

Kansas Agricultural Experiment Station Research Reports

Volume 0
Issue 1 *Cattleman's Day (1993-2014)*

Article 1457

1968

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Recommended Citation

Phar, P.A. and Zimmer, P.R. (1968) "The effect of Aureomycin and Sulmet combinations in feed on the performance of cattle," *Kansas Agricultural Experiment Station Research Reports*: Vol. 0: Iss. 1. <https://doi.org/10.4148/2378-5977.2860>

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The Effect of Aureomycin and Sulmet Combinations in Feed On the Performance of Cattle

P.A. Phar and P. R. Zimmer¹

Two feedlot trials were conducted during the summer of 1967 at the Morris Feed Yards, Morris, Kansas, to study effects of aureomycin (chlortetracycline) and sulfamethazine fed alone or in combination on weight gain, feed efficiency and general health of newly arrived feeder calves.

The calves originated in the Fort Worth, Texas, area and were trucked to the Morris Feed Yards, where they were individually identified and weighed before being fed and watered. Vaccinations with Leptospira pomona bacterin and infectious bovine rhinotracheitis vaccine preceded random allotment to pens of five head each.

Shrunk body weights were recorded at the beginning and end of the 28-day experiments. Cattle were held off feed and water approximately 18 hours before recording final weights. The cattle were checked daily for health status. A licensed veterinarian also observed the cattle frequently and recorded his observations and treatments.

Feed consumption records were maintained throughout each trial.

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Results and Discussion

Composition of the basal ration and protein supplement is shown in tables 33 and 34. Results of these trials are shown in tables 35, 36, 37. Incidence of sickness was low and no death losses occurred. The cattle receiving treatment D (350 mg. aureomycin and 350 mg. sulmet/head/day) had highest daily gains and lowest feed requirements in both trials. The control cattle, treatment A, had higher daily gains and lower feed requirements than treatments B (350 mg. sulmet/head/day) or C (350 mg. aureomycin/head/day) in one trial (3). Trials 1 and 2 show control cattle with highest feed requirements. In trial 2 controls made the lowest average daily gain. The sulmet cattle (treatment B) gained consistently more and consumed more feed than did cattle receiving 350 mg./head/day of aureomycin (treatment C).

Under the conditions of these trials the combination of 350 mg./head/day of aureomycin and 350 mg./head/day of sulmet resulted in faster, more economical gains and consequently a shorter interval in recovering weight loss due to shipment.

Table 33
Composition of Basal Ration

<u>Ingredient</u>	<u>Percent</u>
Dehydrated alfalfa pellets	35
Cottonseed hulls	35
Sorghum grain	25
Molasses	<u>5</u> 100

Table 34
Composition of Protein Supplement¹

<u>Ingredient</u>	<u>Percent</u>
Soybean meal (44%)	65.0
Molasses (dried)	14.0
Dehydrated alfalfa meal	14.0
Dicalcium phosphate	5.2
Iodized salt	<u>1.8</u> 100.0

Miconutrients/1000 lb.

Cobalt carbonate	2.0 gm.
Zinc oxide	625.0 gm.
Vitamin A	10,000,000.0 I.U.
Vitamin D	1,500,000.0 I.U.

¹ Supplement was fed at the rate of two pounds per head daily.

Table 35

Summary of Trials

Treatment groups	A	B	C	D
Aureomycin mg/head/day	0	0	350	350
Sulmet mg/head/day	0	350	0	350
No. of steers	40	40	40	40
No. days on test	28	28	28	28
Av. initial wt. (lb.)	371.5	368.3	370.7	366.5
Av. final wt. (lb.)	438.1	437.7	435.5	442.6
Av. total gain	66.6	69.4	64.8	76.1
Av. daily gain	2.38	2.48	2.31	2.72
Av. daily ration	15.64	16.10	14.65	15.34
Feed/lb. gain	6.57	6.49	6.34	5.64
Cattle req. treatment	1	3	0	1
Cattle req. retreat.	1	1	0	0
Total treatments	2	4	0	1
Death loss	0	0	0	0

Table 36

Trial 2

Treatment groups	A	B	C	D
Aureomycin mg/head/day	0	0	350	350
Sulmet mg/head/day	0	350	0	350
No. of steers	20	20	20	20
No. days on test	28	28	28	28
Av. initial wt. (lb.)	337.0	337.7	335.7	332.3
Av. final wt. (lb.)	401.0	408.0	403.0	409.3
Av. total gain	64.0	70.3	67.3	77.0
Av. daily gain	2.29	2.51	2.40	2.75
Av. daily ration	14.22	14.78	12.98	14.08
Feed/lb. gain	6.21	5.89	5.41	5.12
Cattle req. treatment	1	3	0	0
Cattle req. retreat.	1	1	0	0
Total treatments	2	4	0	0
Death loss	0	0	0	0

Table 37

Trial 3

Treatment groups	A	B	C	D
Aureomycin mg/head/day	0	0	350	350
Sulmet mg/head/day	0	350	0	350
No. of steers	20	20	20	20
No. days on test	28	28	28	28
Av. initial wt. (lb.)	406.0	399.0	405.5	400.7
Av. final wt. (lb.)	475.3	467.5	468.0	476.0
Av. total gain	69.3	68.5	62.5	75.3
Av. daily gain	2.47	2.45	2.23	2.69
Av. daily ration	17.09	17.39	16.21	16.57
Feed/lb. gain	6.92	7.10	7.27	6.16
Cattle req. treatment	0	0	0	1
Cattle req. retreat.	0	0	0	0
Total treatments	0	0	0	1
Death loss	0	0	0	0