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Effect on summer stocker gains when native grass pastures were either grazed short during the dormant season or burned in April

Abstract

Four hundred and ten mixed-breed heifers were intensively early grazed for 81 days on native tall grass pastures where dormant growth had been removed by either winter grazing or April burning. Heifers grazing the burned pastures gained .19 lb/day more (1.99 vs 1.80 lb; $P < .05$) than those grazing pastures that had the dormant grass removed by heavy grazing during February and March.

Keywords

Cattlemen's Day, 1993; Kansas Agricultural Experiment Station contribution; no. 93-318-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 678; Beef; Burning; Stocker cattle; Native grass

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EFFECT ON SUMMER STOCKER GAINS WHEN NATIVE GRASS PASTURES WERE EITHER GRAZED SHORT DURING THE DORMANT SEASON OR BURNED IN APRIL¹

F. K. Brazle²

Summary

Four hundred and ten mixed-breed heifers were intensively early grazed for 81 days on native tall grass pastures where dormant growth had been removed by either winter grazing or April burning. Heifers grazing the burned pastures gained .19 lb/day more (1.99 vs 1.80 lb; $P < .05$) than those grazing pastures that had the dormant grass removed by heavy grazing during February and March.

(Key Words: Burning, Stocker Cattle, Native Grass.)

Introduction

The benefit of late spring burning of native grass to improve daily gain of stocker cattle is well documented. Recently, some producers have questioned whether or not the same benefits could be achieved by closely grazing the dormant grass during the preceding winter. Therefore, the objective of this study was to determine the effect on stocker cattle gains of heavily grazing native tall grass during late winter compared to late spring burning.

Experimental Procedures

Four hundred and ten mixed-breed heifers were allotted randomly to native grass pastures that had been either burned or winter grazed, with two pasture replications per treatment. The winter-grazed pastures were grazed heavily in February and March, so that most

of the dormant native grass was removed (80% of the pasture grass was under 4 in. tall). The burned pastures were burned in April, resulting in 80 to 90% of the dormant grass being removed. The heifers were weighed individually in April before going to grass, were stocked at 2 acres per head, and were grazed for 81 days. All heifers were fed an Aureomycin®-containing mineral mixture, shown in Table 1. In July, the heifers were gathered early in the morning from each pasture, commingled and driven to pens, then weighed individually.

Results and Discussion

The heifers that grazed the burned pastures gained faster (1.99 vs 1.80 lb; $P < .05$) than those on pastures grazed short during the winter. Therefore, simply removing the old top growth did not enhance stocker gains as much as burning in April. The gain difference found in this study was not as great as previously reported by other researchers between burned and unburned pastures. However, those studies were done with yearling steers rather than heifers. Steers normally gain faster than heifers on grass. Therefore, our research confirms that late spring burning is still the most effective grass management practice to enhance stocker gains on intensively early-grazed native range.

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Table 1. Antibiotic-containing Mineral Mixture Used in Grazing Trial

Ingredient	%	Lb/ton
Dicalcium phosphate	29.75	595
Aureomycin®, 50 g/lb ^a	3.75	75
Magnesium mica ^b	8.75	175
White salt	25.158	503.175
Dried molasses	15	300
Vitamin A premix, 30,000 IU/g	1.5	30
Zinc oxide	.085	1.7
Iodine, EDDI	.0062	.125
Ground limestone	15	300
Mineral oil	1	20

^aAmerican Cyanamid Co., Princeton, NJ.

^bMicro-Lite Inc., Chanute, KS.

Table 2. Effect of Burning or Winter Grazing of Native Grass on Heifer Summer Gains

Item	Burned pastures	Heavily grazed dormant pastures
No. heifers	229	181
Starting wt., lb	518	518
Grazing period, days	81	81
Daily gain, lb	1.99 ^a	1.80 ^b

^{ab}Means in the same row with unlike superscripts differ ($P < .05$).