MEDICATED SALT-MINERAL MIXTURE FOR COW-CALF PAIRS GRAZING NATIVE RANGE PASTURES

BY

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Medicated feeds have been used by livestock producers for many years in all classes of livestock. One such compound that has been used under feedlot conditions is chlortetracycline. This compound is a broad spectrum antibiotic sold by American Cyanamid Company under the registered trade name Aureomycin. American Cyanamid has been doing field grazing studies in conjunction with universities to ascertain the effectiveness of medicating salt-mineral-vitamin mixtures for about 10 years. Research under grazing conditions done with ranchers under the direction of Kansas State University has shown a positive cost effective response favoring increased weight gains and a lower incidence of pinkeye and footrot. In Kentucky, where the medication was used with cow-calf pairs over a two year period on fescue-clover pastures, calves were 31 pounds heavier, and pregnancy rates in the treatment groups were 10-13% higher. Since the geographical region where these studies were conducted is quite different from southwestern North Dakota it is important to investigate the usefulness of this antibiotic under our conditions.

Two years of data have been collected comparing medicated and unmedicated range mineral mixtures. The first grazing season crossbred Angus X Hereford first calf heifers and their Milking Shorthorn crossbred calves were used to evaluate the use of medication. In the second year Hereford and crossbred Angus X Hereford cows with Hereford, Charolais and Simmental crossbred calves at side were used. Medication was added to the mineral mixture at the rate of 312.5 mg./ounce of complete mineral mix during the first year of the study. Discussions with Ms. Cheryl Krogh, Minneapolis Sales Representative for American Cyanamid Company, indicated that the level of antibiotic should be lowered. Therefore, during the second year of the study the antibiotic level was lowered to 120 mg./ounce of complete mineral.

The trial starting date varied by twenty-three days between the two years. In the first year of the study cows and calves were started on the medicated mineral supplement on June 1st, and in the second year the study was started on May 9th. The calves were weaned on October 30th of each year and moved to drylot.

The mineral supplement was fed in covered "weather vane" type mineral feeders. To insure that the mineral and medication were kept fresh small amounts were added frequently when the cattle were routinely checked.

Weight gain performance of cows and calves and economics of using chlortetracycline in range mineral supplements are summarized in Table 1 for 1984 and Table 2 for 1985.

Summary:

Using chlortetracycline as a medication in self-fed mineral mixtures under range conditions resulted in better weight gains among both cows and calves. Lowering the level of antibiotic from 312.5 mg. to 120 mg. per ounce of complete mineral mix did not alter animal performance but did make including the antibiotic in range mineral supplements cost effective. Calves consuming medicated mineral were 18 pounds heavier than control calves. Using a market value of 67 cents per pound of beef, the additional 18 pounds of beef have a value of $12.06. Medicated mineral, prepared at the ranch, cost $4.92 per cow-calf pair leaving a net return of $7.14. Cow weights averaged 21.5 pounds more providing additional cow condition going into the wintering period.

Data relative to the effects that chlortetracycline had on the length of time required between calving and rebreeding (post-partum interval) is incomplete at this time.

Table 1. Gain Performance and Economics of Using Chlortetracycline as a Medication in Self-fed Range Mineral Supplements

1984	Control		Medicated	
	Cows	Calves	Cows	Calves
No. Cow/calf pairs	15	15	15	15
Days Grazing	151	151	151	151
Starting Weight, lbs.	950	199	954	192
Final Weight, lbs.	1020	486	1039	497
Gain, lbs.	70	287	85	305
ADG, lbs.	.46	1.89	.56	2.01
Economics:				
Total lbs. salt/mineral mix consumed	450		700	
Total mineral cost, $	43.65		212.10	
Salt mineral mix cost/ pound, cents	10		31.1	
Avg. daily consumption/ pair, ounces, 1/	3.10		4.82	
Mineral Cost/pair, $	2.91		14.14	

1 Herd bull included in average daily consumption.

Table 2. Gain Performance and Economics of Using Chlortetracycline as a Medication in Self-fed Range Mineral Supplements

1985	Control		Medicated	
	Cows	Calves	Cows	Calves
No. Cow/calf pairs	15	15	15	15
Days Grazing	174	174	174	174
Starting Weight, lbs.	1059	135	1062	137
Final Weight. lbs.	1180	487	1211	507
Gain, lbs.	121	352	149	370
ADG, lbs.	.70	2.02	186	2.12
Economics:				
Total lbs. salt/mineral mix consumed	259		424	
Total mineral cost, $	28.89		73.82	
Salt mineral mix cost/ pound, cents	11.1		17.4	
Avg. daily consumption/ pair, ounces, 1/	1.58		2.60	
Mineral Cost/pair, $	2.91		14.14	

1/ Herd bull included in average daily consumption.