

The feed required per cwt. gain was high for all lots—perhaps due to the heavy initial weight. However, aureomycin increased feed efficiency in each case. The response was the greatest when aureomycin was added to the salt or mixed with the food.

All lots of lambs lost from \$6.00 to \$7.00 per head due to negative margin of 5½ cents per pound.

## Wheat Pasture Studies with Western Feeder Lambs

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During years of adequate rainfall, thousands of lambs are fattened on wheat pasture in Oklahoma and adjoining areas. Lambs grazing lush wheat pasture make excellent gains at a much lower cost per unit of gain than can be obtained in the feed lot.

Recent work at the Ft. Reno Station indicates that during most years, lambs grazing wheat pasture will return as sizeable profit, but perhaps the most important aspect in the utilization of wheat pasture or other fall and winter pastures is not the profit per animal unit but how much return can be expected per acre of pasture.

### Previous Work

Previous work at the Ft. Reno Station (M.P. 34, M.P. 45, and M.P. 51) indicates that a net gain of approximately 170 pounds per acre can be expected over a 90-day grazing period using a stocking rate of 5 lambs per acre. With a break even or positive margin, a net return of \$25 to \$35 per acre of wheat pasture could be expected.

Feeding one-half to three-quarters pound of milo per lamb daily during the entire grazing season has increased gains slightly and improved carcass grade and yield. But in only one year out of three have the supplemented lambs returned more profit than those receiving only wheat pasture. The increased gains have not been enough to offset the additional cost of feed unless the supplemented lambs are sold for \$1.00 to \$1.50 more per cwt.

In observing the conditions of the wheat pasture at the end of the grazing season, it was felt that the stocking rate could be increased if supplemental feed was used. In this year's work, a stocking rate of 10 lambs per acre with and without supplement (1 pound of milo per lamb, daily) was compared to 10 lambs per acre with and without supplement.

Also, in a further effort to extend to utilization of wheat pasture, that is, to carry more lambs per acre, one lot of lambs was self-fed on wheat pasture.

With the cut in wheat acreage, it was found desirable to study the return per acre on other winter pastures such as rye and vetch.

### Procedure

Five hundred grade Western lambs were used in this experiment. The lambs were produced in the range area of New Mexico. They were shipped via rail and truck from Roswell, New Mexico, and were received at the Ft. Reno Station in the latter part of October. The lambs grazed Bermuda grass pasture around the station headquarters until they went on experiment the latter part of November. During this period the lambs were drenched, vaccinated against enterotoxemia, ear tagged and sheared.

Lambs were started on their experimental ration November 25. The treatments used were as follows:

(Ten acres wheat pasture per lot in Lots 1-5).

Lot 1. Wheat pasture, 5 lambs per acre; no supplemental feed.

Lot 2. Wheat pasture, 5 lambs per acre; 1 pound of milo per lamb daily during the entire grazing period.

Lot 3. Wheat pasture, 10 lambs per acre; no supplemental feed.

Lot 4. Wheat pasture, 10 lambs per acre; 1 pound of milo per lamb daily during the entire grazing period.

Lot 5. Wheat pasture, 10 lambs per acre; a mixture of 45 percent milo, 5 percent molasses, and 50 percent alfalfa hay self-fed at night.

Lot 6. Rye and vetch pasture, 10 lambs per acre; no supplemental feed.

One-half of the lambs of each lot were implanted with a 3 milligram stilbestrol implant\* and the other half with a 6 milligram implant.\* A mineral mix of 75 percent salt and 25 percent steamed bone meal was available to the lambs of all lots. The supplements for Lots 2 and 4 were fed once daily in the evening.

All lambs were penned in a dog proof lot at night. During snow storms, the lambs remained in their pen during the day and were fed alfalfa hay. The cost of alfalfa hay was charged to each lot in the feed costs.

Individual weights following an overnight period without access to feed and water were taken at the beginning of the trial at approximately

\*The stilbestrol implants were supplied by Pfizer & Co., Terre Haute, Indiana.

30-day intervals and at the end of the trial. The lambs of Lot 5 were sold February 2 on the Oklahoma City market. The remaining lambs were sold February 16.

Market data included shrinkage and selling price. Unfortunately, carcass grades and yields could not be obtained. Average weight gains, gains per acre of pasture, feed consumed, and market data are shown in Table 1.

**TABLE 1. Weight gains, rations fed, and financial results obtained with fattening lambs on small grain pasture.**

Treatment	Wheat Pasture 5 lambs/acre No supplement	Wheat Pasture 5 lambs/acre 1 lb. milo/lamb daily	Wheat Pasture 10 lambs/acre No supplement	Wheat Pasture 10 lambs/acre 1 lb. milo/lamb daily	Wheat Pasture 10 lambs/acre Self-fed mixed ration <sup>1</sup> entire period	Rye & Vetch 10 lambs/acre Self-fed last ration <sup>1</sup> mixed 28 days
Lot no.	1	2	3	4	5	6
Acres of pasture	10	10	10	10	10	10
No. lambs/lot	50	50 <sup>2</sup>	100	100 <sup>2</sup>	100	100 <sup>2</sup>
Initial weight	71.5	73.4	70.5	70.8	71.4	70.6
No. days on feed	82	82	82	82	68	82
Av. daily gain	.44	.48	.38	.42	.63	.45
Gain per acre minus shrinkage to mkt. (lbs.)						
Pasture	173	---	302	---	---	---
Pasture & supplemental feed	---	187	---	400	400	354
Financial Results (\$)						
Date sold	2-16	2-16	2-16	2-16	2-2	2-16
Av. purchase price/cwt. delivered <sup>3</sup>	23.1	23.1	23.1	23.1	23.1	23.1
Av. selling price/cwt.	15.7	16.7	15.6	16.1	16	15.9
Net return on wool <sup>4</sup>	.41	.41	.41	.41	.41	.41
Total value per lamb at market <sup>5</sup>	16.50	18.40	15.94	17.38	17.71	16.70
Initial cost/lamb	16.52	16.96	16.29	16.35	16.49	16.18
Misc. cost <sup>6</sup>	1.00	1.00	1.00	1.00	1.00	1.00
Feed cost per lamb	1.51	3.23	1.51	3.23	4.11	3.45
Loss per lamb	2.53	2.79	2.86	3.20	3.89	3.93
Shrinkage to mkt. (%)	4	4.2	4	4.7	4.9	4.6

