

Sheep

Lamb Feeding Experiments

Feedlot and Pasture Fattening Tests with Feeder Lambs. Studies Carried On by the Department of Animal Husbandry and the Garden City Branch Experiment Station.

PROJECT 111 GC

T. Donald Bell and A. B. Erhart

The tests this year compared whole milo with ground milo grain fed with a standard roughage ration of ground sorghum stover, protein supplement, and supplemental salt and limestone. The roughage comparisons included (1) all sorghum stover, (2) sorghum stover and alfalfa hay, and (3) beet top silage and alfalfa hay. One lot of lambs received the sorghum stover-alfalfa hay-milo grain ration as pellets.

One lot on the standard ration received 6 milligram pellet implants of stilbestrol at the beginning of the feeding period; another lot on the standard ration received estradiol-progesterone (Synovex) pellet implants at the start of the tests; and another lot of lambs was given 2 milligrams of stilbestrol daily in the standard ration.

Two lots of lambs were run on irrigated milo pasture with supplemental alfalfa hay during the early part of the grazing period. Additional grain was provided after approximately 50 days, and one lot was brought into the dry lot for finishing after 63 days on pasture. Another lot of lambs was grazed on irrigated wheat pasture for 63 days and brought in (because of snow) to be finished in the dry lot.

Lambs

The lambs for this year's tests were obtained from Wyoming, and included primarily white-face, crossbred lambs, with a smaller number of black-face crossbreds. They weighed 68.1 pounds at the loading point in Wyoming. The average weight off the cars in Garden City was 61.2. They were started on tests about 30 days later, weighing approximately 73 pounds.

Feed Prices

Milo grain	\$ 2.00 per cwt.
Grinding .....	.10 per cwt.
Cottonseed meal	80.00 per ton
Alfalfa hay	30.00 per ton
Straw	7.00 per ton
Ground sorghum stover	15.00 per ton
Sorghum silage	8.00 per ton
Beet top silage	8.00 per ton
Pellets	41.14 per ton
(32.7% dehydrated Axtell, 19.2% alfalfa, 48.1% milo)	
Wheat pasture .....	.50 per head
(14 acres used 63 days)	per month
Sorghum stubble, 30 acres .....	.50 per acre
Salt .....	.90 per cwt.
Calcium	1.00 per cwt.

Table 1.—Feedlot tests.

Lot number	1	2	3	4
	Beet top silage	Axtell stover	Stilbestrol in feed	Stilbestrol implants
Ration fed	Whole milo, alfalfa hay, salt, limestone	Whole milo, C.S.M., salt, limestone	Axtell stover, whole milo, C.S.M., salt, limestone	Axtell stover, whole milo, C.S.M., salt, limestone
Number of lambs per lot	50	50	50	50
Number of days on feed	105	105	105	105
Initial wt. per lamb	73.0	73.9	73.6	73.5
Final wt. per lamb	109.7	101.6	107.4	107.0
Total gain per lamb	36.7	27.7	33.8	33.5
Daily gain per lamb .....	.35	.26	.32	.32
Feed per lamb daily:				
Milo grain	1.21	1.21	1.21	1.21
Alfalfa hay .....	.51			
Axtell stover		2.40	2.47	2.51
Beet top silage	5.12			
Cottonseed meal .....		.20	.20	.20
Salt .....		.022	.026	.022
Limestone .....		.015	.015	.015
Feed per cwt. gain:				
Milo grain	345	457	375	379
Alfalfa hay	146			
Axtell stover		909	770	786
Beet top silage	1463			
Cottonseed meal		76	63	62
Salt	6.3	8.4	8.3	6.9
Limestone		5.7	4.7	4.7
Feed cost per cwt. gain	\$ 15.00	\$ 19.12	\$ 15.91	\$ 16.08
Feed cost per lamb	\$ 5.50	5.29	5.38	5.39
Initial cost per lamb	\$ 13.52	13.69	13.63	13.61
Number of lambs lost	0	0	0	0
Cost of lamb loss	0	0	0	0
Total cost	\$ 19.02	18.98	19.01	19.00
Final cost per cwt.	\$ 17.33	18.68	17.70	17.76
Average fleece wt., lbs.	7.2	6.5	6.4	6.7

Table 2.—Feedlot tests.

