FIELD DAY REPORT - 1996

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PERFORMANCE OF BERMUDAGRASS VARIETIES AT OVERTON - 1994

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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 soil, 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 Texas A&M University Agricultural Research and Extension Center at Overton to compare their performance to Coastal bermudagrass. Performance from 1991 to 1993 is reported in 'Forage Research in Texas 1995'.

Initial fertilization for the 1994 growing season was 100 lb/acre of N, P_2O_5 and K_2O on April 8. Seventy-five lb/acre of N and K_2O were applied after each harvest except the last for a season total of 400 lb N, 100 lb P_2O_5, and 400 lb K_2O per acre. Beginning on May 13, the study was harvested monthly for a total of six harvests. On March 23, 2 lb/acre of 2,4-D was applied for spring broadleaf weed control.

Research Findings. Three years after the establishment year there was no significant difference in annual yield among 'Overton', 'Brazos', Coastal, 'Tifton 78', Experimental line 74X12-6, 'Tifton 44', 'Tifton 85', and 'Jiggs' (Table 1). 'Worldfeeder' production was 2,000 to 3,000 lb/acre less and Experimental line 16-12 and 'Grazor' were the least productive. The shorter height of Grazor and Worldfeeder bermudagrasses caused them to be lower yielding but also more leafy. Leaves are more digestible than stems so Grazor and Worldfeeder bermudagrasses generally were higher protein and lower acid detergent fiber (ADF) than the other varieties. The first year after establishment (1992) Jiggs, Tifton 85, and Brazos were the most productive because of their faster rate of establishment. Brazos, Coastal, Tifton 78, Experimental line 74X12-6, and Tifton 85 had greater early forage production at the first harvest on 13 May. Overton and Experimental line 74X12-6 were the most productive in the fall at the last harvest.

Application. Except for Worldfeeder and Grazor, there were no differences in yield of available varieties on a deep, sandy soil in East Texas. Brazos and Jiggs bermudagrass are better adapted to loam and clay loam soils and therefore would probably be more productive than the other varieties on these soils. From the forage quality standpoint, Tifton 78 and 85 are more digestible than Coastal. However, they are also less cold tolerant than Coastal. Stand loss of these two varieties due to low winter temperatures may be reduced if they are not cut or grazed after October 1 to permit about 6 inches of regrowth before the first frost.

Table 1. Forage production of bermudagrass varieties at Overton, 1994.

Variety	May 13	June 8	July 11	Aug 10	Sept 12	Nov 1	Total
	Dry matter lb/acre						
Overton	1324 bc†	2700 abc	2167 ab	2353 ab	4025 abc	2037 a	14606 a
Brazos	2217 a	2988 a	1871 abc	2742 a	3608 abcd	1116 cd	14542 a
Coastal	2015 a	2865 ab	2425 a	2301 ab	3539 bcd	1140 cd	14284 a
Tifton 78	1794 ab	2786 abc	2047 abc	2284 ab	4183 ab	1154 bcd	14248 a
74x12-6	2153 a	2165 cd	1771 bc	2582 a	3385 cd	2108 a	14164 a
Tifton 44	1801 ab	2680 abc	2295 ab	2313 ab	3844 abcd	776 d	13709 a
Tifton 85	863 cde	2599 abc	2420 a	2205 ab	4275 a	1317 bc	13679 a
Jiggs	1131 cd	2508 abcd	1762 bc	2454 ab	3911 abcd	1586 b	13351 a
Worldfeeder	1375 bc	2673 abc	1054 d	1668 ab	3457 cd	1115 cd	11341 b
16-12	589 de	1885 d	1529 cd	2495 a	2225 e	1002 cd	9726 c
Grazor	468 e	2271 bcd	1046 d	1257 b	3287 d	1006 cd	9335 c

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