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Efficacy of Bovatec 2.2 Mineral Blocks for Cattle Grazing Crested Wheatgrass Pastures

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Summary

A grazing study was conducted to determine if providing Bovatec® in a trace mineralized salt block would improve cattle performance over cattle provided a trace mineralized salt block without an ionophore while maintaining block consumption below 2 oz/head/day. Average daily block intake was 1.40 and 1.25 oz/day for the Bovatec and control cattle, respectively. Lasalocid consumption was 193 mg/head/day. Although cattle consuming the Bovatec block gained 5% more than the control cattle, this was not significant (1.75 vs 1.67 lb/day, respectively). Supplying an ionophore through a self-feeding block may not improve gain compared to supplying mineral alone in a self-feeding block.

Introduction

Beef cattle producers grazing cattle on improved or native pastures often are looking for inexpensive ways to increase gains and forage utilization efficiency. Ionophores have been shown to improve gains and efficiency in beef cattle. However, delivering them to grazing cattle can be challenging and expensive. If a grain or byproduct is chosen as a carrier, the supplement has to be routinely delivered to the cattle. Cattle producers with integrated operations are also farming during the growing season and may not have time to supplement cattle daily. In addition to the cost of the carrier, producers incur costs associated with time, labor, and equipment. Therefore, the objective of this study was to determine if a trace mineralized salt block supplying lasalocid could improve cattle performance while limiting consumption under 2 ounces/head/day.

Procedure

Ninety crossbred steers (728 lb ± 4 lb) were blocked by BW and randomly allotted in an incomplete block design and assigned to pastures, which were assigned to treatments, to determine ADG and supplement consumption of the Bovatec 2.2 block. Nine pastures were used in the study (10 head/pasture), five assigned randomly to the Bovatec 2.2 block (TRT) and four assigned to the control block (CON). A trace mineralized salt block was used for the control supplement (Table 1). The CON block did not contain protein or an ionophore. Cattle were limit-fed a common diet for five days prior to trial initiation and weighed two consecutive days prior to grazing the crested wheatgrass pastures starting May 24, 2012. Prior to trial initiation, cattle were vaccinated for respiratory viruses and clostridial perfinges, dewormed, and given a growth implant. Cattle were rotated through the pastures every two weeks to eliminate any pasture effect on treatment response. Cattle were removed from the pastures on Aug. 2, 2012, after only 69 days of grazing due to extreme drought. Cattle were then limit fed for five days, and weighed two consecutive days, Aug. 6 and 7.

The mineral blocks were weighed and placed in each pasture at the beginning of the experiment. The blocks were weighed for consumption approximately every three days. Blocks were replaced before cattle were without supplement. Data were analyzed using the MIXED procedure of SAS (SAS Institute, Inc., Cary, N.C.) with pasture as the experimental unit. The model included treatment.

Results

Initial BW and final BW were not different for the cattle consuming TRT or CON blocks ($P \geq 0.45$; Table 2). Steers consuming TRT gained 1.75 lb/day and CON steers gained 1.67 lb/day. Although ADG was 5% greater for TRT compared with CON, it was not statistically significant ($P > 0.34$). Previous research in these same pastures indicated that when cattle were fed ionophores mixed in a daily supplement, they gained more than cattle fed supplement without ionophores (*1996 Nebraska Beef Cattle Report,* pp. 69-70.) However, in another study, when ionophores were supplied in a mineral block ADG was not different from the control (*1991 Nebraska Beef Cattle Report,* pp. 29-30).

An increase in supplement disappearance for both treatments occurred during the fifth week of the grazing study. There was a rain event during this time, and some loss could have occurred due to rain. However, visual observations indicated that the blocks were largely unaffected by the

Table 1. Trace mineral content of Bovatec 2.2 and control mineral blocks.

	Bovatec 2.2 Block	Control Trace Mineral Block
Lasalocid sodium, g/lb	2.2	—
Salt (NaCl), %	87.5-92.0	95.5-98.5
Zn, ppm	3500	3500
Fe, ppm	3400	2000
Mn, ppm	2000	1800
Cu, ppm	330	280
Co, ppm	50	60
I, ppm	70	100

Table 2. Cattle performance and block intake for cattle consuming TRT or CON.[1]

	TRT	CON	SEM[2]	*P*-value
Initial BW, lb	727	729	3.95	0.45
Final BW, lb	854	850	8.82	0.60
ADG, lb/day	1.75	1.67	0.10	0.34
Block intake oz/head/day	1.40	1.25	0.13	0.42

[1]TRT = Bovatec 2.2 (2.2 g/lb of lasalocid), CON= trace mineral block without ionophore.
[2]SEM = Standard error of the mean.

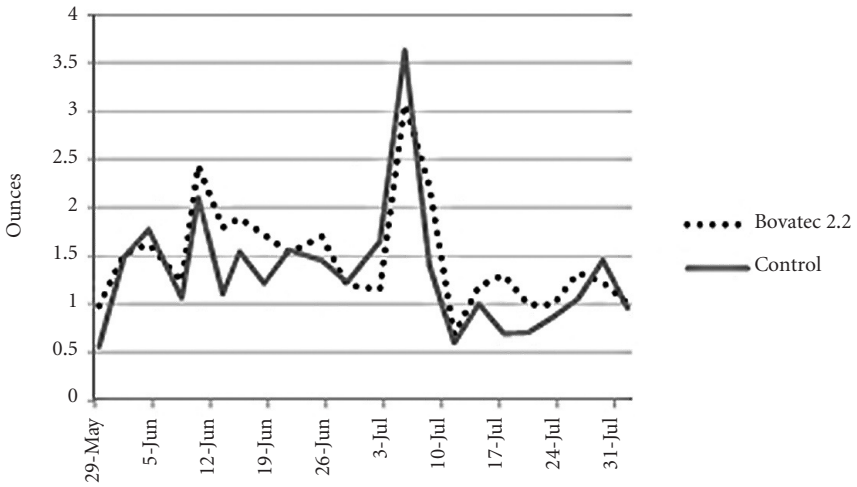

Figure 1. Block consumption per head per day, approximately every three days.

event. Just prior to the rain event, the temperature was over 100°F for three days in a row with one day reaching 106°F. It is more likely the spike is true consumption due to cattle standing around the water tanks, more so than a loss from rain. The fact that intake decreased to the lowest intake later that week for both treatments supports this (Figure 1).

Cattle consumed 1.40 and 1.25 oz./head/day of the TRT and CON blocks, respectively (Table 2; $P = 0.43$). The consumption of lasalocid in the TRT blocks was 193 mg/head/day. Consumption of both blocks was well under the 2 oz/head/day maximum intake targeted for the study. Previous authors (*1991 Nebraska Beef Cattle Report,* pp. 29-30) also indicated a lack of gain response when the ionophore was contained in a mineral block. These authors suggested the lack of treatment response was due to low consumption of the ionophore. When feeding the ionophore in a daily supplement (*1996 Nebraska Beef Cattle Report,* pp. 69-70) the intake of lasalocid was 200 mg/head/day and gains were greater than the control. Yet, in the present study the average daily intake of lasalocid was 193 mg/head/day. It is possible that each steer did not consume the mineral block every day. Intake was highly variable across days (Figure 1) with intake well above the targeted 2 oz on some days and well below that on others. Consuming more than 200 mg/head/day on some days did not result in a significant gain response overall. Possibly the lack of significant gain response above the control was due to inconsistent intake of the ionophore. Providing an ionophore through a self-feeding mineral block resulted in less than the targeted 2 ounces/head/day intake of supplement, and did not improve gain compared to the control mineral block, which did not include an ionophore.

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