A Natural Supplement for Finishing Steers - Field Observations

V.L. Anderson[1], B. R. Ilse[1], and Ron Dvorak[2]
[1]NDSU Carrington Research Extension Center
[2] Ralco Nutrition Inc., Marshall, MN

Introduction

There is a strong market for naturally-fed cattle in the region. North Dakota producers market many feeder calves eligible for natural programs, most under the never-ever criteria referring to implants, ionophores, and antibiotics. Feedlot operators are searching for products that can be added to the finishing diets to support the genetic potential for growth of these calves. This field trial compared a conventional ionophore with a new natural supplement for finishing cattle.

Procedures and Observations

Backgrounded steers calves (n = 70, avg. wt. = 934 lbs.) from the Carrington Research Extension Center cow herd were weighed and randomly allotted to two pens (35 head per pen) for finishing. An ionophore (Rumensin®, Elanco Animal Health, Indianapolis, IN) treatment (300 mg/hd/d monensin sodium) or a natural supplement (Rumatec® Finisher, Ralco Nutrition Inc., Marshal, MN) treatment (0.5 oz /hd/d) was assigned to each pen. The natural supplement was formulated with diatomaceous earth, alpha-hydroxy propionic acid, cobalt carbonate, fenugreek, processed grain by-products, dehydrated brewers yeast, yucca schidigera extract and mineral oil. The finishing supplements were mixed at the Northern Crops Institute and included the same formulation of vitamins, minerals, and carrier, in addition to the respective additive. Steers were not implanted. A totally-mixed corn-based ration was delivered to each pen daily to appetite. The ration formulation was 53.3 percent dry-rolled corn, 15.5 percent wet distillers grains, 13.7 percent dry-rolled field pea, 7.8 percent corn silage, 7.4 percent chopped straw and 2.1 percent supplement on a dry matter basis. The 62 Mcal/lb. diet was 13.8 percent crude protein and met or exceeded the NRC nutrient requirements for finishing steers. Steers were fed in adjacent pens with fenceline water fountains, and more than one foot of bunk space per head. Windbreaks and bedding were provided to mitigate winter weather conditions. Steers were weighed approximately every 28 days with feed intake, gain, and feed efficiency summarized and reported for each weigh period and for the entire trial. Steers were marketed at Tyson Fresh Meats, Dakota City, NE, when it was visually estimated that steers would have 0.4 inches of backfat and 60 percent or more would grade Choice.

Tables 1-4 provide the averages by treatment for dry matter intake, steer weights, gain, and feed efficiency. Carcass data was not available for these steers. This was a non-replicated study as pen availability was limited during the time of the study, so it is not possible to conduct comparative statistical analysis.

Table 1. Average weight of steers fed Rumensin® or Rumatec® Finisher.

	Rumensin®	Rumatec® Finisher
Number of head	35	35
Initial wt., lb.	933.77	936.90
Period 2, lb.	1039.03	1037.60
Period 3, lb.	1135.42	1132.61
Period 4, lb.	1216.71	1228.84
Period 5 , lb.	1288.82	1288.81
Final wt., lb.	1337.93	1344.06

Table 2. Dry matter intake by period of steers fed Rumensin® or Rumetec ®Finisher.

	Rumensin®	Rumatec® Finisher
	Lbs./hd/d	
Period 1 (Jan 3)	20.79	20.65
Period 2 (Feb 3)	22.03	21.84
Period 3 (Mar 3)	22.29	22.64
Period 4 (Apr 1)	23.79	21.88
Period 5 (Apr 28)	25.13	25.19
Overall DMI	22.09	21.85

Table 3. Average daily gain of steers fed Rumensin® or Rumatec® Finisher.

	Rumensin®	Rumatec® Finisher
Period 1, lb.	3.63	3.47
Period 2, lb.	3.53	3.53
Period 3, lb.	3.28	3.48
Period 4, lb.	3.72	3.07
Period 5, lb.	4.09	4.60
Overall, lb.	3.60	3.59

Table 4. Feed and gain efficiency for steers fed Rumensin® or Rumatec® Finisher.

	Rumensin®		Rumatec® Finisher	
	Feed:Gain	Gain:Feed	Feed:Gain	Gain:Feed
Period 1	5.73	0.175	5.95	0.168
Period 2	6.24	0.160	6.19	0.162
Period 3	6.80	0.147	6.51	0.154
Period 4	6.39	0.156	7.13	0.140
Period 5	6.15	0.163	5.48	0.183
Overall	6.34	0.158	6.25	0.160

While ionophores are widely used for conventional feedlot production, the observations of steer performance in this field study suggest that this natural supplement may be useful for finishing steers into the natural market.

It is interesting to note that the steers in this study averaged 89% of NRC predicted DMI based on overall feed consumption and a midweight of the steers. However, steers gained 3.60 lbs. per day compared to 3.06 predicted gain by an NRC (1996) ration balancing program based on energy intake and 3.66 lbs. per day based on protein intake. Factors that allowed greater than predicted gains from energy level in the diet may include higher fat levels in the distillers grains, increased digestibility of fiber, and improved digestion efficiency from lower than predicted DMI.◆