

TURFGRASS RESEARCH 2016



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2012 National Turfgrass Evaluation Program Tall Fescue Test: 2015 Data¹

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Summary. A number of the cultivars included in the 2012 National Turfgrass Evaluation Program Tall Fescue Test performed well and showed good brown patch resistance in southern Kansas during the 2015 growing season.

Rationale. The National Turfgrass Evaluation Program (NTEP) locates studies nationwide to evaluate cultivars of a variety of turfgrass species under all types of environmental conditions. Wichita, Kansas, was selected for an ancillary trial, emphasizing brown patch resistance, of the 2012 National Tall Fescue Test. Tall fescue is the best-adapted cool-season turfgrass for Kansas' transition zone because it is drought and heat tolerant and has few serious insect and disease problems. Efforts to improve cultivar quality include selecting for stress tolerance and disease resistance as well as finer leaf texture, a rich green color, and better sward density.

Objective. Evaluate tall fescue cultivars for brown patch resistance and general quality under Kansas growing conditions and submit data collected to the National Turfgrass Evaluation Program.

Study Description. On September 11, 2012, 116 tall fescue cultivars and experimental lines were seeded at the John C. Pair Horticultural Center in Wichita. The study was established in a randomized complete block design with three replications that comprised 348 individual plots measuring 5 × 5 feet. Before seeding, we incorporated 13-13-13 into the study plots at a rate of 1 lb NPK/1000 sq ft. We applied urea to the study plots twice during 2015 at a rate of 1.0 lb N/1,000 sq ft on April 9

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and 1.2 lb N/1,000 sq ft on October 13. We mowed weekly during the summer of 2015 at a mowing height of 2.75 to 3.00 inches and dropped clippings. We irrigated as necessary to prevent turf stress or dormancy.

We rated the study visually on a scale of 1 to 9 with 1 = poorest measure, 6 = acceptable, and 9 = optimum measure. We rated percent brown patch infestation visually on a scale of 0 to 100%. During 2015, we collected data on spring greenup on April 7, brown patch resistance on August 12, genetic color on September 24, leaf texture on November 19, and fall color retention on December 31. We rated overall quality on April 23, May 26, June 24, July 31, August 26, September 24, and October 30. Quality ratings were influenced by degree of cover, weed infestation, and disease resistance as well as turf color, texture, and density.

Results. We started the 2015 growing season by looking at spring greenup when the overall study visually appeared to be about 50% green. The varieties that broke dormancy the earliest were Pick-W43, *PST-5SDT (Rain Dance), and *TD1 (Thunderstruck) (Table 1). Throughout the growing season, which ran from April–October, we rated the turf monthly for quality. IS-TF 308 SEL, Pick-W43, *Burl TF-2 (GTO), and *LTP-F5DPDR (Michelangelo) were the average best performers for the year. At mid-August, we rated the plots for percent brown patch infestation and found that PPG-TF-135, RAD-TF-89, PST-5EX2, and *S-TF 330 (Diablo) were doing the best. We looked at turf color and texture and found that *IS-TF 282 M2 (Turfway), *IS-TF 284 M2 (Foxhound), *OR-21 (Temptation), *PPG-TF-142 (Ares), and BAR Fa 121091 were the darkest green and that *Burl TF-136 (Hot Rod), and Pick-W43 had the finest texture. At the end of the year, when the overall study visually appeared to still be about 50% green, we looked at turf color for fall color retention. We found that *DZ1 (Temple), *Falcon V, *LTP-F5DPDR (Michelangelo), *PPG-TF-157 (Thor), ATF 1612, PPG-TF-115, PPG-TF-138, Pick-W43, and Regenerate were the greenest.

Complete 2012 National Tall Fescue Test results and more information on NTEP can be found online at: <http://www.ntep.org/>.

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Table 1. 2015 performance of tall fescue cultivars at Wichita, Kansas^{1,2}

