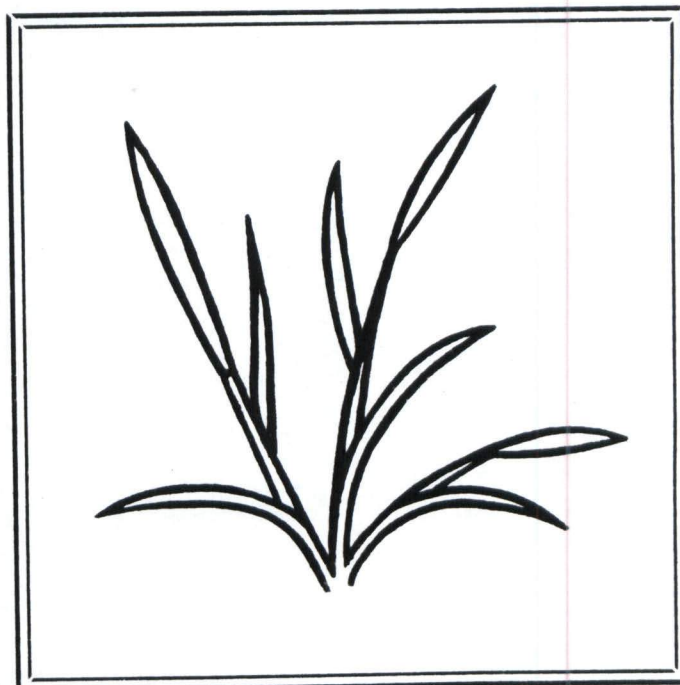
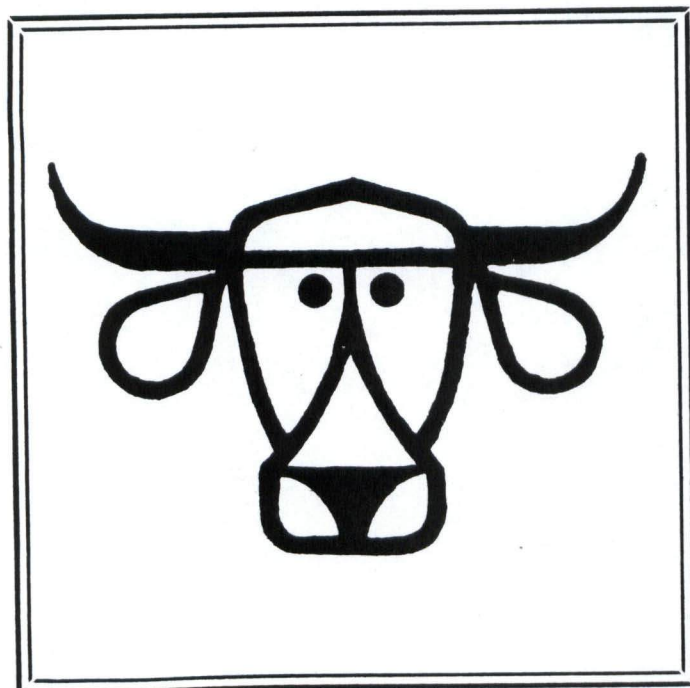
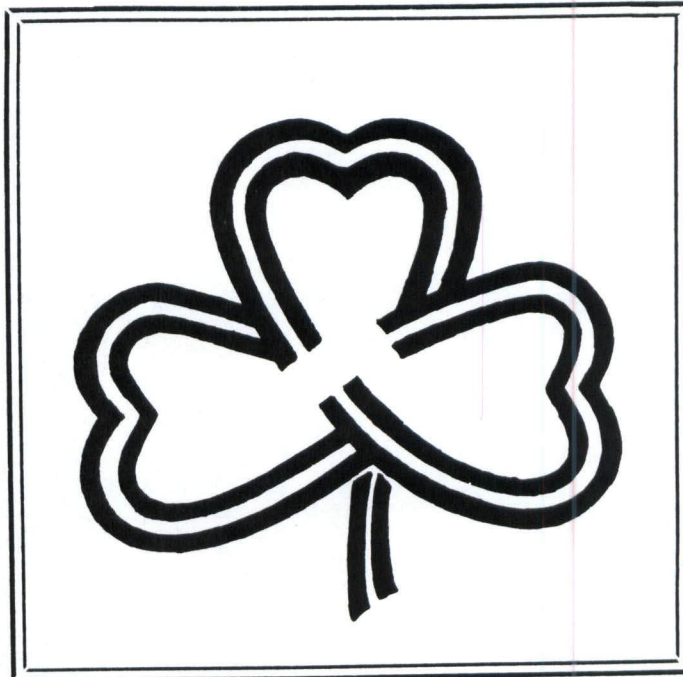


# **PUBLICATIONS**

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# Forage Research in Texas

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## Evaluation of Bermudagrass Selections with Mob Grazers

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### SUMMARY

Sixteen bermudagrasses were evaluated for regrowth potential and total dry matter production. Yields were taken by hand-clipping small areas within each plot, but plot defoliation was accomplished with cow-calf grazers. Plots were not mowed during the growing season. Total yields ranged from 10,024 to 17,044 lbs/acre. Selection B-7 produced more total dry matter forage than any of the other bermudagrasses. Coastal ranked third and Tifton 44 ranked thirteenth among those grasses tested.

