PUBLICATIONS
1993

FIELD DAY REPORT - 1993

Texas A&M University Agricultural Research and Extension Center at Overton

Texas Agricultural Experiment Station
Texas Agricultural Extension Service

Overton, Texas

May 28, 1993

Research Center Technical Report 93-1

PERFORMANCE OF BERMUDAGRASS VARIETIES IN EAST TEXAS

J. L. Gabrysch, G. W. Evers, and J. M. Moran

Background. Bermudagrass is one of the most common and valuable forage plants grown in the southeastern US with 10 million acres in Texas alone. Adaptability to acid, sandy soils, good drought tolerance because of a deep root system, and tolerance to close, frequent grazing are some of the reasons for its wide use. 'Coastal', the first hybrid bermudagrass released in 1943, is grown on more acres than any other variety. Eleven new varieties and breeding lines were planted on 7 May 1991 at the Overton Research and Extension Center to compare their performance to Coastal bermudagrass.

Six plants were transplanted in a single row down the middle of a 6 x 15 ft plot, 2.5 ft apart except for 'NK37' bermudagrass which was seeded. The low planting density was necessary because of the small amount of available planting material of some of the entries. Atrazine was applied at 1 lb/ac after transplanting for weed control. Plots were mowed several times to control weeds and fertilized throughout 1991 for a total of 160-60-100 of N, P, and K.

In 1992, Princep was applied at 1 lb/ac on 2 March and Grazon P+D at 1 qt/ac on 9 April for weed control. Initial fertilization was 80 lb/ac of N, P, and K on 17 April. Fifty lb of N were applied after each harvest and an additional 160 lb K during the growing season for a total of 330 N, 80 P, and 240 K.

Research Findings. 'Jiggs' bermudagrass was the only variety to reach an almost solid stand by October of the establishment year (Table 1). 'Brazos' and 'Grazor' bermudagrass also did well. Coastal did poorly compared to the other varieties except for 'World Feeder' which had only a 20% stand. Early and total forage production in 1992 was related to the amount of coverage achieved during 1991. Jiggs, which had the best stand, produced the most forage. World Feeder, Coastal, and Line 74x12-6 had the poorest stands and lowest yields. The moderate stand of NK37 in October, 1991 did not persist to 1992. It is common for stands of NK39 to last only a short period in this area.

Application. Forage production during the first harvest year was based on the percent stand of the different entries. All the new varieties other than World Feeder and Line 74X12-6 grew faster and covered quicker than Coastal. The winters of 1991-92 and 1992-93 were mild so differences in cold tolerance have not been observed. 'Tifton 78' and 'Tifton 85' are reported to have less cold tolerance than Coastal.

Table 1. Coverage of bermudagrass varieties at the end of the establishment year October, 1991 (0=no cover, 5=100% cover).

Jiggs	4.5	Tifton 44	2.0
Brazos	3.25	Tifton 78	2.0
Grazor	3.0	Overton bermuda	2.0
NK-37	2.75	Line 74x12-6	1.75
Tifton 85	2.25	Coastal	1.5
Line 16-12	2.25	World Feeder	1.0

Table 2. Forage production of bermudagrass cultivars at Overton 1992.

	Harvest Dates					
Variety	May 21	June 17	July 17	Aug 17	Sept 18	Total
	Dry matter yield (lb/A)					
Jiggs	2118 a†	2875 a	1993 a	4497 a	2356 a-c	13,839 a
Tifton 85	941 bc	2251 b	1591 bc	4178 ab	2641 a	11,602 b
Brazos	1220 b	2068 bc	1893 ab	3628 bc	2660 a	11,469 b
Overton	366 ef	1821 cd	1327 c	4616 a	1883 c-e	10,013 c
Grazor	670 cd	2212 b	876 de	3452 b-d	1356 e	8,566 d
Tifton 44	585 d	1626 d	1374 c	3359 c-e	1588 de	8,532 d
Tifton 78	552 d	1290 e	780 d-f	2861 de	2038 de	7,521 d
16-12	537 d	1035 ef	778 d-f	2639 ef	2458 ab	7,447 d
World Feeder	119 f	265 g	506 f	2807 d-f	2306 a-c	6,003 e
Coastal	199 ef	973 f	963 d	2097 f	1593 de	5,825 e
74x12-6	460 de	1051 ef	567 ef	2073 f	1537 de	5,688 e

†Values in a column followed by the same letter are not significantly different at the 0.05 level of Waller-Duncan Multiple Range Test.