

RUMENSIN FOR WINTERING PREGNANT BEEF COWS

D.G. Landblom and J.L. Nelson

Rumensin (monensin sodium) improves feed efficiency of growing and finishing cattle under pasture and feedlot conditions. Review of the literature indicates an increase in efficiency ranging from 7% in feedlot conditions to as high as 16% under pasture conditions.

It would be very worthwhile if a similar reduction in winter feed costs could be realized for the brood cow herd, since the cost of wintering in North Dakota is one of the largest expenses facing the cow-calf producer. Considerable research has been, and is currently being conducted throughout the United States with Rumensin in cow wintering rations. Eli Lilly & Co., manufacturer of the additive, has applied to the Food and Drug Administration for clearance for this purpose. However, its use at this time is strictly for experimental purposes only.

In this trial conducted in cooperation with Eli Lilly & Co., 52 pregnant Hereford cows were randomized by age, weight and estimated fetal age and allotted into four winter feeding groups yearly. Each winter two lots of 13 cows served as controls and two lots of 13 cows received the Rumensin feed additive. The control cows were fed an all mixed hay ($\frac{1}{3}$ alfalfa, $\frac{1}{3}$ crested wheatgrass, and $\frac{1}{3}$ brome grass) ration at the rate of 27.8 pounds/head/day on an as-fed basis, plus a $\frac{3}{8}$ inch pelleted barley supplement, fed at the rate of 2 pounds/head/day. The Rumensin fed cows received the same wintering ration with two exceptions, 1) barley supplement contained Rumensin at the 100 mg per pound rate; 2) the daily intake of mixed hay was reduced by 7%. Following an initial adjustment period of 5 days, the Rumensin level was increased from 100 mg per head per day to 200 mg per head per day for the remainder of the wintering trial.

Moisture content of the roughage was checked periodically and adjustments in dry matter intake were made accordingly.

Calving started the last week of February each year and was completed the third week of April each year. Any cows that lost calves or wouldn't claim their calves were removed from the study and appropriate adjustments were made for feed consumption.

A free choice mineral supplement consisting of two parts trace mineral salt and one part di-calcium phosphate was available free choice throughout the trial.

The cows were weighed every 28 days and each cow was weighed the day following calving to measure actual body weight gain or loss for the winter gestation period. Calf weights were taken at birth, close of wintering period, and when weaned in mid-October each year.

Summary:

A consistent satisfactory response to Rumensin has been obtained each year in this experiment. Cows wintered with 200 mg Rumensin and 7% less dry matter intake per head per day performed the same as control cows throughout the 174 day wintering period.

When the data is separated into pre-calving and post-calving intervals, cows fed 200 mg Rumensin daily gained two tenths of a pound faster than control cows; but lost significantly more weight during the post-calving lactation period. Rumensin cows lost -1.73 lbs. per head per day compared to -.63 lbs. per head per day among the control.

Expressed in terms of dollars and cents, feeding Rumensin and reduced feed intake amounted to a savings in wintering costs of \$13.20 per head.

Calf birth weights, livability, weight per day of age and adjusted weaning weights were unaffected by either wintering method.

Table 1. Three Year Average Weight Changes among Cows Wintered With and Without 200 mg Rumensin per Head Daily

	200 mg Rumensin	Control
Weight Change for Entire Trial:		
No. Head	69	72
Initial wt., lbs.	1079	1093
Final wt., lbs.	1039	1084
Gain, lbs.	-40	-9
Days Wintered	174	174
ADG, lbs.	-.23	-.05
Weight Change During Period Before Calving:		
Initial wt., lbs.	1079	1093
Weight 24 hrs. after calving, lbs.	1129	1117
Gain, lbs.	50	24
Avg. days wintered before calving	122	122
ADG, lbs.	.40	.20
Weight Change After Calving:		
Weight 24 hrs. after calving, lbs.	1129	1117
Final wt., lbs.	1039	1084
Gain, lbs.	-90	-33
Days wintered after calving	52	52
ADG, lbs.	-1.73	-.63

**Table 2. Three Year Average As-Fed and Dry Matter Feed Consumption and Economics
For Cows Wintered With and Without 200 mg Rumensin per Head Daily**

	200 mg Rumensin	Control
As-Fed Feed Summary:		
No. Head	69	72
Total Feed Consumed, lbs.	309,273	348,707
Feed 1 head, lbs.	4482	4843
Feed 1 head 1 day, lbs.	25.7	27.8
Dry Matter Feed Summary:		
Total Moisture Free Feed Consumed, lbs.	255,015	282,686
DM intake 1 head, lbs.	3695	3926
DM intake 1 head 1 day, lbs.	21.2	22.6
Wintering Economics w/200 mg Rumensin:		
Total Feed Cost, \$	12,261.14	13,744.76
Feed Cost 1 Head, \$	177.69	190.89
Feed Cost 1 Day, \$	1.02	1.09
Cost Savings Using Rumensin/Cow	\$13.20	

**Table 3. Three Year Average Birth and Weaning Weight Summaries among Cows
Wintered With and Without 200 mg Rumensin per Head Daily**

	200 mg Rumensin		Control	
	Bulls	Heifers	Bulls	Heifers
Calving:				
No. Head	38	32	39	33
Birth Wt. Range, lbs.	74-110	52-93	74-105	66-95
Avg. Birth Wt., lbs.	88	76	81	81
Weaning:				
No. Head	38	32	39	32
Adjusted Wean Wt. Range, lbs.	433-623	389-576	403-618	391-578
Avg. Adjusted Wean Wt., lbs.	511	496	505	516

**Table 4. Average Interval between Calving and Conception among Cows
Wintered With or Without 200 mg Rumensin per Head Daily**

	200 mg Rumensin	Control
No. Head	26	25
Total Interval, days	2290	2151
Avg. Interval Between Calving & Conception, days	91.6	86.0