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CONTINUOUS, 8-PADDOCK, AND 16-PADDOCK GRAZING AT TWO STOCKING RATES WITH DIFFERENT BREED TYPES

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Background. This cooperative grazing experiment between TAMU-Overton (OVT) and TAMU-McGregor (MCG) evaluated growth rate of various breed types under two stocking rates (SR) imposed on each of three stocking methods (SM). Grazing of 'Maton rye' and 'Tam-90' ryegrass at two SR began in early February and concluded May 22, 2000, and SM was either continuous (CONT); 8-paddock (8-PAD) rotation with about a 2-day residence and 14-day rest; or 16-paddock (16-PAD) rotation with a 1-day residence and 15-day rest. Low (LO) SR pastures were stocked at 1.65 hd/ac and high (HI) SR pastures were stocked at 3.2 hd/ac. Breed types included half-*indicus* (1/2 IND) steers from MCG; Angus x (Angus x Brahman) [AAB] and Angus x (Hereford x Brahman) [AHB] steers and heifers from OVT; and 100% Brahman (BRM) steers from OVT. Cattle were stratified by breedtype, origin, and sex into pasture treatment groups and then randomly assigned to two replicate pastures of each SR and SM. At initiation of grazing, cattle weighed 625 lbs (1/2 IND), 650 lbs (AAB and AHB steers), 625 lbs (AAB and AHB heifers), and 510 lbs (BRM).

Research Findings. The AAB and AHB steers had higher ADG than other breed types on each grazing treatment (Table 1). The ADG on LO CONT was identical at 2.2 lbs/da for the 1/2 IND, BRM, and OVT heifers. Stocking method at LO SR had little impact on 1/2 IND and OVT heifers, however, BRM had reduced ADG of 1.77 lbs/day on the 16-PAD system. At HI SR, 1/2 IND steers had the lowest ADG on each SM. Selected comparisons of SR and SM were made for the combined ADG of OVT and MCG steers, for BRM steers, and for OVT heifers (Table 2). An overall analyses showed that ADG from CONT (2.09 lbs/da) was higher than ADG from ROTN (1.59 lbs/da). And, across SM and breed types, ADG from LO SR (2.42 lbs/da) was greater than ADG (1.39 lbs/da) from HI SR. Selected comparisons for various breed types on SR and SM treatments showed that the 1/2 IND steers and AAB and AHB steers had higher ($P < .05$) ADG on CONT stocked pastures, and higher ADG on 8-PAD compared to 16-PAD. The BRM and OVT heifers had higher gains on CONT vs ROTN. At both the LO and HI SR, only BRM showed no difference in CONT vs ROTN; however, AAB and AHB steers and heifers, and 1/2 IND all had higher ADG on CONT compared to ROTN. On both SR, breed type did not affect heifer ADG; however, the AAB and AHB steers had higher ADG than 1/2 IND (Table 3).

Application. Continuous stocking of rye-ryegrass during this experiment (year) resulted in higher ADG than either rotational stocking method. A 16-PAD system did not improve

stocker performance over that of an 8-PAD system. Breed type of calf was important in this experiment with the AAB and AHB steers having higher ADG than 1/2 IND or BRM.

Table 1. Average Daily Gain of Breed Types of calves when stocked continuous (CONT), 8-paddock rotational (8-PAD), or 16-paddock rotational (16-PAD).

BREED ¹ TYPE ORIGIN AND SEX					
Stocking Rate	Stocking Method	OVT-M	MCG-M	BRM-M	OVT-F
		25B	1/2 IND	100B	25B
----- lbs / day -----					
LOW	CONT	2.88	2.20	2.19	2.25
LOW	8-PAD	2.77	1.93	2.07	2.37
LOW	16-PAD	2.46	2.23	1.77	2.04
HIGH	CONT	1.94	1.30	1.54	1.66
HIGH	8-PAD	1.52	0.87	1.17	1.33
HIGH	16-PAD	1.20	0.55	1.40	1.14

¹Breed Types were 25% Brahman (OVT), 50% *indicus* (MCG) and 100% Brahman (BRM), and sex M=steer, F=heifer.

Table 2. Selected comparisons of average daily gain (ADG) for stocking rate and stocking method for Calf Origin, Sex of Calf, and Breed Types.

COMPARISONS	ORIGIN ¹ , BREED TYPE, SEX		
	OVT-M MCG-M	BRM-M	OVT-F
----- ADG (lbs/da) -----			
STOCKING RATE			
LOW	2.42 a ²	2.09 a	2.12 a
HIGH	1.39 b	1.36 b	1.39 b
STOCKING METHOD			
CONT	2.09 a	1.86 a	1.94 a
8-PAD	1.64 b	1.59 b	1.55 b
16-PAD	1.50 c	1.52 b	1.50 b
LOW STOCKING RATE			
CONT	2.56 a	2.19 a	2.25 a
ROTN	2.29 b	1.90 a	2.04 b
HIGH STOCKING RATE			
CONT	1.71 a	1.54 a	1.70 a
ROTN	1.19 b	1.25 a	1.23 b

¹Origin was 25% Brahman (OVT), 50% *indicus* (MCG), and 100% Brahman (BRM).

²Means in a column for a specific stocking rate followed by a different letter, differ at P<.05.

Table 3. Selected comparisons of gain among breed types for low and high stocking rates.

STOCKING RATE	SEX	BREED TYPES ¹ AND SEX		
		AAB	AHB	1/2 IND
----- ADG (lbs/da) -----				
LOW	M	2.69 a ²	2.58 a	2.12 b
LOW	F	2.20 a	2.05 a	--
HIGH	M	1.58 a	1.64 a	1.09 b
HIGH	F	1.56 a	1.24 a	--

¹Breed Types AAB=Angus x (Angus x Brahman); AHB=Angus x (Hereford x Brahman); 1/2 Ind = 50% *indicus*.

²Means in a stocking rate row followed by a different letter, differ at P(<.05).