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FEEDLOT AND CARCASS TRAITS OF BONSMARA, ANGUS, AND BRAHMAN STEERS

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Background. Bonsmara cattle, a composite of Africander x Shorthorn x Hereford, have been recently introduced into the United States from South Africa with a limited number of grazing-feeding trials conducted on half blood animals, but none with purebreds in the United States. To document performance from weaning to harvest, Bonsmara (BON) (n = 10), BON x Angus (BOA) (n = 9), Angus (ANG) (n = 8), and Brahman (BRM) (n = 10) steers grazed 'TAM 90' annual ryegrass (*Lolium multiflorum*) and 'Maton' rye (*Secale cereale*) from January 4 to May 16, 2002 at TAMU-Overton. At termination of grazing, steers were assigned to pens (n = 8) by breed type and weight with 4 to 5 animals per pen at the Texas Tech University (TTU) Alltech research feedlot on May 22, 2002. Animals were shipped to a commercial packing facility in Plainview, Texas when they reached approximately 0.4-inch of backfat and carcass data was collected by TTU personnel. Weight gain and feed intake were measured at 28 d intervals throughout the finishing period.

Research Findings. The BON, BOA, and ANG steers had similar ADG during the grazing period (2.0, 1.9, and 2.0 lbs/d; $P > 0.05$); whereas BRM had lower ADG (1.7 lbs/d; $P < 0.05$) during the grazing period than BON and ANG (Table 1). The BON and BRM steers entered the feedlot at lighter weights than ANG steers (644 and 628 vs. 792 lbs, respectively; $P < 0.10$). Feedlot ADG for BON steers (3.6 lbs/d) was lower than ANG steers (4.1 lbs/d; $P = 0.02$), lower than BOA steers (3.9 lbs/d; $P = 0.08$), and greater than BRM steers (2.8 lbs/d; $P = 0.01$). Final feedlot weights of steers were similar among the BON, BOA, ANG, and BRM steers (1111, 1127, 1166, and 1076 lbs, respectively). Feed to gain ratios were similar among the four breed types. Also, adjusted fat thickness, kidney pelvic heart fat, and yield grades were similar among the four breed types (Table 2). Hot carcass weights for the BON steers were similar to the BOA, ANG, and BRM steers (659 vs. 672, 692, and 652 lbs). The BON steers had rib eye areas similar to the BOA, ANG, and BRM steers (12.4 vs. 12.1, 12.7, and 11.7 in^2, respectively). Marbling scores among the BON steers were similar to the BOA and BRM steers (380 vs. 346 and 352, respectively) and lower that the ANG steers (413; $P = 0.06$). This first U. S. grazing-feedlot study with a limited number of BON steers suggested that they were intermediate in feedlot performance and carcass quality to ANG and BRM steers.

Application. The results of this one year study indicated that the grazing and feedlot performance and carcass traits of Bonsmara cattle are within the scope of the current U.S. beef

industry setting. Bonsmara cattle were imported from the hot temperate climate of South Africa and additional trials need to be conducted in the hot humid climate of the Southern U.S. to determine their adaptability to the region. Additional trials with a greater number of cattle should be conducted in the future to validate the current study.

Table 1. Effect of breed type on feedlot traits.

Breed Type	Grazing Period ADG	Initial Feedlot Weight	Final Feedlot Weight	Feedlot ADG	Days on Feed	Feed:Gain	Cost of Gain
	(lb/d)	(lbs)	(lbs)	(lb/d)		(lb)	($/lb)
Bonsmara	2.0a[1]	644ab[2]	1111	3.6a[2]	131a[1]	6.7	0.41ab[1]
Bonsmara x Angus	1.9ab	772bc	1127	3.9b	91b	6.5	0.40a
Angus	2.0a	792c	1166	4.1b	91b	6.7	0.40a
Brahman	1.7b	628a	1076	2.8c	159c	7.0	0.45b

[1]Means within a column lacking common superscripts differ ($P < 0.05$).
[2]Means within a column lacking common superscripts differ ($P < 0.10$).

Table 2. Effect of breed type on carcass traits.

Breed Type	Hot Carcass Weight	Marbling Score	Ribeye Area	Adjusted Fat Thickness	Est. KPH[1]	Yield Grade
	(lbs)		(in^2)	(in)	(%)	
Bonsmara	659ab[2]	380a[2,4]	12.4ab[3]	0.46	2.3	2.7
Bonsmara x Angus	672ab	346a	12.1ab	0.42	2.4	2.8
Angus	692a	413b	12.7a	0.48	2.4	2.8
Brahman	652b	352a	11.7b	0.38	2.3	2.7

[1]Kidney, pelvic, heart fat
[2]Means within a column lacking common superscripts differ ($P < 0.10$).
[3]Means within a column lacking common superscripts differ ($P < 0.05$).
[4]300-349 = Select-, 350-399 = Select+, 400-499 = Choice-