



Tall Fescue Non-Traffic Cultivar Evaluation Trial

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This is the 2021 data from tall fescue not subjected to simulated athletic field traffic, but in full sun. This is a National Turfgrass Evaluation Program (NTEP) ancillary trial, and is being conducted at several research stations in the United States. It contains 132 seeded cultivars, including a number of new experimental cultivars. Iowa State University is home to both a traffic tolerance and shade setting of this trial.

Materials and Methods

The trial was planted on September 18, 2018. Plots are 4 ft. by 5 ft. in size, and all cultivars are replicated three times. Supplemental irrigation was provided during establishment and a starter fertilizer (10-10-10) was applied at seeding providing 1 lb. nitrogen per 1000 ft.². The mowing height is 3 in. Fertility was applied at 0.5 lb. N per 1000 ft.² monthly (April-October) using a 28-0-3 granular fertilizer. Simulated athletic field traffic is applied in three of the five years to the other part of the study that is being conducted. A modified Baldree Athletic Field Traffic Simulator was used to simulate athletic field traffic.

Digital images were taken monthly April to November. Digital images were captured with the use of a light box to ensure a consistent lighting and digital camera. Images were scanned using Sigma Scan for percent green cover (1-100% cover), color (1=light green color and 9=dark green color), not presented here, and turfgrass quality (1=poor and 6=acceptable quality), not presented here. Visual ratings also were taken during this time period, and not presented here.

Results and Discussion

Significant differences existed between cultivars for percent green cover, color (data not shown), and quality (data not shown), for all rating dates. None of these plots received simulated traffic.

The values listed under each month in Table 1 are the averages of the percent green 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.

Acknowledgements

Appreciation is extended to the NTEP organization for funding to conduct this project. Special appreciation also is given to Simon Midtbo, Ethan DenBeste, and Thomas Donelan for their help on plot maintenance, traffic simulation, and data collection.

Table 1. Percent green cover ratings for the tall fescue full sun cultivar trial, 2021.

