SPHD-20	Hard fescue	
4	DLFPS-FL-3104	Hard fescue	
5	Quatro	Sheep fescue	
6	Resolute Sheep fescue		
7	Brittany 2	Chewings fescue	
8	Foxfire 2	Strong creeping red fescue	
9	BAR FRC 123 Chewings fescue		
10	BAR FO 131 Sheep fescue		
11	BAR FRL 122	Slender creeping red	
12	BAR FT 135	Hard fescue	
13	BAR FT 132 Hard fescue		
14	BAR FRC 130	Chewings fescue	
15	Kevin	Strong creeping red fescue	
16	RAD-FC59	Chewings fescue	
17	Jamestown VII	Chewings fescue	
18	NAI-CHU1	Chewings fescue	
19	NAI-HAQ1+2	Hard fescue	
20	NAI-HTB2	Hard fescue	
21	RAD-FR64	Strong creeping red fescue	
22	5Z2	Strong creeping red fescue	
23	STB1	Strong creeping red fescue	
24	5Z5	Strong creeping red fescue	
25	BYE	Strong creeping red fescue	
26	DLF-FRR-3128	Strong creeping red fescue	
27	Boreal	Strong creeping red fescue	
28	PPG-FRC-130	Chewings fescue	
29	Compass II	Chewings fescue	
30	PPG-FRR-134	Strong creeping red fescue	
31	Cardinal II	Strong creeping red fescue	
32	DLFPS-FRC-3105	Chewings fescue	
33	Blue Hornet	Sheep fescue	
34	PPG-FRC 127	Chewings fescue	
35	PPG-FRR 132	Strong creeping red fescue	
36	PPG-FL 128	Hard fescue	
37	PPG-FRR 127	Strong creeping red fescue	
38	DA5-RHF	Hard fescue	
39	PST-4SWTM	Chewings fescue	
40	PST-4SHAD	Chewings fescue	
41	PVF-PDB-2020	Hard fescue	
42	PVF-HYS+	Strong creeping red fescue	
43	PVF-MVP-2020	Chewings fescue	

Table 1. Treatment list for fine fescue full sun cultivar trial, Ames, Iowa.

Cultivars October November October November Gladiator 40.0 43.0 6.33 6.67 Seabreeze GT 71.3 75.7 6.00 4.33 SPHD-20 45.7 46.0 6.33 3.67 DLFPS-FL-3104 44.7 45.3 5.67 4.33 Quatro 36.0 40.3 7.33 3.33 Resolute 40.0 45.0 7.33 3.67 Britrany 2 50.7 48.3 6.67 4.33 Foxfire 2 28.3 35.0 7.00 3.33 BAR FRC 123 54.0 54.7 7.33 4.67 BAR FRL 122 56.0 50.7 5.33 3.00 BAR FR1 135 34.7 37.0 6.00 4.67 BAR FR1 132 37.0 35.7 6.33 4.00 BAR FRC 130 50.0 53.7 5.67 3.67 NAI-FRE 20.0 53.7 5.67 3.67	Table 2. Data for fille fe	Percent cover ^a		Density ^b	
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PVF-PDB-202060.752.36.335.00PVF-HYS+52.748.76.003.33					
PVF-HYS+ 52.7 48.7 6.00 3.33					
rvr-wivr-2020 50.7 44.0 6.35 2.00	PVF-MVP-2020	50.7	44.0	6.33	2.00
LSD 0.05 29.4 32.1 1.47 2.39					

Table 2. Data for fine fescue full sun cultivar trial, Ames, Iowa.

^aPercent cover: Digital images taken monthly to determine percent green cover. ^bDensity: 1 = no turf, 6 = acceptable, and 9 = full turf stand.