

second backcross calves from $\frac{3}{4}$ - $\frac{1}{4}$ dams, and 5% for $\frac{7}{8}$ - $\frac{1}{8}$ calves from $\frac{3}{4}$ - $\frac{1}{4}$ dams. Level of hybrid vigor observed in different mating groups for all production traits was approximately linear with breed heterozygosity (11).

Higher production was not restricted to crossbred cows of specific breeding but also included cows with Brahman breeding regardless of the other composition. Peacock *et al.* (13) showed that commercial cows with $\frac{1}{2}$ Brahman breeding weaned calves that were heavier than calves from cows with either more or less than $\frac{1}{2}$ Brahman.

Post Weaning Performance

Research at Belle Glade (6) on feedlot performance and carcass characteristics of Angus, Brahman, Hereford, and crisscrosses of the breeds showed the Angus to grade highest, Brahman lowest, and the crosses intermediate.

Research at the Ona Center with Brahman and Shorthorn-Brahman crosses (13) showed that feed efficiency for weight gain was positively related to percent Brahman breeding, while carcass grade was positively related with Shorthorn breeding. Results from a recent study (18) on the Shorthorn and Brahman breeds from a crossbreeding design that produced reciprocal F_1 calves, reciprocal backcross calves (S_3B_1 and B_3S_1), and reciprocal second backcross calves (B_3S_3 and S_3B_3), showed similar trends for both feed efficiency and carcass grade.

MATERIALS AND METHODS

Breed groups including Angus, Brahman, Charolais, and reciprocal F_1 Brahman x Angus and Brahman x Charolais were evaluated for reproduction, production traits, and postweaning performance.

The Center is located at latitude 27°25' north, longitude 81°55' west on a low-fertility sandy soil. Average rainfall is 54 inches with 75% falling from May to October. The climate is semi-tropical with temperate intrusions in the winter. These intrusions are characterized by repeated frosts with temperatures at 28° to 34°F with lower temperatures occurring at less frequent intervals.

Herds were maintained on improved grass pastures, mostly Pangola digitgrass (*Digitaria decumbens.*), moderately fertilized, and the cattle were supplemented with 5 pounds of either molasses or citrus pulp - cottonseed meal (4:1 ratio) per head per day for approximately 90 days during late winter and early spring.