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D.D. Simms

Gerry L. Kuhl

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Effect of limited-creep feeding on performance of spring-born calves: results of 1988 field trials

Abstract

Two field trials were conducted to evaluate limited-creep feeding of spring- born calves using pelleted creep rations with either 0.5, 5, or 10% salt. Average daily gain was increased ($P<.05$) over controls in trial 2 and when both trials were combined. However, intakes were higher than desired and feed conversion much poorer than expected.

Keywords

Cattlemen's Day, 1989; Kansas Agricultural Experiment Station contribution; no. 89-567-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 567; Beef; Limited-creep feeding; Spring calves; Performance

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**EFFECT OF LIMITED-CREEP FEEDING ON
PERFORMANCE OF SPRING-BORN CALVES:
RESULTS OF 1988 FIELD TRIALS¹**

D. Simms and G. Kuhl

Summary

Two field trials were conducted to evaluate limited-creep feeding of spring-born calves using pelleted creep rations with either 0.5, 5, or 10% salt. Average daily gain was increased ($P < .05$) over controls in trial 2 and when both trials were combined. However, intakes were higher than desired and feed conversion much poorer than expected.

Introduction

The energy and protein content of native grass in Kansas declines during late summer and fall. Correspondingly, milk production of spring calving cows declines during the grazing season, resulting in reduced calf nutrition. Although feed conversion on traditional creep feeding programs has been shown to be poor, research on salt-limited creep rations has shown considerable promise. However, prior research with starting calves on 5% salt, pelleted creep rations has yielded variable results (1988 Cattlemen's Day Report). These trials were conducted to determine the effectiveness of starting calves on a 0.5% salt creep as a means of overcoming the problems noted in earlier trials.

Experimental Procedures

In each trial, spring-calving cows and their calves were assigned randomly to pastures and treatments: (1) Control - no creep or (2) Limited-Creep. At the start of each trial, a 16% protein, 0.5% salt, pelleted creep feed containing 60 mg Bovatec/lb was placed in the limited-creep pastures. When daily intake exceeded 3 lb per head, a 5% salt, pelleted creep feed replaced the 0.5% salt creep. Subsequently, when the daily intake again exceeded 3 lb per head, a 10% salt, pelleted creep feed replaced the 5% salt creep. Trial 1 was initiated on July 22, 1988, and terminated on Oct. 10, 1988. Trial 2 was initiated on June 26, 1988, and terminated on Oct. 31, 1988. Individual, non-shrunk weights were taken at initiation and termination of the trials.

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Results and Discussion

As in prior trials, creep intakes were low during July and August, even though the summer of 1988 was extremely dry, with less than normal precipitation and grass production. Table 10.1 shows the results of the 1988 limit-creep field trials. Limit-creep feeding increased average daily gains ($P < .05$) in trial 2 and when both trials were combined ($P < .05$). Average daily intakes throughout the trial were greater than desirable on a limit-creep program. It is clear that a 10% salt level is not high enough to maintain intakes below 3 lb per head daily late in the grazing season. Conversion of creep feed to gain was much higher than expected based on prior research in Kansas and other states, and even poorer than in the 1987 trials.

As noted in last year's report, maintaining intake of a pelleted creep ration at an acceptable level is difficult because of problems in adjusting the salt level. Even starting the calves on a 0.5% salt creep feed didn't overcome the intake variability noted in 1987. These trials indicate that successful limit-creep feeding will require considerable management to monitor intake and to adjust the salt level in the ration. Additionally, use of a meal form rather than a pelleted form seems preferable, since the salt level can be adjusted more easily.

Table 10.1 Results of 1988 Field Trials Evaluating Limit-Creep Feeding of Suckling Calves

Trial	Length of Trial (Days)	-----Average daily gain, lb-----		Average Daily Consumption, lb	Creep to Gain Conversion
		Control (n) ¹	Limited-Creep (n)		
1	80	2.44 (25)	2.58 (24)	4.35	31.1
2	127	1.78 ^a (20)	1.98 ^b (35)	2.41	12.1
Combined	--	1.97 ^a (45)	2.15 ^b (57)	3.38	18.8

¹n = number of calves.

^{ab}Means in a row with different superscripts differ ($P < .05$).