<sup>1</sup> Ration used: 45% milo, 50% alfalfa hay, 5% molasses-ground mixed.

<sup>2</sup> One lamb each in Lots 2, 4 and 6 died; not included in total cost.

<sup>3</sup> 22¢ F.O.B. Roswell, N. M.; cost of transportation 92¢ each or \$1.10 per cwt.

<sup>4</sup> 4.54 lb. wool per lamb x 42¢ 1 lbs., which included gov. incentive = \$1.91; minus 50¢ for shearing and \$1.00 for price paid for wool (22¢ x 4.54 lb.).

<sup>5</sup> Includes net wool return and deducts actual shrinkage to market.

<sup>6</sup> Includes 50¢ per lamb for marketing, 25¢ per lamb for vaccinating and drenching and 25¢ per lamb for transportation to mkt.

<sup>7</sup> Wheat pasture charge of 50¢ per lamb per month; also includes cost of supplemental feed—prices used listed in bulletin.

## Observations

The average daily gains of all lambs grazing small grain pasture were very satisfactory (.44, .48, .38, .42, .63, and .45 pound per lamb daily for Lots 1, 2, 3, 4, 5, and 6 respectively). These gains were slightly higher than the gains during previous years, perhaps due to the higher dry matter content of the pasture.

Feeding 1 pound of milo per lamb daily increased gains by .04 pound (compare Lots 1 and 3 vs. Lots 2 and 4), and the lambs were fatter as indicated by live grade and selling price. However, due to increased cost of the supplemental feed, the lambs grazing wheat pasture without supplemental feed lost less money.

Self feeding a mixed ration (45 percent milo, 5 percent molasses and 50 percent alfalfa hay) appeared to be very satisfactory. The lambs consumed an average of 2.3 pounds of the mixed ration daily, and gained at the rate of .63 pound per day. Due to the weight of the lambs, it was necessary to sell this group on February 2. This lot of lambs was the fattest of the six lots and had they sold on the same date, they would have sold for \$1.00 to \$1.50 more per cwt. In noting the condition of the wheat pasture at the end of the grazing season, it appears that the stocking rate of this lot could be doubled.

The rye and vetch pasture was the poorest of the six pastures, perhaps due to the early growth of the pasture. Unfortunately, due to physical facilities, it was not possible to turn the lambs on the pasture at the beginning of the early growth. During the last 28 days of the experiment, it was necessary to self-feed this group of lambs on pasture.

All lots of lambs lost from \$2.50 to \$3.93 per lamb due to a negative margin of 6½ to 7½ cents per pound. Even on wheat pasture, it was impossible to overcome this large negative margin.

The net gain per acre was exceedingly good for all lots. Using 5 lambs per acre without supplemental feed, a net gain per acre of 173 pounds was attained during an 82-day grazing period. Supplemental feeding of 1 pound of milo per lamb daily for 5 lambs per acre increased net gain per acre by only 14 pounds.

Using 10 lambs per acre without supplement, the net gain (total gain minus shrinkage to market) was 302 pounds per acre. Feeding 1 pound of milo daily increased gains per acre by 100 pounds.

In years with a break-even or positive margin, and with a net gain of approximately 300-400 pounds per acre, it seems feasible to show a net return of \$50 to \$75 per acre of wheat pasture during a 90-100 day grazing period.

## The Effects of Stilbestrol Implants

The results are shown in Table 2. Previous work indicated that a 15 percent to 25 percent increase in gain could be expected from using a 6 milligram implant. Thus in this experiment, a 3 milligram implant was compared to a 6 milligram implant. As indicated in Table 2, the 6 milligram implant gave slightly better results than the 3 milligrams implant in 4 lots out of 6. No side effects were noted.

A 3 mg stilbestrol implant has been approved by the Federal Food and Drug Administration for use with lambs.

**TABLE 2. The effects of stilbestrol implant on feedlot Performance.**

Lot No.	No. of Days on Feed	Total Gain Per Lamb	
		3 mg.	6 mg.
1	82	34.4	37.9
2	82	40.5	37.8
3	82	30.7	32.2
4	82	40.9	43.0
5	68	41.8	43.3
6	82	37.6	36.6
Average for all lots		37.7	38.5

## Comparison of Two Methods of Preparing Barley For Fattening Steer Calves

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A number of experiments have been conducted on grinding or rolling barley in fattening rations. With the increase in pelleting or cubing feeds, it appears that this method of preparation might be superior to other conventional methods.

Preliminary tests comparing rolled versus pelleted milo indicate an advantage in feed efficiency from pelleting the grain for fattening calves. Other stations have reported favorable results with pelleting barley for swine. Accordingly, an experiment was designed with beef calves in which the effect of steam rolling or "crimping" was compared to fine grinding and pelleting barley.