Kansas Agricultural Experiment Station Research Reports

Volume 3
Issue 4 *Turfgrass Research*

Article 15

7-2017

2013 National Turfgrass Evaluation Program Bermudagrass Test: 2016 Data

L. Parsons
Kansas State University, lparsons@ksu.edu

Michael J. Shelton
Kansas State University, mshelton@ksu.edu

J. Griffin
Kansas State University, jgriffin@ksu.edu

See next page for additional authors

Recommended Citation

Parsons, L.; Shelton, Michael J.; Griffin, J.; and Hoyle, J. (2017) "2013 National Turfgrass Evaluation Program Bermudagrass Test: 2016 Data," *Kansas Agricultural Experiment Station Research Reports*: Vol. 3: Iss. 4. https://doi.org/10.4148/2378-5977.7164

2013 National Turfgrass Evaluation Program Bermudagrass Test: 2016 Data

Cover Page Footnote

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

Authors

L. Parsons, Michael J. Shelton, J. Griffin, and J. Hoyle

Turfgrass Research 2017

2013 National Turfgrass Evaluation Program Bermudagrass Test: 2016 Data

Linda R. Parsons, Michael J. Shelton, Jason J. Griffin, and Jared A. Hoyle

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 objectives of this research were 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 NPK/1000 ft^2. We seeded or plugged the plots in a randomized complete block design. During 2016, we fertilized the plots with urea on March 17 and June 6 at 1.0 lb N/1000 ft^2. We applied Prodiamine pre-emergent herbicide and Triplet herbicide both on March 10. We mowed the plots weekly during the growing season at 2.25 to 2.75 inches and returned clippings.

K-STATE TURFGRASS RESEARCH

JULY 2017

K-STATE Research and Extension

Kansas State University
Agricultural Experiment Station
and Cooperative Extension Service

K-STATE TURFGRASS RESEARCH

We received 11.93 inches of rain in August and 15.56 in September with a period in both months within which the plots were under water for more than 12 hours. We irrigated when necessary to prevent dormancy.

During the summer of 2016, we collected information on spring greenup, leaf texture, genetic color, quality, and spring and fall percent cover. We rated spring greenup, leaf texture, genetic color, and quality 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 2016 growing season by rating the plots on May 10 for spring greenup. We found that several vegetative cultivars broke dormancy the earliest, starting with OKC 1302 and JSC 2-21-18-v. The earliest seeded cultivar to green up was Riviera (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 JSC 2-21-1-v, Latitude 36, and OKC 1302. The seeded types did not perform as well, with the best three being JSC 2007-8-s, JSC 2009-6-s, and Riviera. We noticed that turf-plot cover for some varieties deteriorated over winter and then improved again during the growing season. As cover variability could be indicative of winter hardiness, we decided to look at percent cover in September 2015 as well as in May and September 2016. The vegetative types with the best September 2016 percent cover and least over-winter variability were JSC 2-21-18-v, OKC 1163, and Astro. The best seeded types were Riviera and JSC 2007-8-s. During the summer, we looked at turf color and texture and found that vegetative varieties Patriot, FAES 1325, Celebration, and 11-T-251 were the darkest green, and that the two darkest green seeded varieties were 12-TSB-1 and PST-R6T9S. Vegetative types OKC 1163 and JSC 2-21-1-v had the finest texture. The two seeded types with the finest texture were Riviera and JSC 2007-13-s.

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

Acknowledgment

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

K-STATE Research and Extension

Kansas State University
Agricultural Experiment Station
and Cooperative Extension Service

K-STATE TURFGRASS RESEARCH

Table 1. 2016 performance of bermudagrass cultivars at Wichita, KS[1,2]

Cultivar/experimental number	Seeded/ vegetative	Spring greenup	Leaf texture	Genetic color	Fall 2015 percent cover	Spring 2016 percent cover	Fall 2016 percent cover	Quality
JSC 2-21-1-v	V	5.7	8.0	5.3	98	92	98	5.9
*Latitude 36[3]	V	5.3	7.0	6.7	97	90	95	5.9
OKC 1302	V	6.7	6.7	6.3	89	90	93	5.9
OKC 1131	V	5.3	7.0	7.3	98	91	94	5.7
JSC 2-21-18-v	V	6.0	7.3	6.0	97	98	97	5.7
*TifTuf (DT-1)	V	4.3	6.3	7.0	99	91	97	5.7
11-T-510	V	4.3	6.7	8.3	98	87	97	5.6
*Patriot	V	4.0	6.0	9.0	95	85	94	5.5
*Tifway	V	3.3	6.3	8.3	97	86	96	5.4
*Astro	V	4.7	5.3	6.3	98	93	97	5.3
JSC 2007-8-s	S	4.7	5.7	7.7	95	88	97	5.3
FAES 1326	V	4.0	6.7	7.7	98	93	97	5.3
JSC 2009-6-s	S	4.7	5.3	6.7	98	91	97	5.3
*Riviera	S	5.0	6.0	6.7	97	91	97	5.3
OKC 1163	V	5.3	8.3	6.3	98	93	98	5.2
JSC 2009-2-s	S	4.0	5.7	7.3	96	85	96	5.2
JSC 2007-13-s	S	4.0	6.0	7.3	95	83	96	5.2
MBG 002	S	3.7	5.0	7.0	94	83	95	5.2
FAES 1327	V	4.3	6.3	8.7	89	86	94	5.1
FAES 1325	V	3.7	6.0	9.0	87	75	92	5.1
OKS 2011-1	S	4.7	5.3	7.0	96	82	94	5.0
PST-R6CT	S	4.0	5.7	7.7	95	82	96	4.7
BAR C291	S	3.7	5.3	6.3	94	78	94	4.7
OKS 2011-4	S	4.7	5.0	7.0	91	77	82	4.7
*Yukon	S	4.3	5.3	7.7	92	83	90	4.6
PST-R6T9S	S	4.3	5.0	8.0	90	68	80	4.6
*Celebration	V	2.7	6.0	9.0	96	70	96	4.5
*North Shore SLT	S	3.7	5.3	6.3	92	60	92	4.5
*Kashmir (PST-R6P0)	S	3.7	5.3	7.7	94	83	95	4.4

continued

K-STATE Research and Extension

Kansas State University
Agricultural Experiment Station
and Cooperative Extension Service

K-STATE TURFGRASS RESEARCH

Cultivar/experimental number	Seeded/ vegetative	Spring greenup	Leaf texture	Genetic color	Fall 2015 percent cover	Spring 2016 percent cover	Fall 2016 percent cover	Quality
OKS 2009-3	S	3.3	5.0	6.7	92	67	94	4.3
*Princess 77	S	4.3	5.7	7.3	77	47	77	4.2
11-T-251	V	2.0	7.0	9.0	95	55	94	3.9
12-TSB-1	S	3.3	5.7	8.7	65	42	77	3.9
*NuMex-Sahara	S	2.7	5.0	6.0	82	42	75	3.7
MSB 281	V	2.3	5.0	7.0	91	52	67	2.9
LSD[4]		1.1	0.8	0.8	8.4	13.9	9.2	0.4

[1] Visual ratings were based on a scale of 1 to 9 (1 = poorest measure, 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 2016.
[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.

K-STATE Research and Extension

Kansas State University
Agricultural Experiment Station
and Cooperative Extension Service