Cultivar	Percent green cover ^a							
	April	May	June	July	Aug	Sept	Oct	Nov
Naturally Green	91.2	90.4	68.9	87.8	97.6	98.9	99.2	93.4
Paramount	91.6	92.5	69.2	90.6	98.5	96.4	98.1	94.7
DLFPS-321/3693	95.6	95.7	81.0	93.6	99.1	99.3	99.6	95.2
DLFPS-321/3694	95.0	94.0	71.7	89.7	99.4	99.6	99.3	96.1
DLFPS-321/3695	92.3	90.6	68.3	93.7	98.7	98.2	99.3	94.7
TMT1	93.9	96.0	77.4	91.8	99.2	99.2	99.3	95.6
ATF2116	89.4	93.5	63.4	92.6	98.9	98.6	98.8	91.9
NT-3	94.8	95.5	63.9	92.1	98.3	99.2	99.3	97.9
RS1	94.1	93.8	72.1	95.0	99.4	99.3	98.9	96.3
5LSS	98.0	96.2	67.4	95.5	99.2	99.3	99.5	97.0
BGR-TF3	91.7	84.5	71.2	85.2	98.9	97.9	98.6	92.9
ATF 1768	89.0	93.4	78.9	94.0	99.3	98.9	98.9	93.0
DLFPS-TF/3550	94.6	94.0	78.4	92.1	99.4	98.7	99.5	93.8
DLFPS-TF/3552	92.6	95.0	65.5	95.8	99.0	99.6	99.0	96.1
DLFPS-TF/3553	93.3	95.2	67.6	93.2	99.1	98.5	99.4	96.2
DLFPS-321/3679	91.3	95.1	70.5	89.0	99.1	98.6	98.7	91.1
LBF	89.1	90.3	70.0	82.6	98.8	98.3	98.8	91.9
TD2	95.5	94.4	71.2	91.0	98.5	99.4	99.6	94.6
DLFPS-321/3696	92.3	93.7	80.7	89.1	99.4	98.7	99.5	96.3
DLFPS-321/3699	87.2	94.1	78.5	95.0	99.2	99.0	99.3	94.5
Grande 3	91.7	93.0	85.9	90.3	99.6	99.3	99.6	94.6
Fayette	91.6	88.7	69.1	91.5	97.9	98.3	99.0	93.8
JT-517	89.9	85.2	69.9	88.9	98.7	98.2	98.6	91.2
JS-DTT	87.9	93.9	83.8	93.6	99.4	99.4	99.4	94.9
RDC	92.3	89.4	83.7	95.4	98.7	98.9	99.7	96.4
BAR 9FE MAS	92.2	78.5	73.8	88.9	98.5	98.0	98.8	94.5
BAR FA 8228	84.1	81.8	62.6	89.8	98.5	98.1	98.6	91.9
COL-TF-148	96.1	91.5	58.2	92.7	98.6	99.5	99.1	96.8
LTP-TF-122	93.6	94.0	75.4	95.1	99.1	99.5	98.9	95.4
LTP-TF-111	96.2	95.9	64.3	94.7	98.4	99.3	99.3	97.2
K18-ROE	92.9	91.7	75.6	90.1	99.4	99.4	99.4	96.2
K18-NSE	93.8	91.9	81.3	93.1	99.6	99.3	99.5	97.6
BY-TF-169	95.7	95.6	80.6	95.4	98.6	99.0	99.2	94.8
DLFPS-321/3701	94.8	95.1	80.4	92.6	99.2	98.9	98.6	94.0
