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2013 National Turfgrass Evaluation Program Bermudagrass Test: 2015 Data

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2013 National Turfgrass Evaluation Program Bermudagrass Test: 2015 Data

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

Cover Page Footnote

This research was sponsored by a grant from the National Turfgrass Evaluation Program

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2013 National Turfgrass Evaluation Program Bermudagrass Test: 2015 Data[1]

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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's 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/1000 sq ft. We seeded or plugged the plots in a randomized complete block design. During 2015, we maintained fertility of the plots at 0.25 to 0.50 lb N/1000 sq ft per growing month. We mowed the plots weekly during the growing season at 1.5 to 2.5 inches and returned clippings. We irrigated as necessary to prevent dormancy and controlled

[1] This research was sponsored by a grant from the National Turfgrass Evaluation Program.
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weeds, insects, and diseases only when they presented a threat to the trial. During the summer of 2015, we collected information on spring greenup, quality, genetic color, leaf texture, absence of seed heads, fall color retention, and spring and fall percent cover. We rated spring greenup, quality, genetic color, leaf texture, absence of seed heads, and fall color retention visually on a scale of 1 to 9, with 1 = poorest measure, 6 = acceptable, and 9 = optimum measure. We rated percent cover visually on a scale of 0 to 100%.

Results. We started the 2015 growing season by rating the plots on May 13 for spring greenup. We found that vegetative cultivar *Celebration[3] broke dormancy the earliest, followed by seeded cultivars *North Shore SLT and *PST-R6P0 (Kashmir), and vegetative cultivars *Patriot, FAES 1325, and MSB 281 (Table 1). Throughout the growing season, which ran from May through September, we rated the turf 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 overall performers for the year were vegetative types OKC 1302, JSC 2-21-18-v, and OKC 1131. The seeded types did not perform as well with the best two being JSC 2007-13-s and JSC 2009-6-s. During the course of the summer, we looked at turf color and texture and found that vegetative varieties *Celebration, *Patriot, FAES 1327, and OKC 1131 were the darkest green and that the two darkest green seeded varieties were *Yukon and JSC 2009-2-s. Vegetative types OKC 1163 and JSC 2-21-18-v had the finest texture. In September, we rated for seed head display and found that vegetative varieties 11-T-510 and OKC 1302 had the fewest seedheads. At the end of October, we looked at fall color retention and found that vegetative types FAES 1327 and *DT-1 and seeded types Princess 77, Yukon, 11-T-510, and OKC 1163 retained their color the longest. In May and September we rated the plots for percent turf cover and found that in May vegetative variety OKC 1302 and seeded variety JSC 2007-8-s showed the best cover followed by vegetative variety JSC 2-21-18-v and seeded variety OKS 2011-1. At the end of the growing season, vegetative type *DT-1 showed the best cover followed by vegetative types FAES 1326 and JSC 2-21-1-v, and seeded type JSC 2009-6-s.

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

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

Table 1. 2015 performance of bermudagrass cultivars at Wichita, KS[1,2]

Cultivar/ experimental no.	Seed./ veg.	Spring greenup	Genetic color	Leaf texture	Seed heads	Fall color	Spring % cover	Fall % cover	Quality
OKC 1302	V	6.3	6.3	7.3	8.7	4.7	86.7	89.0	6.5
JSC 2-21-18-v	V	6.0	5.0	8.0	7.3	4.7	80.0	97.0	6.3
OKC 1131	V	7.3	8.0	6.7	7.0	2.7	65.0	97.7	6.1
JSC 2-21-1-v	V	6.7	5.0	7.7	7.0	4.7	75.0	98.3	5.9
JSC 2007-13-s	S	6.3	6.3	6.0	5.3	4.0	71.7	94.7	5.8
*Latitude 36[3]	V	6.0	6.7	7.7	8.3	5.0	68.3	97.0	5.7
JSC 2009-6-s	S	6.7	6.7	5.7	4.3	3.7	75.0	98.3	5.6
*DT-1	V	6.3	5.7	7.0	6.7	6.0	61.7	99.0	5.5
*Patriot	V	7.7	8.0	5.7	7.7	2.7	46.7	95.0	5.5
JSC 2009-2-s	S	6.7	7.3	5.3	5.0	4.0	73.3	96.3	5.5
*Astro	V	7.0	5.3	5.7	5.0	4.3	59.3	98.0	5.4
11-T-510	V	7.3	7.7	6.7	9.0	5.7	36.7	97.7	5.4
*Riviera	S	6.7	6.0	5.3	5.7	4.0	73.3	97.0	5.3
FAES 1326	V	6.3	6.3	7.0	7.3	5.3	46.7	98.3	5.3
OKS 2011-1	S	6.0	6.0	5.3	5.3	4.0	80.0	96.3	5.3
MBG 002	S	7.3	6.7	5.3	4.3	4.3	61.7	94.0	5.2
JSC 2007-8-s	S	7.0	6.7	6.0	4.0	4.3	84.3	94.7	5.1
*Yukon	S	6.7	7.3	5.3	7.0	5.7	63.3	92.3	5.1
*Tifway	V	7.3	6.7	6.3	8.3	5.3	51.7	97.0	5.0
OKC 1163	V	6.0	5.7	8.7	8.3	5.7	50.0	97.7	5.0
PST-R6CT	S	7.3	6.7	5.0	3.7	5.0	68.3	95.0	4.9
*PST-R6P0 (Kashmir)	S	7.7	6.0	5.0	3.3	4.3	40.0	94.0	4.9

continued

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Table 1. 2015 performance of bermudagrass cultivars at Wichita, KS[1,2]

Cultivar/ experimental no.	Seed./ veg.	Spring greenup	Genetic color	Leaf texture	Seed heads	Fall color	Spring % cover	Fall % cover	Quality
BAR C291	S	7.0	5.7	5.7	4.7	4.7	61.7	94.0	4.8
*Celebration	V	8.0	8.0	6.0	7.7	4.0	41.7	96.3	4.7
FAES 1327	V	7.0	6.7	6.3	8.3	6.3	43.3	89.0	4.7
OKS 2011-4	S	6.7	6.0	5.0	5.3	4.3	75.0	90.7	4.7
FAES 1325	V	7.7	8.0	6.3	6.7	5.3	23.3	86.7	4.5
11-T-251	V	6.7	7.7	7.0	5.7	4.0	33.3	95.0	4.4
OKS 2009-3	S	6.7	5.7	5.0	4.3	4.7	51.7	91.7	4.3
*North Shore SLT	S	7.7	6.0	5.0	4.3	4.0	28.3	92.3	4.3
PST-R6T9S	S	7.3	7.0	5.7	3.0	4.0	61.7	90.0	4.1
*NuMex-Sahara	S	6.7	6.0	5.7	5.7	4.3	23.3	81.7	3.7
MSB 281	V	7.7	5.0	5.0	5.0	2.0	43.3	90.7	3.5
*Princess 77	S	7.3	6.3	5.3	3.7	5.7	11.7	76.7	2.9
12-TSB-1	S	7.3	6.7	5.3	3.7	5.3	22.7	65.0	2.1
LSD [4]		*1.2*	*0.8*	*0.7*	*1.4*	*0.8*	*19.8*	*8.4*	*0.7*

[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] 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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