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Influence of rumen fluid inoculation on incidence of sickness in newly arrived feeder calves

Abstract

Inoculating newly arrived feeder calves with 250 ml. rumen fluid did not stimulate weight gain or decrease sickness. One hundred seventy steer calves were used in the 31 day study.

Keywords

Cattlemen's Day, 1974; Report of progress (Kansas State University. Agricultural Experiment Station); 210; Beef; Rumen; Calves; Sickness; Weight gain

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Influence of Rumen Fluid Inoculation on Incidence of Sickness in Newly Arrived Feeder Calves

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Summary

Inoculating newly arrived feeder calves with 250 ml. rumen fluid did not stimulate weight gain or decrease sickness. One hundred seventy steer calves were used in the 31 day study.

Introduction

Inoculating or drenching with various products is being promoted as a beneficial stimulus for increased weight gain and reduced sickness in newly arrived feeder cattle, particularly light weight calves. Theoretically, if rumen fluid could be obtained from steers already adapted to the ration to be fed and put directly into rumens of the new arrivals, the rumen fluid may stimulate development of favorable rumen micro-organisms.

The objective of this trial was to evaluate the feasibility and effectiveness of inoculating newly arrived feeder calves with rumen fluid.

Experimental Procedure

Two groups of feeder steers totaling 170 head were purchased from Texarkana, Texas in late July, 1973. They were offered long hay and fresh water free choice 24 hours before being vaccinated for IBR, Leptospirosis, Blackleg and Malignant Edema. Steers with temperatures above 103.5°F were inoculated with either 250 ml. of freshly collected rumen fluid or 250 ml. of tap water. Data from steers with temperatures below 103.5°F were taken to judge losses due to high temperatures. The steers were weighed individually at the beginning and end of the test. Steers were assigned at random to pens of 8-10 each for close daily observation. Thereafter, all steers with temperatures above 103.5°F were treated with antibiotics and records were kept on the number of treatments per steer. All steers were fed a ration composed of sorghum silage, rolled milo and protein supplement.

Results and Discussion

The effect of rumen fluid inoculation on weight gain and incidence of sickness in newly arrived feeder calves is shown in table 3.1. Steers with initial temperatures below 103.5°F gained 5 lb. (36 lb. vs. 31 lbs.) more than either group with initial temperatures above 103.5°F. Steers inoculated with rumen fluid required the most antibiotic treatments during the 31 day trial.

Results indicate that inoculating with rumen fluid had no benefits.

Table 3.1. Effects of Rumen Fluid Inoculation on Weight Gain and Incidence of Sickness in Newly Arrived Feeder Steer Calves (31 days)

	No. Steers	Initial wt lb.	31-day Gain, lb.	% treated 2 or more times with antibiotics
Non-Innoculated	84	467.8	36	42
Rumen Fluid Innoculated, 250 ml.	45	456.2	31	47
Water Innoculated, 250 ml.	41	462.9	31	34