Lot number	5	6	7	8
	Estradiol-progesterone implants	Ground milo	Pelleted ration	Non-pelleted ration
Ration fed	Whole milo, Axtell stover, C.S.M., salt, limestone	Axtell stover, C.S.M., salt, limestone	Milo-Axtell stover, alfalfa hay pellets, straw, salt	Whole milo, Axtell stover, alfalfa hay, salt
Number of lambs per lot	50	50	50	50
Number of days on feed	105	105	105	105
Initial wt. per lamb	72.6	73.3	73.6	72.4
Final wt. per lamb	107.1	101.8	105.0	101.2

Table 2 (Continued).

Total gain per lamb	34.5	28.5	31.4	28.8
Daily gain per lamb .....	.33	.27	.30	.27
Feed per lamb daily:				
Milo grain	1.21	1.21		1.21
Alfalfa hay .....			.068	.50
Axtell stover	2.46	2.33	.381	1.85
Straw .....			.243	
Pellets			2.39	
Cottonseed meal .....	.20	.20		
Salt .....	.025	.022	.028	.023
Limestone .....	.015	.015		
Feed per cwt. gain:				
Milo grain	367.9	443.22		440.83
Alfalfa hay			22.64	182.52
Axtell stover	748.9	853.5	127.2	677.44
Straw			81.09	
Pellets			798.94	
Cottonseed meal	60.9	73.3		
Salt	7.77	8.058	9.41	8.48
Limestone	4.57	5.49		
Feed cost per cwt. gain	\$ 15.54	\$ 18.77	\$ 18.03	\$ 16.72
Feed cost per lamb	\$ 5.36	5.35	5.66	4.81
Initial cost per lamb	\$ 13.44	13.58	13.63	13.40
Number of lambs lost	0	1	0	0
Cost of lamb loss	0	.32	0	0
Total cost	\$ 18.80	19.25	19.29	18.21
Final cost per cwt.	\$ 17.55	18.91	18.37	17.99
Average fleece wt., lbs.	6.2	6.6	6.5	6.5

Table 3.—Pasture tests.

Lot number	9	10	11
	Milo stubble + alfalfa hay + milo, salt	Milo stubble + alfalfa hay + milo (63 days)	Wheat pasture (63 days)
Ration fed		Drylot— sorghum silage, alfalfa hay and milo (42 days)	Drylot— sorghum silage, alfalfa hay and milo (42 days)
Number of lambs per lot	50	50	50
Number of days on feed	105	105	105
Pasture	105	63	63
Drylot		42	42
Initial wt. per lamb	73.0	72.6	71.8
Final wt. per lamb	89.8	96.3	108.4
Total gain per lamb	16.8	23.7	36.3
Daily gain per lamb .....	.16	.23	.35
Pasture .....		.14	.40
Drylot .....		.36	.29

Table 3 (Continued).

Feed per lamb daily (in addition to pasture):			
Milo grain .....	.57	.57	.49
Alfalfa hay .....	.51	.51	.20
Axtell stover .....	.14		
Sorghum silage		1.80	1.05
Salt .....	.012	.015	.022
Feed per cwt. gain:			
Milo grain	366.45	254.0	142.3
Alfalfa hay	326.9	228.0	57.2
Axtell stover	89.0		
Sorghum silage		801.0	472.8
Salt	7.75	6.8	6.3
Feed cost per cwt. gain	\$ 14.16	\$ 12.28	\$ 8.54
Feed cost per lamb	\$ 2.38	2.91	3.10
Initial cost per lamb	\$ 13.52	13.44	13.30
Number of lambs lost	1	0	0
Cost of lamb loss .....	.28	0	0
Total cost	\$ 15.90	16.35	16.40
Final cost per cwt.	\$ 17.70	16.98	15.13
Average fleece wt., lbs.	6.3	6.0	7.7

Observations

The lambs receiving ground milo gained a little faster and slightly more economically than the lambs receiving whole milo. In similar tests through previous years an advantage was shown in grinding the milo in two of the years, while no advantage was shown the other year.

Beet top silage produced the largest and most economical gains, using current prices, of any of the feedlot rations in this year's tests. In the 1953-54 tests the beet top silage ration produced larger gains than any of the other rations, but at the prices charged, it was not the most economical. Because of the interest in shrinkage and yield of the silage-fed lambs, this information was obtained when the lambs were marketed in Wichita. The silage-fed lambs shrank 7.45 percent going to market and yielded 53 percent when slaughtered. The lambs fed the standard or control ration shrank 9.35 percent going from Garden City to Wichita, and had average carcass yields of 50 percent based on the purchase weight at Wichita.

