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2013 National Turfgrass Evaluation Program Bermudagrass Test

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2013 National Turfgrass Evaluation Program Bermudagrass Test

Abstract

Kansas represents the northernmost region in the central United States where bermudagrass can be successfully grown as a perennial turfgrass. Historically, few cultivars that have both acceptable quality and adequate cold-tolerance have been available to local growers. Because new introductions are continually being selected for improved hardiness and quality, both seeded and vegetative types need regular evaluation to determine their long-range suitability for use in Kansas.

Keywords

bermudagrass, National Turfgrass Evaluation Program, NTEP

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2013 National Turfgrass Evaluation Program Bermudagrass Test¹

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Summary. Kansas represents the northernmost region in the central United States where bermudagrass can be successfully grown as a perennial turfgrass. Historically, few cultivars that have both acceptable quality and adequate cold-tolerance have been available to local growers. Because new introductions are continually being selected for improved hardiness and quality, both seeded and vegetative types need regular evaluation to determine their long-range suitability for use in Kansas.

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 as a standard trial site for the 2013 National Bermudagrass Test.

Objective. Evaluate seeded and vegetative bermudagrass cultivars under southern Kansas conditions and submit data collected to the National Turfgrass Evaluation Program.

Study Description. During the summer of 2013, 18 seeded and 17 vegetative bermudagrass cultivars and experimental numbers were established at the John C. Pair Horticultural Center in Wichita. Preparation for the study included incorporating 13-13-13 into 105 5 ft × 5 ft study plots at a rate of 1 lb NPK/1,000 sq ft. Plots were seeded or plugged in a randomized complete block design with fertility maintained at 0.25 to 0.50 lb N/1,000 sq ft per growing month. Plots were mowed weekly during the growing season at 1.5 to 2.5 inches and clippings returned. Plots were irrigated as necessary to prevent dormancy and weeds, insects and diseases were controlled only

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when they presented a threat to the trial. Since planting, data were collected on percent cover, spring greenup, quality, genetic color, leaf texture, and fall color retention. Percent cover was rated visually on a scale of 0% to 100%. Spring greenup, quality, genetic color, leaf texture, and fall color retention were rated visually on a scale of 1 to 9 (1 = poorest, 6 = acceptable, and 9 = optimum measure).

Results. Data collection began with looking at percent cover as a measure of cultivar establishment. By the end of the 2013 growing season, vegetative types DT-1, FAES 1325, and 11-T-510 and seeded types MBG 002 and 'North Shore SLT' were the best established (Table 1). Plots were rated for spring greenup at the beginning of May 2014. Vegetative cultivars OKC 1131 and JSC 2-21-18-v and seeded cultivars JSC 2009-6-s and 'Yukon' broke dormancy the earliest. Throughout the growing season, which ran from May through September, turf was rated monthly for quality. Ratings were influenced by degree of cover, weed infestation, and disease resistance as well as turf color, texture, and density. The best vegetative types were led by 11-T-510, JSC 2-21-18-v, DT-1, and JSC 2-21-1-v. The seeded types did not perform quite as well, but JSC 2007-13-s and 'Yukon' were rated highest. During the summer evaluation of turf color and texture, the vegetative varieties 'Celebration,' 'Patriot,' and FAES 1327, along with seeded varieties PST-R6CT, PST-R6T9S, and 'Yukon' were the darkest green. Vegetative types OKC 1163, JSC 2-21-1-v, 11-T-510, JSC 2-21-18-v, 'Latitude 36,' and OKC 1302 had the finest texture. The fall color retention evaluation showed that seeded cultivars 'Princess 77' and 'Yukon' as well as vegetative cultivars 'Celebration,' DT-1, FAES 1325, FAES 1326, FAES 1327, OKC 1163, and 'Tifway' retained their color the longest.

Complete 2013 National Bermudagrass Test results and more information on NTEP can be found online at: <http://www.ntep.org/>.



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Table 1. 2013–2014 performance of bermudagrass cultivars at Wichita, Kansas¹.

Cultivar/ experimental no.	Seeded/ vegetative	2013 % Cover ²	Spring greenup	Genetic color	Leaf texture	Fall color	Quality
11-T-510	V	94.3	2.0	8.3	8.0	3.7	5.7
JSC 2-21-18-v	V	91.7	4.3	6.3	8.0	3.7	5.5
DT-1	V	96.0	2.7	7.3	7.7	4.3	5.5
JSC 2-21-1-v	V	93.3	4.0	5.0	8.3	3.7	5.5
Latitude 36	V	85.0	4.0	6.3	8.0	3.7	5.3
Patriot	V	93.3	2.7	9.0	6.7	2.7	5.1
OKC 1163	V	91.7	4.3	6.0	9.0	4.3	5.1
OKC 1302	V	83.3	4.0	6.7	8.0	3.0	5.1
OKC 1131	V	90.0	5.3	7.7	7.7	3.0	5.1
JSC 2007-13-s	S	83.3	4.3	7.7	6.7	3.3	5.1
Astro	V	90.0	4.0	6.0	6.0	3.7	5.0
Yukon	S	61.7	4.7	8.7	6.3	4.7	5.0
BAR C291	S	91.0	2.0	6.7	6.0	3.3	4.9
North Shore SLT	S	93.3	2.0	7.7	5.7	3.3	4.9
JSC 2007-8-s	S	83.3	3.7	8.0	5.7	3.7	4.9
JSC 2009-2-s	S	86.7	4.3	7.3	5.7	3.0	4.8
JSC 2009-6-s	S	88.3	4.7	7.0	6.3	3.7	4.8
Riviera	S	81.7	3.7	6.7	6.3	3.3	4.8
MBG 002	S	94.3	2.0	7.7	6.3	3.3	4.7
PST-R6P0	S	92.7	2.7	8.0	6.3	3.3	4.7
11-T-251	V	91.7	2.0	8.3	7.7	4.0	4.7
OKS 2011-1	S	63.3	3.3	6.7	5.7	3.3	4.5
Tifway	V	81.7	1.0	8.0	7.3	4.3	4.5
FAES 1326	V	85.0	1.7	7.0	7.0	4.3	4.4
Celebration	V	86.7	1.0	9.0	6.3	4.3	4.2
PST-R6CT	S	76.7	2.0	8.7	6.0	4.0	4.1
NuMex-Sahara	S	89.3	1.0	7.7	6.0	3.3	4.1
OKS 2009-3	S	68.3	2.3	8.0	5.7	3.7	4.0
OKS 2011-4	S	65.0	2.3	7.7	6.0	4.0	3.9
FAES 1325	V	95.0	1.0	8.0	5.7	4.3	3.7
FAES 1327	V	71.7	1.3	8.7	7.3	4.3	3.5
MSB 281	V	76.7	2.7	5.7	7.3	2.0	3.4
PST-R6T9S	S	68.3	2.3	8.7	6.7	3.7	3.3
Princess 77	S	90.0	1.0	8.0	5.7	6.0	1.7
12-TSB-1	S	90.0	1.0	7.0	6.0	4.0	1.5
LSD ³		22.8	0.7	0.8	0.8	1.6	0.6

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

² Percent cover was rated visually on a scale of 0% to 100%.

³ 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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