

# Kansas Agricultural Experiment Station Research Reports

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Volume 0  
Issue 1 *Cattleman's Day (1993-2014)*

Article 1149

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1982

## Stocking rate and supplementation for steers grazing intensively on early-stocked bluestem pasture

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### Recommended Citation

Held, R.; Smith, E.F.; Riley, Jack G.; and Owensby, Clenton E. (1982) "Stocking rate and supplementation for steers grazing intensively on early-stocked bluestem pasture," *Kansas Agricultural Experiment Station Research Reports*: Vol. 0: Iss. 1. <https://doi.org/10.4148/2378-5977.2552>

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## Stocking rate and supplementation for steers grazing intensively on early-stocked bluestem pasture

### Abstract

Native bluestem pastures were grazed by 520-lb steers from April 30 to July 14 at stocking rates of 1.7, 1.3 and 1.1 acres per steer. Daily gain of the steers was about the same for the two heavier stocking rates, but was slightly lower for the lightest rate (1.7 acres/steer). The gain per acre increased with each increase in stocking rate. Half of the steers were self-fed a salt-limited sorghum grain-rumensin mixture. Each steer consuming approximately 1.5 pounds per day of this mixture gained about a half a pound more per day ( $P < .05$ ) than did each steer not fed the supplement (1.77 vs 1.27 lbs.). Gain per acre was increased by 33 lbs. with the supplementation.

### Keywords

Cattlemen's Day, 1982; Report of progress (Kansas State University. Agricultural Experiment Station); 413; Beef; Stocking rate; Steers; Bluestem pasture

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**K****S****U**  
Stocking Rate and Supplementation for Steers  
Grazing Intensively on Early-stocked Bluestem PastureRosalie Held, Jack Riley, C.E. Owensby and E.F. Smith

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Summary

Native bluestem pastures were grazed by 520-lb steers from April 30 to July 14 at stocking rates of 1.7, 1.3 and 1.1 acres per steer. Daily gain of the steers was about the same for the two heavier stocking rates, but was slightly lower for the lightest rate (1.7 acres/steer). The gain per acre increased with each increase in stocking rate.

Half of the steers were self-fed a salt-limited sorghum grain-rumensin mixture. Each steer consuming approximately 1.5 pounds per day of this mixture gained about a half a pound more per day ( $P < .05$ ) than did each steer not fed the supplement (1.77 vs 1.27 lbs.). Gain per acre was increased by 33 lbs. with the supplementation.

Introduction

Our previous experiments have shown that grazing cattle on bluestem pasture from May 1 to July 15 at twice the normal stocking rate (Early-season, intensive stocking) will produce about the same or better daily gains during this period than will grazing them on pastures all season at a normal stocking rate (about 3.3 acre per 500-lb steer). We designated this trial to study even higher stocking rates.

Rumensin generally has given positive results with grazing cattle. We designed this trial to determine if daily gain would be increased when sorghum grain and rumensin were self-fed in a salt-limiting mixture.

Experimental Procedure

Six 60-acre pastures were randomly assigned to the following stocking rates: 1.7, 1.3, and 1.1 acres per steer from April 30 to July 14, 1981, two pastures per stocking rate. Steers in one pasture received the supplement (Table 9.2); steers in the other received only salt. The steers, originated in Arkansas, were in moderate flesh, and averaged 520 lbs.

Results and Discussion

The results are shown in Tables 9.1 and 9.2. Steers on pastures stocked at the heavier rates (1.3 and 1.1 acres per steer) gained about the same; those at the lightest rate (1.7 acres) gained slightly less, even though they had more grass available. We cannot explain that difference. Gain per acre increased as the stocking rate increased.

Consuming approximately 10 to 15% salt limited a steer's daily grain intake to about 1.5 lb or less. The supplement significantly increased daily gain per steer (1.77 vs 1.27 lbs) and gain per acre (100 vs 67 lbs).

Table 9.1. Effect of different stocking rates for steers on intensive, early-stocked pasture (April 30-July 14, 1981)

	Stocking rate (acres/steer)		
	1.67	1.33	1.11
Steers per treatment	52	75	81
Avg. beginning wt., lb	517	521	523
Avg. gain per steer, lb	106 <sup>a</sup>	115 <sup>b</sup>	118 <sup>b</sup>
Daily gain per steer, lb	1.41 <sup>a</sup>	1.53 <sup>b</sup>	1.57 <sup>b</sup>
Gain per acre, lb	64 <sup>a</sup>	86 <sup>b</sup>	107 <sup>c</sup>

a,b,c Values in same row with different superscripts differ significantly (P<.05).

Table 9.2. Effect of grain supplementation on performance of steers on intensive, early-stocked bluestem pasture

	Supplemented			Nonsupplemented		
	1.67	1.33	1.11	1.67	1.33	1.11
Steers per treatment	29	37	41	23	38	40
Supplement consumed (self-fed) per head daily						
Ground sorghum grain, lb	1.50	1.50	1.26	0	0	0
Salt, lb	.17	.17	.14	0	0	0
Rumensin, mg	167	167	140	0	0	0
Avg. gain per steer, lb	128	132	135	69	97	101
Daily gain per steer, lb	1.71	1.76	1.80	1.05	1.29	1.35
Gain per acre, lb	77	99	122	47	73	76
Supplement vs nonsupplemented						
Avg. gain/steer, lb		133 <sup>a</sup>			95 <sup>b</sup>	
Daily gain/steer		1.77 <sup>a</sup>			1.27 <sup>b</sup>	
Gain per acre, lb		100 <sup>a</sup>			67 <sup>b</sup>	

a,b Values in same row with different superscripts differ significantly (P<.05).