

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

All Programs and information of the Texas Agricultural Experiment Station and Texas Agricultural Extension Service are available to everyone without regard to race, color, religion, sex, age, or national origin.

Mention of trademark of a proprietary product does not constitute a guarantee or a warranty of the product by the Texas Agricultural Experiment Station or Texas Agricultural Extension Service and does not imply its approval to the exclusion of other products that also may be suitable.

COMPARISON OF GROWTH TRAITS OF BRAHMAN, ANGUS X BRAHMAN AND TULI X BRAHMAN HEIFERS

M. L. Carpena, A. Rocha, D. A. Neuendorff and R. D. Randel

Background. *Bos indicus* cattle (Brahman, Nelore, Gyr, Indubrasil, Guzerat, etc.) have been used worldwide for beef production. Tropical and subtropical areas of the world must rely on the *Bos indicus* genotypes for beef production due to their tolerance to heat and humidity, resistance to external and internal parasites and their ability to utilize high fiber forages. However, *Bos indicus* reproductive performance when compared to *Bos taurus* breeds is generally lower. Some reproductive characteristics of *Bos indicus* cattle are: puberty is reached at an older age, they are more seasonal in breeding, have shorter standing estrus, release less luteinizing hormone and the corpus luteum is smaller and produces less progesterone than in *Bos taurus* breeds. Crossing the *Bos indicus* with *Bos taurus* breeds has been shown to produce outstanding result. The Tuli is an African breed which is primarily *Bos taurus* and is adapted to subtropical environments. The objectives of this experiment were to compare growth traits of Brahman, Angus x Brahman and Tuli x Brahman heifers.

Research Findings. Sixty-two spring born heifers of the following genotypes were used: Angus x Brahman (Abh; n=18), Brahman x Brahman (BhBh; n=22) and Tuli x Brahman (TBh; n=22). Heifers were kept under the same conditions throughout the preweaning period. After weaning they were maintained as a single group with water, minerals and Coastal bermudagrass hay available free choice. Heifers were fed a concentrate at 1% of the average live weight containing 83.5% corn and 16.5% soybean meal. The amount fed was readjusted every 28 days. Weights were recorded at birth, weaning (205 days) and at 28-day intervals thereafter. Body condition scores were recorded at weaning and at 28-day intervals thereafter. The 120 day period from weaning to 325 days of age was during the cold season.

Table 1. Mean weights and body condition scores.

Genotype	Birth wt. (lb)	Weaning wt. (lb)	Wt. at days (lb)	120 day ADG (lb)	Body Condition Scores	
					Weaning	325 days
ABh	65.2±1.9	461.6±13.3	590.7±16.6	1.05±0.07	6.1 ±0.16	6.09±0.13
BhBh	60.6±1.8	420.6±12.3	473.0±15.3	0.44±0.06	6.0 ±0.15	5.41±0.12
TBh	62.5± 1.7	426.4±12.0	498.2±15.0	0.60±0.06	6.32±0.14	5.65±0.12

Birth weights were similar for the three genotypes. Angus x Brahman heifers had a greater weaning weight than BhBh or TBh ($P<0.05$). Angus x Brahman heifers also had a greater body weight at 325 days of age and greater ADG than BhBh or TBh ($P<0.01$). Body condition score at weaning did not differ among the three genotypes, but ABh were able to maintain a higher body condition score throughout the 120 day postweaning period.

Application. The current findings of this study indicate that the Angus x Brahman crossbreds have heavier weaning weights, greater ADG and body condition for the 120 day postweaning period than Brahman or Tuli x Brahman heifers. As the Brahman and Tuli x Brahman are tropically adapted breeds they would be expected to have lower performance during the cold months but further evaluation needs to be done during the warmer months.