

# **FIELD DAY REPORT - 1996**

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## GRAZING BEHAVIOR OF BRAHMAN, ANGUS, ANGUS X BRAHMAN, TULI X ANGUS, AND TULI X BRAHMAN HEIFERS AT TWO ENVIRONMENTS

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**Background.** Grazing behavior is a direct indication of animal performance. Cattle have different foraging characteristics that may be attributable to various forage, climatic, and genotype interactions. In an effort to assess the behavior of an array of selected beef genotypes, Angus (ANG), Brahman (BRM), Angus x Brahman (AxB), Brahman x Angus (BxA), Tuli x Angus (TxA), and Tuli x Brahman (TxB) heifers were fitted with vibracorders and visually monitored at 5-minute intervals. Visual recordings were made from dawn until dark; whereas, the clock-driven vibracorders monitored grazing behavior during a continuous 24-hour period. Grazing behavior was recorded during late July to mid August for ANG, BRM, AxB, and TxB in East Texas (Overton) and for ANG, BRM, BxA, and TxA in Southwest Texas (Uvalde).

**Research Findings.** On bermudagrass pastures in East Texas, BRM and TxB heifers grazed the longest overall and restricted their grazing primarily to the daylight hours. The ANG grazed longer than the other breeds during the hours of darkness, when it was somewhat cooler, but overall, ANG had fewer grazing bouts than the other breeds ( $P < .04$ ) (Fig. 1). There was no day x breed interaction which implied that all breeds responded to differences in ambient temperature and humidity between days in a similar manner. The time spent resting in the shade during the day differed between breeds ( $P < 0.004$ ) and between days ( $P < 0.0001$ ), but there was no day x breed interaction. Obviously, for the ANG the loss of grazing time caused by the time spent in the shade was not compensated for by night-time grazing.

On the kleingrass, rangeland area of Southwest Texas, there were no significant differences in total grazing time for ANG, BxA, BRM, or TxA heifers (Table 1). There was no significant difference between breeds in total grazing time, night-time grazing time and the number of grazing bouts. The effect of day was significant ( $P < .05$ ) for total grazing time, but not ( $P > .1$ ) for night-time grazing or the number of grazing bouts. The breed x day interaction was not significant ( $P > .05$ ) for total grazing time, and number of grazing bouts, but was for night-time grazing ( $P < .03$ ). Differences between breeds in water consumption were not significant.

**Application.** Grazing behavioral differences among breed types confirmed the adaptation of Brahman influenced genotypes for both semi-arid rangeland and humid pasture conditions. The Tuli crossbred heifers had grazing activities more similar to Brahman heifers when grazing bermudagrass pastures in East Texas. These initial data suggest that Tuli crossbred cattle are

adaptive to foraging conditions unique to the southern U.S.

Table 1. Grazing behavior of Angus (ANG), Brahman x Angus (BxA), Brahman (BRM), and Tuli x Angus (TxA) heifers at Uvalde.

| Item <sup>1</sup> | BREED |     |     |     | SEM  |
|-------------------|-------|-----|-----|-----|------|
|                   | ANG   | BxA | BRM | TxA |      |
| GRZTOT (min)      | 532   | 630 | 530 | 559 | 18.0 |
| GRZNIT (min)      | 108   | 100 | 100 | 80  | 11.2 |
| GRZBOT            | 5.1   | 4.9 | 4.9 | 3.6 | 0.31 |
| WATER (L/day)     | 36    | 34  | 33  | 39  | 0.96 |

<sup>1</sup>GRZTOT = Total grazing time; GRZNIT = night-time grazing time; GRZBOT = number of grazing bouts; WATER (L/head/day) = water consumption.

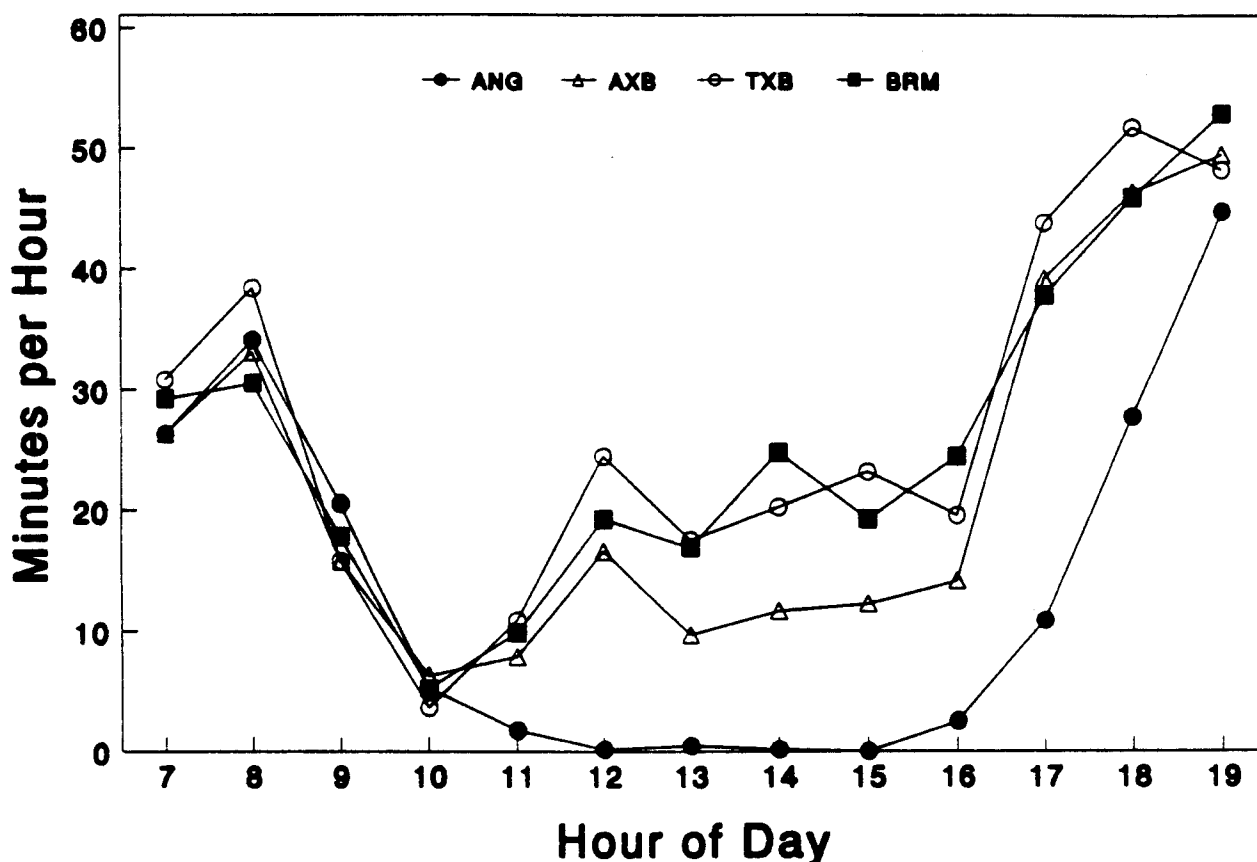


Figure 1. Time spent grazing during a 24-hr period for Angus (ANG), Angus x Brahman (AxB), Tuli x Brahman (TxB), and Brahman (BRM) heifers.