The pelleted ration, as in previous years, produced faster gains with more efficient use of feed nutrients than the non-pelleted ration. The gains, however, were more expensive with the pelleted ration because of its cost.

Including ½ pound of alfalfa hay as a part of the roughage produced slightly larger and considerably cheaper gains than when sorghum stover was the only roughage.

This was the first test with irrigated wheat pasture. It clearly demonstrated its worth, producing as high a rate of gain as the best drylot group. The final cost per hundred for the lambs fed wheat pasture was \$1.85 less than the cost of any other group either on pasture or in dry lot.

Sorghum stubble produced economical gains, but the gains were small. This was particularly true with lambs that remained on sorghum stubble the entire feeding period.

The lambs given hormones—either as implants at the beginning of the tests or daily in the feed—gained more rapidly than lambs on a similar ration with no hormone treatment. In previous tests with stilbestrol implants and with stilbestrol-progesterone implants, the hormone-treated lambs shrank more going to market and produced lower grading and lower yielding carcasses than lambs fed similar rations without hormones. Further information concerning the use of hormones in lamb feeding is presented below.

The lambs were shown at the close of the experimental feeding period. Wool production for the various lots is shown in the bottom line of each table. The lots making larger gains generally produced larger and heavier fleeces.

A comparative appraisal was made by a commission firm representative following shearing. He considered the lot receiving the beet top silage, the lot receiving the 6 mg. implants of stilbestrol, and the lot of lambs receiving the pelleted ration the best lambs, with the wheat pasture lambs almost as good. He ranked the remaining lots lower and thought they probably would sell in about the same price range. Other observers at the Feeders' Day program thought the sorghum-pasture lambs and the lambs receiving "Synovex" implants were of lower finish and quality.

Only two lambs were lost in the tests this year, both from "over-eating disease."

Appreciation is expressed to Eli Lilly Company, Indianapolis, Ind., for the stilbestrol pre-mix fed; to Norden Laboratories, Lincoln, Neb., for the stilbestrol pellets; and to Syntex Animal Products Company, Kansas City, Mo., for the estradiol-progesterone (Synovex) pellets.

Use of Hormones

PROJECT 111 GC

T. Donald Bell, Walter H. Smith, A. B. Erhart, A. W. Gardner,
D. L. Mackintosh, and Ralph Soule

In the lamb-feeding tests at the Garden City Branch Station during the 1953-54 feeding season, one lot of 48 lambs was given stilbestrol implants of varying sizes at the beginning of the feeding period. Another lot of 48 lambs was given stilbestrol-progesterone implants at two different dosage levels at the beginning of the feeding period. The performance of these lambs was compared with those in another group of 48 receiving a similar ration of ground sorghum fodder, sorghum grain, protein supplement, and limestone—but no hormone treatment. The preliminary results of the feedlot studies were presented in the 41st Annual Livestock Feeders' Day report of May 1, 1954. Additional feedlot, slaughter, and carcass data were obtained from these lambs and are presented in Table 4.

At the conclusion of the feeding tests the spring of 1954, three lambs from the control lot, three lambs that had received 15 mg. stilbestrol implants, and three lambs that had received 12 mg. of stilbestrol and 120 mg. of progesterone in pellet implants at the beginning of the tests were brought to Manhattan for detailed carcass studies. The information from these studies is presented in Tables 5, 6, and 7.

Table 4.—Feedlot performance, shrinkage to market, and carcass grades and yields of lambs receiving hormone implants and of lambs receiving a similar ration with no hormone treatment.

	Stilbestrol implants			Stilbestrol-progesterone implants ¹			Controls	
	6 mg.	12 mg.	15 mg.	2 pellets	4 pellets	Total	No treatment	
Number of lambs	17	16	15	25	23	48	48	48
Daily rate of gain	.31	.34	.34	.33	.34	.33	.33	.25
Shrink to market, % ²				9.3		9.3	9.3	9.3
Carcass yield, %				46.5		46.1	50.0	50.0
Carcass wt., lbs.				44.2		44.3	43.7	43.7
Carcass grades								
Choice								5
Good								31
Utility								10
Cull								1
Average							High utility	Good
							Utility	

1. Each pellet contained 3 mg. stilbestrol and 30 mg. progesterone.

2. Shrinkage figured on loss of weight while trucking from Garden City to Wichita.

3. A representative portion of the lambs was used for detailed carcass studies and was not taken to Wichita.