

Table 3.—Erythromycin in Creep-feed for Fall Calves.

	Creep-feed <sup>1</sup>	Creep-feed plus 45 mg. erythromycin <sup>2</sup>
Number of calves	18	18
Steers	9	9
Heifers	9	9
Average weight per calf, lbs.		
Initial 1-7-59	177	174
Final 4-23-59	349	348
Gain, 106 days	172	174(2) <sup>3</sup>
Creep-feed consumption, lbs.	514	517

<sup>1</sup> Basal creep-feed mixture was 55 percent rolled milo, 30 percent whole oats, 10 percent cottonseed meal and 5 percent cane molasses.

<sup>2</sup> Basal creep-feed plus 45 milligrams of erythromycin per head daily. Erythromycin fed as Ilotycin furnished by Eli Lilly and Co.

<sup>3</sup> Gain compared to basal.

### Summary

Implants of 6 milligrams of stilbestrol increased gains of steer calves born in October and November 16 pounds and gains of heifer calves 17 pounds. An additional 6 milligrams (a total of 12 milligrams) did not result in additional gains of steers but heifers gained an additional 14 pounds, or a total increase of 31 pounds when compared to the control heifers. Prior to this test the average increase in gains due to stilbestrol implants was 22 pounds in eight trials with steers and 36 pounds in five trials with heifers.

Response to the addition of stilbestrol in creep-feeds has been variable. In the current test 5 milligrams of stilbestrol increased gains 26 pounds. The addition of 45 milligrams of erythromycin to the stilbestrol-containing feed did not increase gains. Also, gains of fall calves were not increased by the addition of erythromycin to the creep-feed.

## Aureomycin, Stilbestrol and Ruelene Studies With Fattening Lambs in Dry Lot

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Previous work (M.P. 51, 55) with fattening lambs revealed a 10 to 15% increase in gain and feed efficiency by the addition of aureomycin to the ration or mixed with the salt. Likewise, a 10 to 15% increase in gains and feed efficiency was noted by using a 3 mg. stilbestrol implant. This report is a continuation of this study, in which aureomycin and stil-

bestrol are used individually and in combination. The report is also concerned with the effects of drenching feeder lambs with phenothiazine or ruelene (a new systemic insecticide) on rate of gain and feed efficiency.

### Procedure

Two hundred and forty Western wether feeder lambs were used in this experiment. The lambs were produced in the range area of New Mexico, and were sheared at Roswell prior to shipment. They were shipped from Roswell via truck and were received at the Ft. Reno Station on November 7. The lambs were fed prairie hay on November 7, 8, and 9. They were not vaccinated for enterotoxemia. Soluble aureomycin was used in the drinking water the first week. The initial weights were taken on November 10 after a 4-hour shrink. The lambs were started on self feeders on November 10, using the following ration: 20% ground milo, 10% molasses, 35% ground alfalfa hay, and 35% cottonseed hulls.

After 7 days the lambs were switched to a ration composed of 30% ground milo, 5% molasses, 50% alfalfa hay, and 15% cottonseed hulls. After 3 days they were placed on the final ration, which was composed of 45% milo, 5% molasses and 50% alfalfa hay, ground and mixed.

The treatments used were as follows (24 lambs per lot):

- Lot 1. Basal ration—45% milo, 5% molasses, 50% alfalfa hay, ground and mixed, and salt, free choice. Lambs were slaughtered at 100 pounds.
- Lot 2. Same as lot 1 except lambs were slaughtered at 130 pounds.
- Lot 3. Basal plus 3 mg. stilbestrol implant.
- Lot 4. Basal plus 10 mg. aureomycin per pound of ration. (20 grams of aurofax 10 per ton of ration.) Salt, free choice.
- Lot 5. Basal plus 3 mg. stilbestrol implant plus 10 mg. aureomycin per pound of ration. Salt, free choice.
- Lot 6. Basal plus 20 mg. aureomycin per pound of ration. (40 grams aurofax 10 per ton of ration.) Salt, free choice.
- Lot 7. Basal plus 3 mg. stilbestrol implant plus 20 mg. of aureomycin per pound of ration. Salt, free choice.
- Lot 8. Basal ration plus aureomycin in salt. (Three pounds of aurofax 10 per 37 pounds of salt.) Estimated daily intake of 30 mg. aureomycin per day.
- Lot 9. Basal plus 3 mg. stilbestrol implant plus aureomycin in salt. (3 pounds aurofax 10 to 37 pounds of salt.)
- Lot 10. Basal plus aureomycin in salt. (Six pounds of aurofax 10 per 34 pounds of salt.) Estimated daily consumption of aureomycin, 60 grams.

One-fourth of the lambs of each lot was drenched with phenothiazine, one-fourth with ruelene (75 mg/kg of body weight), one-fourth with ruelene (125 mg/kg). The remaining one-fourth were not drenched.

Individual weights following an overnight period without access to food and water were taken at the beginning and at the end of the trial. Intermediate weights without shrinking the lambs were taken approximately every 30 days. The lambs were sold on the Oklahoma City market. Marketing data included shrinkage and selling price. Unfortunately, carcass grade and yield could not be obtained. Average weight gains, marketing data, and financial results are shown in Table 1. The effects of drenching with phenothiazine or ruelene on rate of gain are shown in Table 2.

