EFFECT OF PROTEIN SUPPLEMENTATION ON STOCKERS GRAZING NATIVE GRASS IN SOUTHEASTERN OKLAHOMA

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Story in Brief

A cooperative field trial was conducted to determine the effect of supplemental protein on the performance of calves grazing native grass on reclaimed timber land in southeastern Oklahoma. Forty calves were assigned to either a control group receiving no supplement, or a supplemented group which received 1.07 lbs/day of soybean meal cubes (44% CP) per day (2.5 lbs/head fed Monday, Wednesday and Friday). For the 56 day trial period in late summer, the supplemented calves gained .49 lbs/day more than control calves (1.32 lbs/day -vs- .83 lbs/day, respectively). The results of this trial indicate that protein supplementation can significantly increase gain of stocker calves grazing native grass in southeastern Oklahoma.

(Key Words: Protein, Stocker Cattle, Brushland.)

Introduction

Several studies have been conducted in central and north-central Oklahoma to determine the effectiveness of protein supplementation in improving the gains of stocker calves grazing native grass pastures. The harvesting of timber and the use of herbicides to remove forest cover have released a substantial amount of land to forage production. Much of this land is too rough to plant improved forages, and consequently is typically covered by native grasses released after removal of the forest canopy. The objective of this field trial was to determine if protein supplementation would economically increase gains of stockers grazing native grasses grown on reclaimed forest land.

Materials and Methods

Forty Angus and Angus X exotic crossbred steers, approximately 10 months old, were assigned to either a control or a supplemented treatment group. The supplemented group received 1.07 lb/head/day of soybean meal cubes and were fed 2.5 lbs/head on Monday, Wednesday and Friday. Both treatment groups had access to a free choice salt/mineral mix.

This trial was conducted on the Kerr Foundation Ranch in southeastern Oklahoma, and utilized 160 acres of land that had been treated four years earlier with Graslan® herbicide. This tract was divided into two pastures of 80 acres each, and stocked at a rate of four acres per calf. Pastures were rotated at the intermediate weigh period to reduce any pasture effects.

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Results and Discussion

The results of this trial are in agreement with similar trials conducted in other sections of Oklahoma (Lusby et al., 1982; Lusby and Horn, 1983). Feeding small amounts of high protein supplement resulted in a significant improvement in stocker performance (Table 1). This trial was conducted August 16 to October 11, and as the season progressed the control calves showed a dramatic drop in performance. This drop in performance was partially offset by the use of the high protein supplementation. The apparent feed conversion of the protein supplement was 2.0 lbs of feed per pound of added gain. At a cost of $0.10/lb of protein supplement, the cost of added gain (feed alone) would be about $0.20/lb of gain. This conversion would be very economical for producers with stockers on this type of forage. These results could have application to producers who purchase stocker calves during the summer months when prices frequently are low. These calves could then be held with acceptable rates of gain until cool season forages such as small grains or fescue are ready to be grazed in the fall.

Table 1. Performance of steers grazing reclaimed native range and fed protein supplements.

	Treatments	
	Control	Supplement
Number steers	20	20
Initial wt, lb (8/16)	494	489
Gain, lb/day (total)		
8/16 to 9/18, 33 days, lbs	1.41 (46)[a]	1.73 (57)[b]
9/18 to 10/11, 23 days, lbs	.01 (.28)[a]	.75 (17)[b]
18/16 to 10/11, 56 days, lbs	.83 (47)[a]	1.32 (74)[b]

[ab]Means with different superscript letters differ (P<.05).

Literature Cited

Lusby, K.S. et al. 1982. Energy -vs- protein supplementation of steers grazing native range in late summer and early fall. OSU MP-112:36.

Lusby, K.S. and G.W. Horn. 1983. Energy -vs- protein supplementation of steers grazing native range in late summer. OSU MP-114:209.