DLFPS-321/3702	95.0	93.8	78.9	85.5	99.1	98.8	99.3	95.5
DLFPS-321/3703	93.5	91.5	87.9	91.4	99.3	99.3	99.5	94.6
PST-5TRN	90.1	91.5	87.9	89.2	99.4	98.8	99.0	94.6
PST-5GQ	90.6	91.1	58.0	93.0	98.8	99.3	98.7	93.7
PST-5MCMO	95.2	94.1	84.8	84.9	99.6	98.7	99.2	93.4
ProGold	96.1	94.2	85.0	95.2	98.8	98.8	99.0	93.7
PST-5E6	94.5	90.3	82.9	92.7	99.5	99.0	99.4	94.4
PST-5THM	90.8	91.0	67.2	91.4	98.7	98.8	98.6	94.0
PST-5BYOB	92.5	95.0	82.9	88.8	99.3	98.8	99.6	94.0
Lifeguard	94.7	92.1	75.1	93.7	99.0	99.5	99.3	94.7
PST-5MINK	89.5	93.2	59.0	86.3	98.5	98.3	98.0	93.4
Moondance	91.2	91.9	88.1	91.3	99.3	98.9	99.0	94.3
PST-5SQB	86.8	91.7	84.4	95.4	99.3	99.5	99.3	92.1
PST-5DZM	86.2	91.7	77.3	92.9	99.2	99.1	99.1	92.3
PST-5GLBS	94.1	90.4	65.7	88.3	98.5	99.1	98.6	94.8
PST-5DART	92.4	93.1	68.8	90.6	99.2	99.4	99.2	94.4
PST-5DC24	87.3	89.1	76.4	90.5	98.5	98.5	98.9	90.9
Tango	89.4	89.0	73.7	90.7	98.2	98.2	98.3	91.3
3N1	90.5	90.9	78.6	92.2	99.1	98.8	99.3	94.5
Bandit	90.0	88.4	69.7	88.4	99.1	98.5	98.5	92.0
Copious TF	92.1	92.0	80.8	90.9	98.4	99.0	98.5	92.5
Padre 2	95.6	87.7	80.3	91.7	98.7	99.0	99.0	93.7
Bravo 2	95.3	90.3	72.5	83.2	99.1	98.0	99.2	93.6
NAI-FQZ-17	88.9	86.3	83.9	81.2	98.1	98.2	98.7	92.8
DLFPS-321/3705	96.8	96.9	82.1	87.9	98.9	99.4	99.6	96.6
DLFPS-321/3706	93.8	95.6	81.0	93.7	99.2	98.9	99.7	96.1
DLFPS-321/3707	89.9	94.1	81.6	85.5	98.9	99.1	99.3	93.1
DLFPS-321/3708	87.0	92.0	80.8	88.8	98.8	98.8	98.7	92.6
BAR-TF-134	93.6	93.3	78.2	90.4	99.4	98.6	99.1	95.4
BAR-FA8230	93.1	90.8	87.3	90.7	98.1	98.6	99.1	90.3
AH1	94.3	92.4	84.4	92.6	99.3	99.0	99.2	96.9
PPG-TF-249	90.4	93.5	90.6	90.3	98.6	98.8	99.2	94.2
PPG-TF-262	91.9	90.8	83.5	95.9	99.3	98.7	99.0	94.9
PPG-TF-267	91.1	93.3	87.7	90.1	99.4	99.2	99.5	93.4
AH2	94.2	94.6	79.9	93.2	99.2	99.4	99.6	97.3
K18-RS6	96.4	96.5	71.9	94.0	98.7	99.3	99.0	96.2

