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Effect of Limited - Creep Feeding on Performance of Spring-Born Calves¹

Danny Simms² and Gerry Kuhl

Summary

Three limited-creep feeding trials were conducted with spring-born suckling calves on native grass. The 16% crude protein, high energy creep feed containing Bovatec® was fed from mid-August to weaning in mid-October. Limited-creep feeding increased ($P<.05$) calf gains .19 lb per/head/daily with an average daily consumption of 2.15 lb, giving a creep feed-to-gain conversion rate of 11.2.

Introduction

Native grass in Kansas declines in energy and crude protein during late summer and fall. Correspondingly, milk production of spring calving cows declines during the grazing season, resulting in reduced calf nutrition. Traditional creep feeding programs have not been economical because of excessive creep consumption and poor creep-to-gain conversion. Limiting creep intake by using salt as an intake inhibitor should improve creep conversion and be economical. Thus, three field trials were conducted to evaluate limited-creep feeding of spring-born calves.

Experimental Procedures

In each trial, spring-calving cows and their calves were randomly assigned to pastures and treatments: (1) Control-no creep or (2) Limited-Creep. At the start of each trial, a 16% protein, 5% salt, pelleted creep feed containing 75 mg Bovatec/lb was placed in the limited-creep pastures. When daily intake exceeded about 4 lb per head, a 10% salt pelleted creep feed replaced the 5% salt creep feed. All trials were initiated in mid-August and terminated in mid-October. Individual, non-shrunk weights were taken at initiation and termination of the trials. In all three trials, cow/calf pairs grazed native grass pastures.

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Results and Discussion

As shown in Table 19.1, limit-creep feeding increased ($P<.05$) average daily gains in two of the three trials and when all of the trials were combined ($P<.05$). Gain response and conversion of creep-to-extra gain were variable. The overall conversion rate of 11.2 lb of creep per pound of extra gain was much poorer than in previous studies (1987 Cattlemen's Day) of limited-creep feeding.

The poor conversion rates may be a function of the creep intake patterns exhibited during the course of these trials. That is, while the average daily feed consumption was only slightly above the goal of 2 lb per head in all three trials, the calves consumed very little of the creep feed early in the trials and consumed well over the goal late in the trials.

Based on the research conducted on limited-creep feeding to date, the following recommendations appear warranted:

1. Start calves on a very low (0 to 2%) salt level until they are readily consuming (1.5-2.0) lb/head daily) the creep feed. The initial creep ration must be very palatable to stimulate intake.
2. Monitor consumption and adjust the salt level to maintain daily intakes of 1.5 to 3.0 lb of feed per head. Maintenance of desirable intake levels will require frequent monitoring and adjustment of salt levels.

Based on these field trials, a meal form of creep feed is preferable to a pelleted form, since it is easier to adjust the salt level.

Table 19.1. Results of Limited-Creep Feeding Trials

| Trial | Length of Trial (Days) | Average Daily Gain, lbs | | Average Daily Consumption, lb | Creep to Gain Conversion |
|----------|------------------------|-------------------------|-------------------------|-------------------------------|--------------------------|
| | | Control (n) | Limited-Creep (n) | | |
| 1 | 54 | 1.68 ^a (72) | 1.81 ^b (107) | 2.08 | 16.0 |
| 2 | 71 | 2.12 (19) | 2.24 (26) | 2.11 | 8.8 |
| 3 | 63 | 2.01 ^a (20) | 2.61 ^b (20) | 2.54 | 4.2 |
| Combined | | 1.81 ^a (111) | 2.00 ^b (153) | 2.15 | 11.2 |

n = Number of calves.

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