



Fine Fescue Shaded Cultivar Evaluation Trial

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This is the 2021 data of fine fescue (*Festuca* spp.) growing under partial natural shade conditions. This is a National Turfgrass Evaluation Program (NTEP) ancillary trial, and is being conducted solely at Iowa State University. It contains 43 seeded cultivars, 30 of which are new experimental cultivars. Data collection will continue through 2025.

Materials and Methods

This trial was established at the 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 inch depth, then the seedbed was prepped by cultipacking and leveling.

The trial was planted on September 15, 2020. Plots are 4 ft. by 6 ft. in size, and all cultivars are replicated three times with 3 ft. borders between replications. Automatic overhead irrigation was applied to provide proper turfgrass establishment conditions. Starter fertilizer was applied at seeding at 1.0 lb. P per 1,000 ft.², followed by 0.5 lb. N per 1000 ft.² on October 27. The trial was cut at 3 in. with a rotary mower three times per week. Significant shade is provided by the shade tree cultivar trial, which the turfgrass trial is planted under.

Digital images were taken monthly to determine percent green cover. Digital images were captured with the use of a light box to ensure a consistent lighting. Images were scanned using Turf Analyzer to obtain percent cover. Color (1=light green color and 9=dark green color), density (1=no turf and 9=full turf stand), and turfgrass quality (1=poor, 6=acceptable quality, and 9=ideal) were rated visually. Color, density, and quality results are not presented here.

Results and Discussion

Significant differences existed between cultivars for percent cover, color (data not shown) and quality (data not shown) during the growing season.

The values listed under each month in Table 1 are the averages of the percent cover. The last row states the Fisher's LSD (least significant difference), which is a statistical measurement of how widely the datum in each column must vary before these are considered to be different from one another.

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Table 1. Percent cover data for fine fescue shade cultivar evaluation trial, 2021.

Cultivar	Percent cover ^a							
	April	May	June	July	Aug	Sept	Oct	Nov
Gladiator	94.1	99.3	98.8	97.7	98.0	38.3	44.4	49.4
Seabreeze GT	87.7	99.8	85.6	91.3	97.0	56.2	67.9	80.9
SPHD-20	93.9	99.8	98.9	98.1	91.2	15.2	19.4	37.1
DLFPS-FL-3104	95.2	99.7	99.5	97.8	92.6	24.0	35.3	39.2
Quatro	85.1	99.0	91.1	89.1	86.4	57.6	53.9	59.8
Resolute	93.4	99.8	99.0	97.4	94.7	26.8	35.4	43.5
Brittany 2	89.1	99.9	96.0	94.6	97.5	36.0	50.6	56.7
Foxtire 2	90.4	99.6	89.5	82.2	89.0	34.5	53.9	69.0
BAR FRC 123	97.9	99.9	97.9	92.2	99.0	50.6	58.4	66.9
BAR FO 131	91.6	99.1	93.6	89.9	88.3	45.6	61.1	54.5
BAR FRL 122	96.6	99.8	94.7	96.9	98.5	57.8	63.8	68.7
BAR FT 135	90.4	99.8	98.1	88.4	90.3	26.8	34.9	41.2
BAR FT 132	85.6	99.6	92.9	71.0	72.1	42.1	55.3	57.5
BAR FRC 130	97.0	100.0	98.5	97.0	96.2	30.3	42.7	58.8
Kevin	82.1	99.3	76.0	81.5	85.0	38.8	57.1	70.4
RAD-FC59	95.7	99.8	97.5	94.4	95.7	57.8	66.3	80.1
Jamestown VII	94.1	99.9	99.1	92.8	97.8	35.3	53.7	78.0
NAI-CHU1	93.8	99.8	99.3	97.0	97.8	85.5	80.9	96.8
NAI-HAQ1+2	91.5	97.6	94.9	96.1	98.6	76.7	78.7	95.0
NAI-HTB2	95.1	99.8	98.7	97.3	98.2	62.2	55.5	69.2
RAD-FR64	90.6	99.4	95.0	77.7	98.0	63.1	77.4	85.7
5Z2	84.8	99.5	91.9	81.6	91.6	71.7	82.1	90.9
STB1	91.1	99.4	92.4	78.5	95.4	48.5	70.4	83.6
5Z5	86.2	99.0	88.9	88.6	92.4	39.5	61.1	80.3
BYE	82.0	99.4	95.1	93.2	96.8	39.2	68.1	75.3
DLF-FRR-3128	82.2	98.5	92.8	91.1	94.0	47.0	67.3	75.0
Boreal	90.1	99.4	69.5	49.8	86.3	40.6	60.6	71.4
PPG-FRC-130	89.8	99.8	97.5	95.1	98.8	50.2	61.6	65.3
Compass II	97.3	99.8	96.8	95.6	99.6	58.4	61.3	68.5
PPG-FRR-134	83.9	99.2	97.3	94.7	99.5	65.7	71.0	82.0
Cardinal II	74.8	98.6	79.5	84.7	97.0	38.3	65.0	68.2
DLFPS-FRC-3105	95.5	99.9	98.9	94.5	98.8	39.7	38.9	55.6
Blue Hornet	87.9	98.6	91.4	87.5	91.0	50.0	54.9	61.1
PPG-FRC 127	90.9	99.9	98.9	95.4	99.6	70.5	70.6	83.5
PPG-FRR 132	89.7	99.8	93.1	92.3	96.7	45.6	64.0	74.0
PPG-FL 128	93.2	99.5	98.4	80.6	89.9	25.4	30.7	37.3
PPG-FRR 127	80.4	98.8	95.4	93.1	95.7	50.0	80.1	93.3
DA5-RHF	95.2	99.1	99.1	88.5	92.1	30.7	34.1	49.2
PST-4SWTM	97.1	99.9	98.9	96.9	98.4	52.3	54.4	73.1
PST-4SHAD	90.5	99.4	95.7	93.1	99.0	64.1	83.9	95.8
PVF-PDB-2020	94.1	98.7	96.8	92.8	97.1	45.6	50.4	65.0
PVF-HYS+	84.7	94.5	75.7	75.9	88.4	67.1	86.4	87.7
PVF-MVP-2020	95.9	99.8	96.0	96.1	96.2	66.6	83.0	91.7
LSD _(0.05) ^b	13.3	1.4	9.9	15.3	10.9	41.6	39.0	38.5

^aPercent cover was determined by digital image analysis (0-100%).

^bMeans were separated using Fisher's LSD.