Cultivar/ experimental no.	Spring green up 4/7	Genetic color 9/24	Leaf texture 11/19	% Brown patch 8/12	Fall color retention 12/31	Quality avg.
IS-TF 308 SEL	5.0	7.0	6.7	8.7	5.3	6.0
Pick-W43	5.7	7.0	7.7	10.3	5.7	6.0
*Burl TF-2 (GTO) ³	4.3	5.7	7.0	15.0	4.7	5.9
*LTP-F5DPDR (Michelangelo)	5.0	6.0	6.7	16.7	5.7	5.9
*SRX-TPC (Rowdy)	4.0	6.0	6.7	11.7	5.0	5.8
*PPG-TF-150 (Black Tail)	4.7	6.0	7.0	12.0	4.3	5.8
*PPG-TF-156 (Avenger II)	4.7	6.3	7.0	13.3	5.3	5.8
MET-3	5.0	6.0	6.7	20.0	4.7	5.8
PPG-TF-135	4.0	6.3	6.7	3.7	5.3	5.8
*W45 (Traverse 2 SRP)	4.3	6.3	6.7	11.7	5.3	5.8
*BIZEM	4.7	6.3	6.3	15.0	5.0	5.8
*Terrano	4.3	5.7	6.3	16.7	5.3	5.8
*PPG-TF-157 (Thor)	4.7	7.0	6.7	21.7	5.7	5.8
PPG-TF-151	5.0	6.3	6.7	16.7	4.7	5.7
*PPG-TF-152 (Titanium 2LS)	4.3	6.7	6.7	18.3	5.3	5.7
*Firebird 2	4.3	6.0	6.3	21.7	4.3	5.7
*U45 (Reflection)	4.0	6.7	6.3	11.7	5.3	5.7
*U43 (4th Millennium SRP)	4.0	6.3	6.7	13.3	4.7	5.7
PPG-TF-172	4.7	6.7	6.3	13.3	5.0	5.7
F711	5.0	5.7	6.3	15.0	5.3	5.7
PPG-TF-115	4.7	6.0	5.3	16.7	5.7	5.7
B23	4.0	6.3	7.0	20.0	5.0	5.7
*Falcon V	4.7	6.3	6.3	25.0	5.7	5.7
*PPG-TF-142 (Ares)	4.3	7.7	6.3	11.7	5.3	5.6
*T31 (Maestro)	5.0	6.7	6.7	11.7	5.0	5.6
*LTP-FSD (Leonardo)	4.7	6.0	6.0	15.3	5.0	5.6
*PPG-TF-105 (Firecracker SLS)	4.7	6.7	6.0	16.7	5.0	5.6
*RZ2 (Technique)	3.7	6.0	7.3	16.7	4.7	5.6
IS-TF 276 M2	4.7	6.0	6.7	18.3	4.7	5.6
*Hemi	4.3	6.3	7.0	21.7	5.0	5.6

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ATF 1704	5.0	5.7	6.3	13.3	5.3	5.6
ATF 1612	4.3	6.3	7.3	10.0	5.7	5.6
*LTP-TWUU (Rockwell)	4.3	6.3	6.0	13.3	5.0	5.6
PST-5BRK	4.7	4.7	6.7	15.0	4.3	5.6
PST-5MVD	4.3	5.0	6.0	15.0	4.7	5.6
*Grande 3	4.7	6.0	7.0	16.7	5.3	5.6
*PPG-TF-147 (Screamer LS)	4.3	6.0	7.3	18.3	5.3	5.6
PPG-TF-138	4.0	6.0	7.0	20.0	5.7	5.6
Regenerate	4.7	6.7	6.7	20.0	5.7	5.6
*LSD (Rhambler 2 SRP)	4.0	6.0	6.7	20.3	5.0	5.6
PST-5EX2	5.0	4.7	5.7	8.3	4.3	5.6
PST-5BPO	5.0	5.3	6.0	10.0	4.3	5.6
PPG-TF-169	4.7	5.7	7.0	11.7	4.7	5.6
CCR2	4.7	6.3	6.7	15.0	4.3	5.6
PSG-GSD	5.0	5.7	6.0	20.0	5.0	5.6
*S-TF 330 (Diablo)	5.0	7.0	7.3	8.3	5.0	5.5
*DB1 (Kingdom)	5.0	7.0	6.3	10.0	5.3	5.5
MET 6 SEL	4.7	5.0	7.3	15.0	4.3	5.5
IS-TF 307 SEL	4.3	6.7	7.0	16.7	4.7	5.5
*DZ1 (Temple)	4.3	6.3	6.3	18.3	6.0	5.5
RAD-TF-89	3.7	6.3	6.0	8.3	4.7	5.4
*Catalyst	4.3	6.0	6.3	23.3	4.3	5.4
TF-287	5.0	6.3	6.7	10.0	4.3	5.4
PST-5EV2	4.7	5.3	7.0	18.3	4.0	5.4
ATF 1736	5.0	6.0	6.0	10.0	4.7	5.4
*PST-5GRB (Meridan)	3.7	5.3	6.7	11.7	4.0	5.4
IS-TF 311	4.7	6.0	6.3	13.3	4.3	5.4
*IS-TF 282 M2 (Turfway)	4.7	7.7	6.3	16.7	4.0	5.4
*PPG-TF-145 (Dynamite LS)	4.3	7.0	6.3	16.7	5.0	5.4
*PST-5SALT (Saltillo)	4.7	5.0	6.0	16.7	4.3	5.4