continued

Table 1. Percent green cover ratings for the tall fescue full sun cultivar trial. *continued*

Cultivar	Percent green cover ^a							
	April	May	June	July	Aug	Sept	Oct	Nov
K18-WB1	95.7	89.1	84.4	96.0	99.2	99.4	99.1	94.6
RH1	93.7	86.5	70.7	90.6	98.8	99.6	99.6	96.8
RH3	93.3	95.8	79.4	93.1	99.1	98.7	99.3	94.2
JT 233	92.7	95.4	86.4	92.0	98.7	98.2	99.3	93.7
JT 268	93.2	96.7	82.7	93.5	98.4	99.4	99.4	94.6
PPG-TF 244	95.2	94.1	84.8	84.9	99.6	98.7	99.2	93.4
PPG-TF 305	95.7	94.3	73.6	93.5	98.9	99.3	99.6	97.0
PPG-TF 316	92.9	94.1	87.2	91.4	99.6	99.1	99.6	94.7
RC4	89.0	91.0	77.7	90.2	98.7	99.0	99.1	91.4
PPG-TF-257	94.2	89.1	84.3	93.0	98.9	98.7	99.7	94.5
PPG-TF-238	91.6	91.4	88.4	91.3	99.4	99.1	99.2	94.2
PPG-TF-254	91.7	88.6	82.9	93.9	99.4	98.8	99.4	94.8
PPG-TF-308	87.7	93.8	84.3	92.7	99.0	99.0	98.7	94.3
PPG-TF-255	90.6	91.1	72.8	95.6	98.9	99.0	99.1	93.1
PPG-TF-312	91.2	92.4	84.1	94.1	98.7	99.1	99.2	95.2
PPG-TF-315	97.3	93.1	79.4	94.4	99.1	99.5	99.5	97.3
PPG-TF-336	90.4	93.6	80.1	89.3	99.4	98.8	99.5	94.5
PPG-TF-337	91.6	92.5	89.4	95.2	98.9	99.1	98.9	92.4
ZRC1	91.9	94.4	76.9	92.5	98.5	99.1	98.9	94.7
PPG-TF-231	93.9	92.3	93.3	90.0	99.1	99.3	98.8	95.0
PPG-TF-306	90.4	92.1	86.4	90.5	99.4	98.9	98.8	93.9
PPG-TF-318	90.7	95.3	62.2	90.8	98.6	98.7	99.0	94.7
Bullseye	89.9	90.9	74.0	90.5	99.1	99.0	99.1	93.3
Firehawk SLT	88.6	92.4	82.1	90.1	98.6	98.5	98.6	93.5
Hemi	92.6	93.4	75.5	90.6	99.2	99.1	99.5	94.3
Bullseye LTZ	85.6	91.4	82.4	93.9	99.2	99.2	98.6	94.0
Turbo SS	91.2	93.2	85.3	92.1	98.6	98.5	99.3	95.2
Dragster	84.3	88.2	64.8	87.9	98.2	98.4	98.7	91.1
GO-RH20	93.5	95.7	77.9	93.3	98.6	98.7	99.2	94.2
Birmingham	94.1	92.8	75.8	92.6	98.1	98.9	99.1	95.8
GO-AOMK	90.8	89.4	67.7	88.0	98.2	97.1	99.2	92.9
NAI-3N2	84.4	89.7	72.4	88.8	98.5	98.1	98.8	91.2
NAI-ROS4	91.9	94.5	67.6	92.1	98.6	99.4	99.4	95.7
NAI-TUE	93.2	92.9	72.8	93.3	98.5	99.3	99.6	96.1
NAI-ST5	88.4	90.6	75.8	92.6	99.1	98.9	99.2	91.9
SE5302	91.6	92.6	88.5	93.7	99.3	98.7	99.3	94.5
SE5STAR	90.4	93.1	63.9	91.2	98.5	98.3	99.2	93.9
SE5CR1	88.2	90.1	76.1	92.4	99.1	98.7	99.2	94.1
SETF104	94.3	90.9	91.7	89.7	99.5	99.4	99.6	95.2
SETFM2	89.9	91.1	85.4	89.1	99.1	98.8	99.2	91.6
SETFM3	89.5	91.0	84.0	78.2	98.4	97.6	98.2	90.4
3B2	86.4	89.6	56.0	76.8	98.9	97.8	97.8	91.8
RAD--TF105	93.1	92.2	68.5	83.1	98.6	99.2	99.2	95.5
RAD-TF0.0	89.4	92.8	73.3	90.5	98.1	99.0	99.2	91.5
RHL2	82.6	91.7	79.2	78.3	99.2	97.6	98.8	90.8
Raptor III	93.5	94.0	86.3	90.9	99.1	98.8	99.0	94.5
RHF	93.5	94.9	83.0	83.3	95.9	99.3	99.3	93.1
PPG-TF-313	94.5	94.3	75.3	95.8	98.6	99.3	99.6	94.3
PPG-TF-320	96.7	93.9	43.7	91.2	99.2	98.7	99.7	96.8
PPG-TF-323	95.8	95.2	55.9	92.9	99.2	99.1	99.7	94.7
PPG-TF-338	91.0	95.0	77.0	90.0	98.7	98.0	99.2	94.0
Estrena	92.6	96.2	60.0	88.7	98.3	98.9	99.2	95.9
AST8118LM	93.8	94.7	77.1	93.3	98.6	98.5	98.6	95.0
AST8218LM	89.0	87.8	63.3	89.2	98.5	96.5	98.9	91.0
A-TF31	85.2	87.6	55.5	88.1	98.1	98.0	98.6	90.9
Palomar	87.2	90.1	65.3	87.7	99.0	98.4	99.2	94.0
Escalade	86.4	90.7	75.4	88.4	98.7	98.4	98.8	92.5
OG-WALK	93.5	90.6	47.3	85.8	98.6	96.2	99.5	91.5
TF445	89.0	89.7	77.2	92.0	98.0	98.3	98.5	92.4
TF456	92.3	94.8	85.4	95.3	99.4	99.2	99.4	95.4
FC15-01P	94.3	92.9	86.0	93.2	99.5	99.2	99.3	94.3
Kentucky-31	85.2	89.5	81.2	91.2	98.9	98.9	99.1	91.8
LSD _(0.05) ^b	93.1	90.0	86.9	94.3	99.1	98.8	98.6	90.5

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

^bMeans were separated using Fisher's LSD.