

# TURFGRASS RESEARCH 2020



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## 2019 National Turfgrass Evaluation Program Bermudagrass Test: Establishment Data<sup>1</sup>

*Linda R. Parsons, Jason J. Griffin, and Michael J. Shelton*

### Summary

Kansas represents the northernmost region in the central United States where bermudagrass (*Cynodon* spp.) 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) organizes evaluation of turfgrass species nationwide to evaluate cultivars under all types of environmental conditions. Wichita, KS, was selected as a standard trial site for the 2019 National Bermudagrass Test.

### Objective

The objective of this study was to evaluate seeded and vegetative bermudagrass cultivars under an athletic field/home lawn maintenance schedule in south central Kansas conditions and submit data collected to the National Turfgrass Evaluation Program.

### Study Description

On July 9–10, 2019, 13 seeded and 22 vegetative bermuda cultivars and experimental accessions were planted in 105 6- × 6-ft study plots in a randomized complete block design with three replications at the John C. Pair Horticultural Center in Wichita, KS (Table 1). Seeded plots were protected with lightweight row cover until germina-

<sup>1</sup> This research was sponsored by a grant from the National Turfgrass Evaluation Program.

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tion was complete. During the remainder of the year, we fertilized the plots with urea (46-0-0) on August 7 at 1.0 lb N/1000 ft<sup>2</sup> and August 21 at 0.5 lb N/1000 ft<sup>2</sup>. We applied Triplet SF herbicide on August 5 and August 15 and glyphosate herbicide between rows as needed to maintain individual plot separation. Once established, plots were mowed weekly throughout the remainder of the growing season at 2.25 to 2.75 inches and clippings returned. Irrigation was applied at approximately 1 inch per event as necessary to prevent dormancy. At the beginning of the 2020 growing season, proflaminate herbicide was applied on March 23 to prevent annual grasses and 1.0 lb N/1000 ft<sup>2</sup> from urea was applied on May 7.

We collected percent cover data on July 30, August 22, and September 26, 2019. Percent cover was rated visually on a scale of 0 to 100%. On May 5, 2020, spring greenup was rated visually on a scale of 1 to 9 (1 = brown, 6 = acceptable color, and 9 = optimum green color).

## Results

At three weeks, six weeks, and eleven weeks after planting, percent cover data were recorded as a measure of cultivar establishment. On the initial rating, we found that seeded types DIF-460/3048 and JSC 2013-55; and vegetative types MSB-I017 and MSB-1042 had the highest percent cover (Table 1). On August 22, seeded types DIF-460/3048, JSC 2013-55, P5T-R6TM, and PST-R5MM; and vegetative types MSB-I017 and MSB-1042 had the highest percent cover. By the end of the 2019 growing season, seeded types PST-R5MM, DIF-460/3048, and P5T-R6TM; and vegetative types MSB-I017, MSB-1048, and OKC1666 had the highest percent cover. Spring 2020 greenup data revealed vegetative type Latitude 36 and seeded types OKS2015-7 and OKS2015-1 broke dormancy the earliest and had the highest greenup rating.

Complete 2019 National Bermudagrass Test results and more information on NTEP are online at: <http://www.ntep.org/>.

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**Table 1. 2019–2020 percent cover (2019) and spring greenup (2020) of bermudagrass cultivars at Wichita, KS<sup>1,2</sup>**

Cultivar/ accession number	Seeded/ vegetative	July % cover	Aug. % cover	Sep. % cover	Spring 2020 greenup
PST-R5MM	S	63.3	93.3	99.0	4.7
DIF-460/3048	S	76.7	93.3	98.3	3.7
P5T-R6TM	S	53.3	93.3	98.3	3.3
JSC 2013-75	S	63.3	84.3	97.7	5.3
JSC 2013-85	S	63.3	91.0	97.7	6.3
Riviera	S	30.3	89.3	97.7	6.3
JSC 2013-55	S	71.7	93.3	97.0	5.0
MSB-I017	V	40.0	80.0	97.0	4.0
JSC 2013-105	S	38.3	80.0	96.3	6.7
JSC 2013-125	S	43.3	83.3	96.3	6.3
MSB-1048	V	20.7	66.7	95.7	3.0
Monaco	S	56.7	89.3	95.3	5.0
OKC1666	V	20.0	55.0	95.0	6.3
OKS2015-3	S	22.0	89.3	94.7	6.7
OKS2015-1	S	26.7	68.3	94.3	7.0
MSB-1042	V	26.7	76.7	94.0	5.7
MSB-1050	V	23.7	70.0	94.0	2.0
Tiftuf	V	26.7	45.0	93.3	6.3
OKS2015-7	S	16.0	71.7	92.7	7.7
Astro	V	25.0	38.3	91.7	4.7
OKC1876	V	23.3	58.3	91.7	5.3
FB 1630	V	21.3	56.7	90.0	5.3
FB 1902	V	11.3	45.0	90.0	4.0
Latitude 36	V	14.7	38.3	90.0	7.7
OKC1406	V	19.7	43.3	90.0	6.7
MSB-1026	V	20.3	26.7	88.3	6.0
MSS-1075	V	17.3	41.7	88.3	3.7
Tahoma 31	V	14.7	51.7	88.3	6.7
Tifway	V	21.7	43.3	88.3	6.3
FB 1628	V	12.3	31.7	86.7	6.7
JSC 80V	V	17.3	45.0	86.7	6.0

*continued*

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Cultivar/ accession number	Seeded/ vegetative	July % cover	Aug. % cover	Sep. % cover	Spring 2020 greenup
OKC1873	V	11.7	38.3	85.0	3.7
OKC1682	V	10.7	12.0	83.3	6.3
FB 1903	V	9.7	36.7	78.3	3.3
JSC 77V	V	19.0	23.3	73.3	4.0
LSD <sup>3</sup>		13.9	12.6	11.2	1.5

<sup>1</sup> Spring greenup was rated visually based on a scale of 1 to 9 (1 = brown turf, 6 = acceptable color, and 9 = optimum green color).

<sup>2</sup> Percent cover was rated visually on a scale of 0 to 100%.

<sup>3</sup> 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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