

STEER GAIN RESPONSE TO MONENSIN AND CHLORTETRACYCLINE ADDITION TO SUMMER PROTEIN SUPPLEMENTS

F.T. McCollum¹, D.R. Gill² and R.L. Ball³

Story in Brief

Beef steers grazing on native range were fed one of three supplements during the late-summer period (midJuly to September 30, 77 days). Supplements were 1 lb/head/day of either a soybean meal cube, or soybean meal cubes containing either monensin or chlortetracycline. Late summer weight gains were similar for the steers fed monensin and chlortetracycline and were greater than the gains of cattle receiving the soybean meal cube.

(Key words: range, cattle, monensin, chlortetracycline, protein supplementation)

Introduction

Several studies have demonstrated the value of feeding protein supplements to stocker cattle grazing native range in late summer. Additionally, ionophores have been utilized to further enhance gains. Low levels of chlortetracycline may also promote growth as well as provide some protection against insect-borne diseases and footrot.

The following trial was conducted to evaluate the response of stocker cattle to the addition of either monensin or chlortetracycline to a late-summer protein supplement.

Materials and Methods

Cattle were delivered to the Pawhuska Station in April and utilized in a grazing management study until the current trial was initiated. Forty-five crossbred steers were randomly allocated to one of three treatment groups. Each treatment group was maintained on native range at the Pawhuska Research Station. The treatment groups were rotated among three pastures every seven days. The trial was initiated on July 15 and ended on September 30. At both times the steers were weighed in the morning following a 16 hour shrink.

Treatments (table 1) consisted of either a soybean meal cube (SBM), or the same cube containing either monensin (100 mg/lb supplement; M) or chlortetracycline (350 mg/lb of supplement; C). Supplements were group-fed three times weekly at a rate of 2.3 lb supplement per head per feeding (.99 lb/head/day). Free choice mineral was available to the cattle at all times.

Results and Discussion

Weight gains of the SBM cattle agree well with gains noted previously for protein-supplemented cattle in this area of Oklahoma.

Assistant Professor¹ Professor² Herd Manager³

Table 1. Ingredient composition of supplements (% as-fed).

Ingredient	SBM	SBM+M ^a	SBM+C ^b
Soybean meal	88.9	88.7	88.5
Alfalfa, dehy.	6.0	6.0	6.0
Vit. A-30	.15	.15	.15
Dicalcium phosphate	1.0	1.0	1.0
Cane molasses	4.0	4.0	4.0
Rumensin-60	--	.17	--
Aureomycin 100	--	--	.35

a,^bM=monensin, C=chlortetracycline.

Table 2. Days on trial, initial weight, and weight gains of steers.

	SBM	SBM+M	SBM+C	SEM
Days on trial	77	77	77	
Initial weight, lbs/head	598	607	606	
Weight gain, lbs/head ^a				
Total	108	130	138	9.1
Daily	1.4	1.7	1.8	.1

^aSBM+M > SBM (P<.10); SBM+C > SBM (P<.025); SBM+M = SBM+C (P>.50).

Monensin improved (P<.10) performance 20% in comparison to cattle receiving no additive in their supplement (Table 2). Similarly, chlortetracycline improved (P<.025) gains 28% compared to the SBM group. Although the average gain for the C group was 8 lbs more than that of the M cattle, the difference was not significant (P>.50).

Based on Oklahoma City Stockyards prices for September 1987, addition of the ionophore or the antibiotic increased gross sale value of the steers \$12.80/head and \$17.40/head, respectively.