

COW-CALF PERFORMANCE FROM 'APACHE' ARROWLEAF CLOVER OVERSEEDED ON BERMUDAGRASS AND GRAZED AT THREE STOCKING RATES

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Background. Common (COM) and 'Coastal' (COS) bermudagrass pastures which are components of a long-term nutrient cycling experiment were oversown with 'Apache' arrowleaf clover and grazed with cow-calf pairs at three stocking rates. Pastures were lightly disked and Apache was drilled at 9 lbs/ac on Oct. 22. On Nov. 20, all pastures were fertilized with 650 lbs/ac of 0-18-18 that contained 8% sulfur, 4.25% magnesium, and 0.19% boron for a plant food nutrient total of 0-117-117-52S-28Mg-1.24B. Using 2004 spread fertilizer prices, and costs of about \$235/ton, this single application would have cost about \$ 76/ac. Angus x Brahman (AxB) cows and their fall-born, Simmental-sired calves (SIMX) grazed COM and COS at three stocking rates from Mar. 6 to June 13 (99 days). Stocking was continuous from March to June with minerals available in all pastures. On average, the grazing initiation date was about 2 weeks later than normal. All SIMX calves were double-implanted pre-weaning with Ralgro. Calf ADG is an average of steers and heifers.

Research Findings. The SIMX calf ADG ranged from 1.53 to 3.31 lbs/da on high (HI) to low (LO) stocked COM-Apache pastures, and from 2.02 to 3.79 lbs/da on HI to LO stocked COS-Apache pastures (Table 1). Corresponding AxB cow performance during this 99-day period was -1.45, 0.71, and 1.49 lbs/da, respectively, from HI, Medium (ME), and LO stocked COM-Apache; and -0.16, 0.66, and 1.74 lbs/da, respectively, from HI, ME, and LO stocked COS-Apache pastures. Stocking rates are depicted as either 1000 lbs = one animal-unit (AU) or 1500 lbs = one cow-calf unit (Table 1). Using the 1500-lb cow-calf unit definition, calf gain per acre ranged from about 300 lbs/ac on LO stocked COM pastures to about 480 lbs/ac on ME stocked COS pastures. The ME stocking rates resulted in maximum calf gain/ac on both COM and COS pastures. However, with the dramatic differences between ADG for HI vs. LO stocking rates, the LO stocked pastures resulted in very acceptable calf gain per acre and with substantially lowered risk related to reliable forage DM. Steer and heifer growth on individual pasture treatments are shown in Figure 1. Calves on HI stocked pastures weaned at 665 to 700 lbs; whereas calves on LO stocked pastures weaned at 815 to 890 lbs. each.

Application. Apache arrowleaf clover overseeded on bermudagrass pastures was a viable management option to lengthen the grazing period and provide highly nutritious forage. Maximum weaning weights of fall-born calves were produced at the LO stocking rates where both cow and calf had *ad libitum* DM available and opportunity to selectively graze. The loss in

weight by lactating cows on HI stocking rates was not deemed to be a management problem since cows were bred prior to initiation of stocking treatments, and cows were dry during the summer months with adequate time to regain appropriate body condition prior to calving. Fertilizer cost/lb gain ranged from \$ 0.2492 for LO stocked COM to \$ 0.1593 for ME stocked COS.

Table 1. Cow-calf performance from 'Apache' arrowleaf clover overseeded on common (COM) or Coastal (COS) bermudagrass and grazed at three stocking rates (STK RTE).

PASTURE	STK RTE	ADG			STOCKING RATE ¹		CALF GAIN/ AC ¹	
		COW	CALF	GAIN/CALF	1000 lb An-unit	1500 lb Cw-Clf	1000 lb An-unit	1500 lb Cw-Clf
		---- (lbs/da) ----		(lbs)	----- hd / ac -----		----- lbs / ac -----	
COM	H	-1.45	1.53	151	3.35	2.23	506	337
COM	M	0.71	2.86	283	2.36	1.57	668	444
COM	L	1.49	3.31	328	1.40	0.93	459	305
COS	H	-.16	2.02	200	3.12	2.08	624	416
COS	M	.66	2.94	291	2.46	1.64	716	477
COS	L	1.74	3.79	375	1.55	1.03	581	386

¹Stocking rates shown as either 1000 lbs = 1 animal-unit or 1500 lbs = 1 cow-calf unit.

Figure 1. Suckling calf body weight change during grazing of 'Apache' arrowleaf clover overseeded on two bermudagrass and grazed at three stocking rates.

