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Bovatec® vs. Rumensin® fed in free-choice mineral-grain mixtures on early intensively grazed, native grass

Abstract

The performance of grazing heifers offered a free-choice mineral or two mineral-grain-ionophore mixtures was evaluated in 3-year study. Heifers ate more of the supplement containing Bovatec® than that containing Rumensin® ($P < .05$). Heifers fed Bovatec® gained faster ($P < .10$) than those fed Rumensin® or the control mineral mixture.

Keywords

Cattlemen's Day, 1986; Kansas Agricultural Experiment Station contribution; no. 86-320-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 494; Beef; Mineral-grain; Native grass

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Bovatec® vs. Rumensin® Fed in Free-Choice
Mineral-Grain Mixtures on Early
Intensively Grazed, Native Grass

Frank Brazle¹ and Gerry Kuhl

Summary

The performance of grazing heifers offered a free-choice mineral or two mineral-grain-ionophore mixtures was evaluated in a 3-year study. Heifers ate more of the supplement containing Bovatec® than that containing Rumensin® ($P < .05$). Heifers fed Bovatec® gained faster ($P < .10$) than those fed Rumensin® or the control mineral mixture.

Introduction

Responses have been excellent when ionophore-containing supplements are hand-fed on grass. Results with ionophores in free-choice mineral mixtures have been less consistent, probably because of inadequate or irregular daily ionophore intakes. The objectives of this trial were to compare the intakes of Rumensin® and Bovatec® in mineral-grain mixtures, and the subsequent stocker cattle gains.

Experimental Procedures

One 60-acre and two 40-acre native grass pastures were used to evaluate heifer gains and intakes of a mineral (control) and two mineral-grain-ionophore supplements. The study was conducted over a 3-year period with supplement treatments assigned to a different pasture each year. Eighty yearling heifers were randomly allotted, condition scored and weighed on May 5 of each year, and early-intensively grazed on native grass for 60 days, allowing 1.8 acres per heifer. The control mineral and two mineral-grain-ionophore supplements shown in Table 31.1 were fed in wind-vane mineral feeders. The feeders were monitored and replenished weekly. The heifers were gathered and weighed off trial July 5 each year.

Table 31.1. Composition of Mineral and Mineral-Grain-Ionophore Mixtures

Ingredient	Control Mixture	Bovatec® Mixture	Rumensin® Mixture
White Salt, lb	1000	700	700
Dicalcium Phosphate, lb	1000	100	100
Bovatec® (68 g/lb), lb		17.5	
Rumensin® (60 g/lb), lb			20
Ground Milo, lb		1182.5	1180

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Analysis of Variance was used to analyze the data, and the results are reported as least squares means.

Results and Discussion

The average starting weight of the heifers was 453 lb, but ranged from 295 to 650 lb. The correlation between starting weight and daily gain was $-.243$; a low correlation but favoring the lighter weight heifers. The correlation between body condition and gain was $-.309$; also low but favoring the thinner heifers. Since the heifers were wintered together and condition differences were small, greater variation in condition would probably make the correlations higher.

Supplement intakes and animal performance are shown in Table 31.2. The Bovatec®-containing supplement was more readily consumed ($P < .05$) than that containing Rumensin®. Consequently, Bovatec® intake was higher than that of Rumensin® ($P < .05$). The daily intakes of 160 mg per head daily for Bovatec® and 103 mg for Rumensin® compare to recommended intakes of 150-200 mg on lush grass. The ionophore supplements contained about 59% grain, and both were consumed more readily ($P < .05$) than the control supplement that contained only minerals. Bovatec®-fed heifers gained faster ($P < .10$) than either Rumensin®-fed heifers or controls.

Table 31.2. Effects of Mineral and Mineral-Grain-Ionophore Mixtures on Intake and Gain of Heifers Grazing Native Grass

Item	Control Mineral	Mineral- Grain- Bovatec®	Mineral- Grain- Rumensin®
No. Heifers	80	80	80
Starting Wt., lb	452	455	443
Daily Supplement Intake, lb	.072 ^a	.267 ^c	.172 ^b
Daily Ionophore Intake, mg	—	160.2 ^b	102.9 ^a
Average Daily Gain, lb	2.28 ^d	2.48 ^e	2.30 ^d

^{abc} Means in the same row with different superscripts are significantly different ($P < .05$).

^{de} Means in the same rows with different superscripts are significantly different ($P < .10$).

This study confirms that Bovatec® is more palatable than Rumensin®. Thus, the extra intake of Bovatec® could account for the difference in gain resulting from the two ionophores. Bovatec®, because of its palatability advantage, is preferable for use in free-choice, mineral-based supplementation systems.