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GROWTH AND REPRODUCTION OF BRAHMAN, ANGUS X BRAHMAN, AND TULI X BRAHMAN YEARLING HEIFERS ON PASTURE

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Background. Semen from Tuli cattle, an African Sanga breed, was imported into the U.S. from Australia in 1991. One of several dam genotypes used in the original U.S. matings was the Brahman located at TAMU-Overton. Although the Tuli and Brahman are well known for adaptation to harsh or stressful, tropical environments, this experiment was conducted to ascertain growth and reproductive performance of Brahman (BRM), Tuli x Brahman (TxB), and Angus x Brahman (AxB) heifers under grazing conditions in East Texas.

Research Findings. Heifers with Brahman dams and three sire breed types born in the spring of 1993 were weaned at 205 days at 431, 394, and 355 lbs, respectively, for AxB, TxB, and BRM (Table 1). From weaning until December 17, 1993, all heifers grazed bermudagrass as a common group and received pasture and hay plus 3 lb/hd/day of a 1:1 (soybean meal:corn) ration from weaning. No supplemental feed was offered after mid-December, and heifers grazed Elbon rye-wheat-TAM 90 ryegrass from December 17, 1993 to mid-May 1994, and bermudagrass thereafter through the breeding season. At initiation of the 42-day breeding season on May 20, 1994, weight of AxB heifers was 800 lbs, TxB heifers was 663, and BRM heifers was 605 lbs. At termination of breeding on July 1, 1994, respective weights for AxB, TxB, and BRM were 855, 710, and 657 lbs. A cumulative growth curve is shown in Figure 1 for these three tropical breed types. The growth rate differences among breed types for these three heifer groups were similar to that of steers grazed on winter pasture during the same time. The AxB heifers had an increasingly more rapid growth rate with time compared to TxB and BRM. Overall, the AxB heifers gained at least .5 lb/day more than either TxB or BRM. Resultant pregnancy rates for these heifers were 95% for BxA, 27% for TxB, and 11% for BRM.

Application. From this preliminary, one-year data set, it appears that the rapid growth rate and overall body weight of the AxB heifers allowed for excellent breeding performance during a 42-day breeding season. However, the growth and reproduction rates of the TxB heifers were more similar to the BRM heifers which have been shown to have slower growth rates and delayed onset of puberty. Additional experiments with upgraded Tuli crossbred cattle will document their contribution to commercial beef production in the U.S.

Table 1. Performance of Angus x Brahman (AxB), Tuli x Brahman (TxB), and Brahman (BRM) heifers from weaning through breeding at Overton.

ITEM	AxB	TxB	BRM
Number	19	15	18
WEIGHT ¹	-----lbs-----		
At weaning, Fall '93	431	394	355
5-20-94	800	663	605
7-1-94	855	710	657
AVERAGE DAILY GAIN	-----lb/day-----		
11-17 to 12-17-93	-.61	-.37	-.24
1-21 to 4-29-94	2.24	1.79	1.65
4-29 to 5-20-94	1.48	1.67	1.33
5-20 to 7-1-94	1.31	1.12	1.31
12-17 to 5-20	2.12	1.56	1.44
12-17 to 7-1	1.78	1.33	1.27
PREGNANCY, %	95	33	11

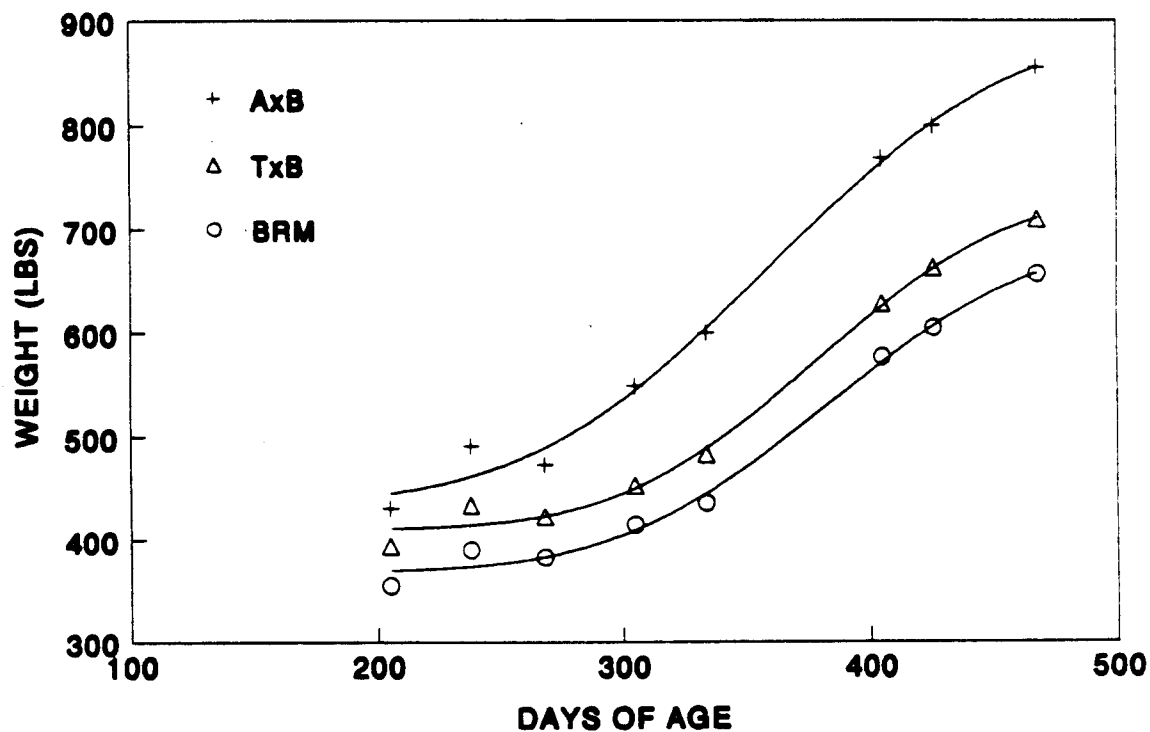


Fig. 1. Growth of Angus x Brahman (AxB), Tuli x Brahman (TxB), and Brahman (BRM) heifers from weaning through breeding.