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Abstract

Steers managed within an intensive-early stocking program and receiving Rumensin® via a slow-release bolus tended to have higher average daily gains than steers not receiving Rumensin. However, forage organic matter intake, fill, digestibility, and diet selection showed little response to Rumensin administration.

Keywords

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Influence of Sustained Rumensin Release on Steer Performance and Forage Utilization [1]

Bob Cochran, Eric Vanzant, Jack Riley, and Tom Avery [2]

Summary

Steers managed within an intensive-early stocking program and receiving Rumensin® via a slow-release bolus tended to have higher average daily gains than steers not receiving Rumensin. However, forage organic matter intake, fill, digestibility, and diet selection showed little response to Rumensin administration.

Introduction

Ionophores such as Rumensin play an important role in today's cattle industry because of their ability to enhance gain and efficiency. Administration of Rumensin to grazing cattle has previously been limited to situations in which supplementation systems were feasible. Recently, a Rumensin-containing, slow release, intraruminal bolus has been developed. This device allows cattle to be bolused at the beginning of a grazing period and then slowly releases the ionophore over an extended period. Although some data are available regarding the response of cattle that have received the Rumensin bolus, no information is available on how this bolus affects forage utilization. Therefore, our objective was to compare gains and forage utilization under intensive-early stocking in cattle receiving a Rumensin bolus.

Experimental Procedures

Performance Trial. Two hundred forty-four crossbred steers were randomly assigned to each of six pastures grazed at three stocking rates (two pastures per stocking rate; 1.25, 1.50 and 1.75 acres/steer). Steers grazed the pastures from May 1, 1987 through July 15, 1987. Weights taken after an overnight stand without feed or water were recorded at trial initiation and termination. At trial initiation, all steers were implanted with Compudose. Steers assigned to the Rumensin treatment received a Rumensin bolus at the same time.

Forage Utilization Trial. Eight ruminally and esophageally fistulated heifers were randomly assigned to two treatments: 1) Rumensin bolus or 2) Control -- no bolus. Boluses were given 21 days before intake and digestibility measurements started.

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All heifers grazed a single pasture throughout the trial. Forage utilization was monitored during a 3-day esophageal collection period, a 7-day fecal collection period, and a l-day ruminal evacuation period. Dates of the sample collection period were June 5 to June 17, 1987.

Results and Discussion

Average daily gains of steers were not influenced (P>.10) by the stocking rates. Steers that received a Rumensin bolus tended (P=.09) to gain more than control steers. (Table 11.1). However, bolusing cattle with the Rumensin device had little effect on forage utilization. Forage organic matter digestibility, forage acid detergent fiber digestibility, forage organic matter intake, forage organic matter fill, and quality of diet selected were all unaffected (P>.10) by the slow-release Rumensin bolus.

Table 11.1. Influence of Rumensin Boluses on Gains, Forage Utilization, and Quality of Diet Selected

Item	Control	Rumensin	Standard Error
Steer Gains (lbs/day)	2.4	2.5	0.03
Forage Organic Matter Intake (% body wt)	2.9	3.0	0.5
Forage Organic Matter Fill (lbs)	5.5	6.0	0.5
Forage Organic Matter Digestibility (%)	68.7	71.4	1.8
Forage Fiber (ADF)[1] Digestibility (%)	67.4	67.7	1.0
Fiber (ADF) in Grazed Forage (%)	56.2	53.0	2.2
Crude Protein in Grazed Forage (36)	13.7	14.2	0.2

[1]Acid-detergent fiber.