



# Tropically Adapted Beef Cattle: Reproduction of First-Calf Females on South Texas Rangeland

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## BOTTOM LINE

Tuli X Angus first-calf heifers weaned the most weight of calf per cow exposed as the result of advantages in reproductive rate over the Brahman X Angus and in ease of calving over the Senepol X Angus.

### Summary

- The later maturing Brahman X Angus had lower reproductive performance than the earlier maturing Senepol X Angus and Tuli X Angus.
- Senepol X Angus had greater calf attrition and thus lower percent calf crop weaned than Tuli X Angus.
- Because of the cumulative success of the Tuli X Angus in reproductive success and calf survival success, they were the most efficient first-calf females.

may have low efficiency as compared to earlier maturing females.

### Introduction

An efficient brood cow must not only wean a heavy calf, she must also be an "easy keeper". That is, she must reproduce and have little calving difficulty. It is possible for a female to be ill-adapted to an environment and yet wean a heavy calf crop on the average. Their low level of adaptation is often evidenced in low reproductive performance and a high level of attrition due to susceptibility to accidents. The purpose of this experiment was to evaluate the reproductive performance of tropically adapted crossbred heifers bred to calve first at 2 yr of age. The tropically adapted crossbred females were produced by breeding American Brahman, Senepol (from St. Croix), and Tuli (from Zimbabwe) to Angus cows.

### Experimental Approach

Two-hundred-forty-two records were taken on postweaning growth of Brahman X Angus, Senepol X Angus and Tuli X Angus F1 heifers over 4 yr. Heifers were managed in one herd from weaning until the anniversary of their weaning date on south Texas brushlands dominated by an overstory of mesquite and acacia species with an understory of grasses that included curly mesquite, buffalograss, pink pappas, bristleggrass, threeawn and red grama. Females were weighed, condition scored, and frame scored

Successful beef production in harsh environments involves selection of germplasm that will reproduce and be resistant to accident (having low attrition

in the spring at the beginning of the breeding season (Mar) when they were yearlings, and in the fall (Oct, Nov). Females received about 2 lb/d of cottonseed cake for about 60 d each winter along with trace mineral salt *ad lib*.

### Results

Although Brahman X Angus weaned heavier calves than Senepol X Angus and Tuli X Angus females, they were also later maturing (higher frame sizes). Thus, they experienced lower reproductive rates, and this resulted in a lower percent calf crop born and weaned (Table 1). Although Senepol X Angus heifers had similar reproductive rates to Tuli X Angus, they had more calving difficulty (larger calf birth weights), resulting in a lower percent calf crop weaned. Thus the Tuli X Angus females weaned a higher percentage and, as a result, weaned more calf weight per cow exposed than the other females. When this advantage was combined with their relatively small female weights in the efficiency calculation, they were found to be the most efficient females studied, weaning about 25% more calf weight/100 lb cow exposed.

### Conclusions and Implications

Late maturing females may wean heavy calves but often fail to reproduce or otherwise wean a live calf under range conditions and thus

levels), and these traits may be counter to the ability to wean heavy calves.

Table 1. Reproductive Performance of F1 Females

Item	Brahman X Angus	Senepol X Angus	Tuli X Angus
Percent Pregnant <sup>a</sup>	62	75	76
Percent Born <sup>b</sup>	59	69	73
Percent Weaned <sup>c</sup>	48	50	63
Weight Weaned Per Cow Exposed, lb	193	171	222
Efficiency,lb calf/100 lb cow	25.87	25.67	32.93

<sup>a</sup> Percent of females exposed to a bull that were palpated pregnant in the fall.

<sup>b</sup> Percent of females exposed that calved.

<sup>c</sup> Percent of females exposed that weaned a calf.