### Observation

As indicated above, the lambs were sheared at Roswell. The average shrinkage from purchase weight till just prior to shipment was 3.7%. This does not include the loss in weight due to the removal of the fleece. The shrinkage from Roswell to Ft. Reno was 4.7%. The lambs shrunk 4% from Ft. Reno to the Oklahoma City market.

The data on the Lot 2 lambs is not shown since they have not been slaughtered at this date. The average daily gains of the lambs of all lots were satisfactory. Stilbestrol (3 mg. implant) increased gains by about 10 to 15% in each comparison and also increased feed efficiency in 3 of the 4 comparisons.

Aureomycin at a level of 10 mg. per pound of ration decreased gains slightly. A greater decrease in gain was noted at the 20 mg. level. It would appear that 20 mg. of aureomycin per pound of ration is too high for satisfactory results. Aureomycin mixed with the salt also decreased gains.

Drenching lambs with phenothiazine or ruelene had no effect on rate of gain or feed efficiency. Apparently the lambs were quite free of internal parasites.

TABLE 1. Aureomycin, Stilbestrol, and Ruelene Studies with Fattening Lambs in Dry Lot.  
(81 days<sup>1</sup>, November 11, 1958 to February 1, 1959).

Treatment	Basal	Basal + 3 mg. stilbestrol implant	Basal + 3 mg. stilbestrol implant + 10 mg. Aureomycin per lb. of ration	Basal + 20 mg. aureomycin per lb. of ration	Basal + 3 mg. stilbestrol + 20 mg. aureomycin per lb. of ration	Basal + aureomycin in salt (3# Auorofax 10/37# salt)	Basal + Stilbestrol implant + aureomycin in salt (3# Auorofax 10/37# salt)	Basal + aureomycin in salt (6# Auorofax 10/34# salt)
Lot No.	1	3	4	6	7 <sup>2</sup>	8 <sup>2</sup>	9	10
No. lambs/lot	24	24	24	24	24 <sup>3</sup>	24 <sup>3</sup>	24	24
Initial wt.	63.1	62.5	60.4	60.0	63.3	62.0	62.4	61.4
Final wt.	101.0	101.1	95.2	93.7	99.6	94.3	101.0	92.5
Av. daily gain	.45	.48	.43	.41	.45	.40	.48	.38
Av. daily ration	3.7	3.7	3.7	3.5	3.9	3.8	3.9	3.9
Salt intake gram/da	8.2	8.2	5.0	6.3	7.5	13.3	15.0	17.5
Lbs. feed/lb gain	8.5	7.7	8.5	8.4	8.8	9.5	8.2	10.0
<i>Financial Results</i>								
Av. pur. price, del <sup>3</sup>	18.87	18.87	18.87	18.87	18.87	18.87	18.87	18.87
Av. selling price	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50
Total value/lamb <sup>4</sup>	16.98	16.98	16.00	15.75	15.80	15.86	16.98	15.54
Initial cost/lamb	11.91	11.79	11.40	11.32	11.94	11.70	11.77	11.59
Miscellaneous cost <sup>5</sup>	.75	.75	.75	.75	.75	.75	.75	.75
Feed cost/lamb <sup>6</sup>	5.97	5.51	5.52	5.26	5.91	5.73	5.88	5.82
Loss per lamb	1.65	1.07	1.67	1.58	2.80	2.32	1.42	2.62

<sup>1</sup> One-half of the lambs of lot 1 sold after 69 days, the remaining half at 102 days—average 85.5 days.

<sup>2</sup> Three lambs died in lot 7—enterotoxemia; one lamb died in lot 8—enterotoxemia.

<sup>3</sup> \$17.45 f.o.b. Roswell, \$18.87 cwt. delivered, includes cost of transportation, shearing, commission and misc. expenses minus wool return (4.54# wool per lamb x 38.5¢ per lb.)

<sup>4</sup> Does not include death loss in lot 7 and 8, but does include shrinkage to market.

<sup>5</sup> Includes 50¢ per lamb for marketing and 25¢ per head for transportation to market.

<sup>6</sup> Feed cost per ton \$37.25; (milo \$35, Alfalfa \$35, and molasses \$60 per ton); \$3 per ton for grinding, \$3 per ton for mixing). Does not include cost of aureomycin and stilbestrol.

TABLE 2.—The Effect on Drenching with Phenothiazine or Ruelene on Total Gain  
(54 Lambs Per Treatment, 81 days).

Lot No.	1	2	3	4	5	6	7	8	9	10	Av.
No. drench	35.8	35.8	35.8	33.7	44.2	35.7	32.2	32.5	41.0	33.0	36.0
Phenothiazine (2 oz.)	36.5	37.8	37.8	33.8	42.2	27.0	36.8	34.7	38.3	29.5	35.2
Ruelene drench 75 mg/kg of body wt..	38.5	41.2	41.2	34.7	34.0	36.2	32.4	33.2	42.7	29.5	35.9
Ruelene drench 125 mg/kg body wt.	40.5	39.8	39.8	37.2	37.0	35.7	36.3	32.2	41.0	32.0	36.9