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*ZW 44 (Raptor III)	5.0	6.0	6.7	16.7	4.7	5.4
PSG-PO1	5.0	6.0	6.7	16.7	4.0	5.4
MET 1	5.0	6.0	6.7	23.3	5.0	5.4
*PST-5RO5 (Swagger)	5.0	5.0	5.7	11.7	4.0	5.3
PPG-TF-137	3.3	6.3	6.7	13.3	5.3	5.3
JS 916	5.0	6.7	6.0	15.0	5.0	5.3
*Exp TF-09 (Frontline)	5.0	7.3	6.3	18.3	5.0	5.3
*Burl TF-136 (Hot Rod)	4.0	6.0	7.7	20.0	4.7	5.3
*Burl TF-69 (Hover)	4.3	6.3	6.7	20.0	4.3	5.3
GO-DFR	4.3	6.3	6.3	26.7	4.3	5.3
ATF 1754	4.0	5.3	7.0	13.3	4.3	5.3
*PSG-WE1 (Firewall)	4.3	7.0	6.7	15.0	4.7	5.3
*Aquaduct	4.7	4.7	5.7	18.3	4.0	5.3
*Fesnova	5.0	6.0	6.3	20.0	5.0	5.3
K12-MCD	4.3	5.7	7.0	18.3	4.7	5.3
RAD-TF-88	3.7	6.0	6.7	18.3	5.0	5.3
*Falcon IV	5.0	6.0	6.0	20.0	4.3	5.3
PPG-TF-170	4.7	6.3	6.0	21.7	4.7	5.3
JS 819	4.7	6.3	6.0	25.0	4.0	5.3
PSG-TT4	4.7	5.7	6.0	23.3	4.0	5.2
*IS-TF 284 M2 (Foxhound)	4.3	7.7	6.3	25.0	4.3	5.2
BAR Fa 121091	4.7	7.7	5.7	13.3	4.3	5.2
PSG-8BP2	5.0	6.0	6.3	20.0	4.0	5.2
*IS-TF 291 (Fayette)	4.7	7.0	6.7	28.3	5.3	5.2
*TY 10 (Caesar)	5.0	7.0	6.0	20.0	5.3	5.2
*Bullseye	4.7	6.3	6.3	21.7	4.0	5.2
*Faith	5.0	6.3	6.3	21.7	4.3	5.2
IS-TF 310 SEL	4.3	6.7	6.0	21.7	4.7	5.2
W41	4.3	7.0	6.3	21.7	5.0	5.2
IS-TF 305 SEL	5.0	7.3	6.0	21.7	4.3	5.1

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JS 825	5.0	5.3	5.7	35.0	4.0	5.1
IS-TF 285	4.7	7.0	6.7	15.0	4.0	5.1
*PPG-TF-139 (Xtender)	4.7	6.7	6.7	16.7	4.7	5.1
RAD-TF-92	4.3	5.7	6.7	16.7	5.0	5.1
BAR Fa 121089	4.7	6.0	6.3	18.3	5.0	5.1
*PST-R5NW (Inspiration)	4.7	6.0	5.3	13.3	4.0	5.0
IS-TF 269 SEL	4.0	7.0	6.3	18.3	4.7	5.0
JS 818	4.3	6.3	6.3	20.0	4.0	5.0
PST-5DZP	4.7	6.3	6.3	21.7	4.0	5.0
RAD-TF-83	4.0	6.7	6.7	21.7	5.0	5.0
*PST-5SDT (Rain Dance)	5.3	5.3	5.7	25.0	4.0	5.0
*TD1 (Thunderstruck)	5.3	6.7	6.0	26.7	5.0	4.9
*OR-21 (Temptation)	4.7	7.7	6.0	23.3	5.3	4.9
Comp. Res. SST	4.3	5.7	7.3	28.3	4.7	4.9
*Warhawk	4.0	6.3	6.7	18.3	4.3	4.8
K12-05	4.0	6.3	6.0	18.7	4.3	4.8
*Annihilator	4.0	6.3	6.3	23.3	4.3	4.8
BAR Fa 121095	4.3	6.0	6.0	26.7	3.7	4.8
IS-TF 272	4.3	7.3	7.0	15.0	5.0	4.8
*Marauder	3.7	5.3	5.7	28.3	4.7	4.7
BAR Fa 120878	4.7	4.3	5.0	10.3	4.0	4.7
IS-TF 289	4.0	7.0	6.3	33.3	4.7	4.7
JS 809	4.3	6.3	6.3	33.3	4.0	4.7
K12-13	3.3	7.0	6.0	18.3	4.0	4.6
204 Res. Blk4	4.0	5.3	7.0	23.3	4.3	4.4
*Ky-31	5.0	3.0	3.3	8.3	4.0	3.7
<i>LSD</i> ⁴	<i>1.5</i>	<i>1.0</i>	<i>1.1</i>	<i>20.9</i>	<i>0.9</i>	<i>0.6</i>

¹ Visual ratings based on a scale of 1 to 9 (1 = poorest, 6 = acceptable, and 9 = optimum measure).

² Percent brown patch infestation was rated visually on a scale of 0 to 100%.

³ Cultivars marked with "*" were commercially available in 2015.

⁴ To determine statistical differences among entries, subtract one entry's mean from another's. If the result is larger than the corresponding Least Significant Difference (LSD) value, the two are statistically different.

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