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2013 National Turfgrass Evaluation Program Bermudagrass Test: 2017 Data

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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, KS, was selected as a standard trial site for the 2013 National Bermudagrass Test.

Objective

The objective of this study was to evaluate seeded and vegetative bermudagrass cultivars under south central Kansas conditions and submit data collected to the National Turfgrass Evaluation Program.

Study Description

During the summer of 2013, we established 18 seeded and 17 vegetative bermudagrass cultivars and experimental numbers at the John C. Pair Horticultural Center in Wichita, KS. Preparation for the study included incorporating nitrogen (N), phosphorus (P), and potassium (K) as a 13-13-13 fertilizer into 105 5- × 5-ft study plots at a rate of 1 lb N-P-K/1000 ft^2. We seeded or plugged the plots in a random-

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ized complete block design. During 2017, we fertilized the plots with urea on March 9 at 1.0 lb of N/1,000 ft^2, July 7 at 0.25 lb of N/1,000 ft^2 (to suppress seed heads and increase visual quality for field day), and October 2 at 0.8 lb of N/1,000 ft^2. We applied a Prodiamine and Pendimethalin tank mix pre-emergent herbicide on March 20. We mowed the plots weekly during the growing season at 2.25–2.75 inches and returned clippings. We irrigated when necessary to prevent dormancy.

During the summer of 2017, we collected information on spring green up, genetic color, leaf texture, absence of seed heads, fall color retention, and quality. Rating was done visually on a scale of 1 to 9, with 1 = poorest, 6 = acceptable, and 9 = optimum measure.

Results

We started the 2017 growing season by rating the plots on May 4 for spring green up. We found that several vegetative cultivars broke dormancy the earliest starting with OKC 1302 and OKC 1163 (Table 1). The earliest seeded cultivars to green up were OKS 2011-1 and Yukon. Throughout the growing season, which ran from May through October, 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 Patriot, OKC 1302, and 11-T-510. The seeded types did not perform as well with the best being JSC 2007-8-s and OKS 2011-1. During the course of the summer, we looked at turf color and texture and found that vegetative varieties 11-T-251, Patriot, and Celebration were the darkest green and that the darkest green seeded varieties were PST-R6T9S, Kashmir (PST-R6P0), and 12-TSB-1. Vegetative types OKC 1163 and JSC 2-21-1-v and seeded type PST-R6CT had the finest texture. In mid-July, we rated for seed head display and found that vegetative varieties 11-T-510 and JSC 2-21-1-v and seeded variety NuMex-Sahara had the fewest seed heads. At the end of October, we looked at fall color retention and found that vegetative types FAES 1327, TifTuf (DT-1), and Tifway and seeded types Yukon and NuMex-Sahara 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/*.

Acknowledgment

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Table 1. 2017 performance of bermudagrass cultivars at Wichita, KS[1]

Cultivar/ experimental number	Seeded/ vegetative	Spring green up	Genetic color	Leaf texture	Seed heads	Fall color retention	Quality
*Patriot[2]	V	2.7	8.7	6.0	8.7	4.7	5.6
OKC 1302	V	5.0	5.7	6.7	8.3	4.3	5.4
11-T-510	V	3.3	6.3	7.0	9.0	5.3	5.3
*Latitude 36	V	4.3	5.0	7.3	8.7	5.3	5.2
*TifTuf (DT-1)	V	3.3	5.3	7.3	7.3	6.3	5.2
FAES 1326	V	2.7	6.3	7.3	7.0	5.7	5.2
FAES 1325	V	3.0	7.3	6.0	8.0	5.3	5.1
JSC 2-21-18-v	V	4.3	5.0	7.0	8.0	5.3	5.1
JSC 2-21-1-v	V	4.3	4.3	7.7	9.0	4.7	5.1
FAES 1327	V	3.3	7.3	7.0	7.7	7.0	5.1
*Tifway	V	2.7	7.3	7.3	7.7	6.3	5.0
JSC 2007-8-s	S	3.0	7.3	5.3	6.0	4.0	5.0
OKC 1131	V	3.0	5.7	6.7	8.0	5.0	5.0
OKS 2011-1	S	3.7	6.7	5.0	7.0	4.3	4.9
*Yukon	S	3.7	7.3	5.3	5.7	6.7	4.8
*Astro	V	3.3	6.0	5.7	5.7	4.0	4.8
MBG 002	S	2.3	6.7	5.3	6.3	4.3	4.8
JSC 2009-6-s	S	3.3	7.0	5.0	5.3	4.3	4.7
*Riviera	S	3.3	6.7	5.3	6.3	4.3	4.7
PST-R6CT	S	2.7	7.3	6.0	5.0	4.3	4.7
JSC 2009-2-s	S	2.0	7.0	5.0	6.3	3.7	4.6
BAR C291	S	3.0	6.0	5.3	6.7	3.7	4.4
*Monaco (JSC 2007-13-s)	S	2.3	7.0	5.0	5.3	4.7	4.4
12-TSB-1	S	1.7	7.7	5.0	6.0	4.3	4.3
OKS 2011-4	S	3.3	7.7	5.0	6.3	4.3	4.3
*Celebration	V	1.0	8.3	6.0	6.3	4.7	4.3
OKC 1163	V	4.7	4.3	9.0	7.7	5.3	4.3
*Kashmir (PST-R6P0)	S	2.7	7.7	5.0	4.3	3.7	4.2
*Princess 77	S	2.3	7.0	5.3	5.0	4.7	4.2

continued

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Table 1. 2017 performance of bermudagrass cultivars at Wichita, KS[1]

Cultivar/ experimental number	Seeded/ vegetative	Spring green up	Genetic color	Leaf texture	Seed heads	Fall color retention	Quality
OKS 2009-3	S	2.3	7.0	5.0	5.3	4.0	4.1
*North Shore SLT	S	2.3	7.3	5.0	6.0	3.3	3.9
PST-R6T9S	S	2.7	8.0	5.0	4.7	3.0	3.9
11-T-251	V	1.3	9.0	6.0	5.0	4.7	3.8
*NuMex-Sahara	S	2.3	6.0	5.0	7.7	5.3	3.8
MSB 281	V	0.7	7.7	5.7	3.7	4.0	2.9
LSD[3]		0.8	0.9	0.9	1.1	1.0	0.5

[1]Visual ratings were based on a scale of 1 to 9 (1 = poorest measure, 6 = acceptable, and 9 = optimum measure).
[2]Cultivars marked with "*" were commercially available in 2017.
[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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