### Introduction

Warm-season perennial grasses, primarily bermudagrasses, are the most widely used permanent pastures in the humid U.S. And, further, Coastal bermudagrass has been the most extensively planted hybrid bermudagrass in this area. Research has shown that significant improvements in forage quality may be made with hybrid bermudagrasses. However, before a new variety is chosen to replace Coastal, the variety should be consistent with Coastal's yield, vigor under grazing, disease resistance, winter survival, etc. Therefore, this trial was initiated to evaluate 14 new bermudagrass hybrids in addition to Coastal and Tifton 44.

### Procedure

Fourteen hybrids from Dr. Glenn Burton's bermudagrass breeding program (USDA, Tifton, Georgia), along with Coastal and Tifton 44 bermudagrass, were planted in 8' X 20' plots. The field design was a randomized complete block with four replications. Plots were established in 1981 and were not grazed nor clipped until the 1982 growing season. Two, one square foot, quadrats were hand-clipped from each plot when grass reached approximately 8 to 10 inches in height. These samples were used for dry matter yield and nutritive analyses. After harvesting each subplot to a 2" height, cows and calves were allowed to graze the entire area to defoliate each plot. Sufficient numbers of animals were used so that the plots were grazed to an approximate 1-inch height during a 2 to 3 day period. Animals were removed and plots were not defoliated until the next harvest period. Fertilizer was applied six times during the growing season for an annual rate of 580-100-100 lbs/ac, respectively, of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O. The high nitrogen rate was used to discourage spot grazing<sup>2</sup> due to defecation areas.

### Results and Discussion

Dry matter production for the eight harvests and the total seasonal harvest are presented in Table 1. Bermudagrass yields ranged

from 17,044 for B-7 to 10,024 lbs/ac for B-2. Coastal ranked third in production; whereas, 'Tifton 44' ranked thirteenth out of the sixteen entries. The use of cows and calves as "mob grazers" served as a useful method of evaluating the grasses under grazing pressure, and also as a means of cleaning off plots after yield samples had been taken. The value of shredding plots after grazing was not ascertained in this trial. Forage quality, vigor, and stand maintenance data are being collected to critically evaluate these potential bermudagrass varieties.

Introduction

Warm-season perennial grasses, primarily bermudagrasses, are the most widely used permanent pastures in the humid U.S. and, further, bermudagrass has been the most extensively planted hybrid bermudagrass in this area. Research has shown that significant improvements in forage quality may be made with hybrid bermudagrasses. However, before a new variety is chosen to replace Coastal, the variety should be consistent with Coastal's yield, vigor under grazing, disease resistance, winter survival, etc. Therefore, this trial was initiated to evaluate a few bermudagrass hybrids in addition to Coastal and Tifton 44.

Procedure

Fourteen hybrids from Dr. Glenn Burton's bermudagrass breeding program (CGDA, Tifton, Georgia), along with Coastal and Tifton 44 bermudagrasses, were planted in 8' x 20' plots. The field design was a randomized complete block with four replications. Plots were established in 1981 and were not grazed nor clipped until the 1982 growing season. Two, one square foot, quadrats were hand-clipped from each plot when grass reached approximately 8 to 10 inches in height. These samples were used for dry matter yield and nutritive analyses. After harvesting each sample to a 2" height, cows and calves were allowed to graze the entire area to defoliate each plot. Sufficient numbers of animals were used so that the plots were grazed to an approximate 1-inch height during a 1 to 3 day period. Animals were removed and plots were not defoliated until the next harvest period. Fertilizer was applied six times during the growing season for an annual rate of 280-100-100 lb/acre, respectively, of N-P-K-O. The high nitrogen rate was used to discourage spot grazing due to defoliation scars.

Results and Discussion

Dry matter production for the eight harvests and the total seasonal harvest are presented in Table 1. Bermudagrass yields ranged

Table 1. Dry matter production of sixteen bermudagrasses.

SELECTION	5-5	5-27	6-15	6-30	7-20	8-10	9-7	10-17	TOTAL
	----- (lbs/ac) -----								
B-7	3136	1133	2458	1328	3024	2474	1261	2230	17044 a <sup>1</sup>
B-9	2240	858	2220	1491	3443	2525	912	2336	16025 b
Coastal	1792	1050	2842	1488	2848	2723	1232	1453	15428 c
B-13	2688	1120	2339	1315	2989	2202	1469	1216	15338 c
B-14	2272	1078	2166	1574	3024	2285	1114	1664	15177 c
B-12	2464	1174	2506	1341	2610	2093	918	1322	14428 d
B-4	2496	784	2291	1174	2295	2531	1021	1738	14330 d
B-11	1568	1008	2480	1370	2797	2202	810	1443	13688 e
B-3	2656	970	1603	1238	2650	1792	1187	1562	13658 ef
B-5	2304	1072	2115	1309	2470	2051	557	1491	13369 f
B-10	1824	807	1866	1305	2243	1402	1510	1033	11990 g
B-6	2080	893	1994	1062	1837	1610	643	1728	11847 g
Tifton 44	2240	1117	1498	1184	2406	1731	874	755	11805 g
B-1	1194	960	1696	1123	1767	1546	1264	1536	11086 h
B-8	1600	1001	1552	1078	2029	1693	813	362	10128 h
B-2	2048	765	1110	935	1715	1450	727	1274	10024 h

<sup>1</sup> Means in the same column with different superscripts differ (P<.05) according to Duncan's Multiple Range Test.