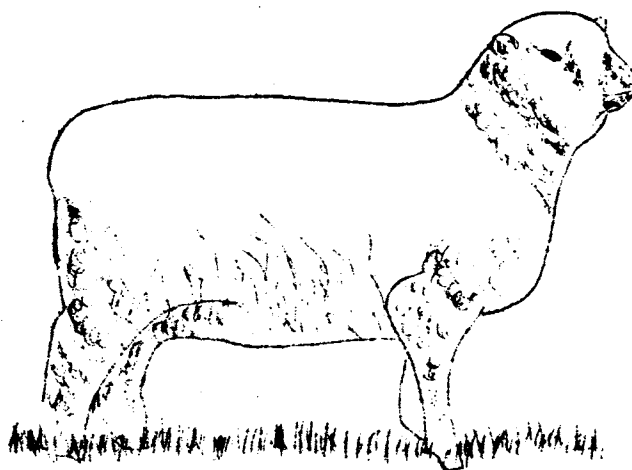


Miscellaneous Series Paper 231

Lamb Feeding Experiment - 1943-44



UTILIZING FEED IN WARTIME

LAMB FATTENING RATIONS

Colorado Agricultural Experiment Station  
Colorado State College  
Fort Collins, Colorado

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**Colorado Agricultural Experiment Station, Ft. Collins, Colorado**  
**Fed 112 days - Nov. 3, 1943 to Feb. 23, 1944**

(Table based on one average lamb)

*Mar 1944*

Lot Number	5	6	7	8	9	10	11
Number of Lambs	20	20	20	18	20	19	20
Feeds Fed:	Cut Mixture	Cut Mixture	Wh. Corn	Grain Mix	Grain Mix	Grain Mix	Grain Mix
Salt self-fed in	(Gr. Corn)	(Gr. Corn)		(Gr. Corn)	(Gr. Corn)	(Gr. Corn)	(Gr. Corn)
all lots	(Gr. Alf.)	(Gr. Alf.)		(R. Barley)	(R. Barley)	(R. Barley)	(R. Barley)
All grain hand fed		(Self-Fed)		(Wh. Oats)	(Wh. Oats)	(Wh. Oats)	(Wh. Oats)
except Lot 6					Wet B. Pulp	Corn Sil.	Alf. Sil.
Gr. Alf. self-fed	Gr. Alf.		Gr. Alf.	Gr. Alf.	Gr. Alf.	Gr. Alf.	Gr. Alf.
Initial Weight	72.9	72.8	72.4	71.8	71.9	72.3	71.5
Final Feedlot Weight	118.6	116.6	113.7	113.3	113.3	111.0	113.3
Market Weight	110.8	109.8	106.5	105.8	106.8	106.1	105.8
Total Gain	45.7	43.8	41.3	41.5	41.5	38.8	41.9
Daily Gain	0.41	0.39	0.37	0.37	0.37	0.35	0.37
Average Daily Ration							
Whole Corn			1.17				
Gr. Corn	1.24	1.40		0.37	0.36	0.37	0.36
R. Barley				0.37	0.36	0.37	0.36
Whole Oats				0.40	0.38	0.39	0.38
Gr. Alf. (Hand-Fed)	0.20						
Gr. Alf.	2.54	2.59	2.40	3.06	2.11	2.10	2.87
Wet Beet Pulp					2.49		
Corn Silage						1.67	
Alf. Silage							0.43
Salt	.012	.013	.012	.015	.013	.013	.013
Feed Required Per Cwt. Gain							
Whole Corn			316.9				
Gr. Corn	302.9	358.3		100.5	97.1	106.7	96.2
R. Barley				100.5	97.1	106.7	96.2
Whole Oats				107.1	103.0	113.4	102.0
Gr. Alf. (Hand-Fed)	48.8						
Gr. Alf.	623.4	662.5	649.9	825.6	569.6	605.6	767.5
Wet Beet Pulp					671.5		
Corn Silage						483.5	
Alf. Silage							115.9
Salt	2.9	3.3	3.1	3.9	3.4	3.9	3.5
Feed Cost Per Cwt. Gain	14.84	16.09	14.78	15.71	14.58	16.60	16.35

**FINANCIAL STATEMENT BASED ON SALE OF LAMBS**  
**Colorado Experiment Station, Fort Collins, Colorado**  
**Fed 112 days - Nov. 3, 1943 to Feb. 23, 1944**  
 (Table based on one average lamb)

Lot Number	5	6	7	8	9	10	11
Number of Lambs	20	20	20	18	20	19	20
Feeds Fed:	Cut Mixture	Cut Mixture	Wh. Corn	Grain Mix	Grain Mix	Grain Mix	Grain Mix
Salt self-fed in	(Gr.Corn)	(Gr.Corn)		(Gr.Corn)	(Gr.Corn)	(Gr.Corn)	(Gr.Corn)
all lots	(Gr.Alf.)	(Gr.Alf.)		(R.Barley)	(R.Barley)	(R.Barley)	(R.Barley)
All grain hand fed		(Self-Fed)		(Wh. Oats)	(Wh. Oats)	(Wh. Oats)	(Wh. Oats)
except Lot 6					Wet B.Pulp	Corn Sil.	Alf. Sil
Gr.Alf. self-fed	Gr.Alf.		Gr.Alf.	Gr. Alf.	Gr. Alf.	Gr. Alf.	Gr. Alf.
Initial Weight	72.9	72.8	72.4	71.8	71.9	72.3	71.5
Shipping Weight	120.5	116.5	114.8	115.3	115.0	114.7	113.0
Market Wt. (Denver)	110.8	109.8	106.5	105.8	106.8	106.1	105.8
Percent Shrink to Mkt.	8.1	5.8	7.2	8.2	7.2	7.6	6.4
Cost per lamb in feedlot							
● \$12.35 per cwt.	9.00	8.99	8.94	8.87	8.87	8.93	8.83
Feed cost per lamb	6.78	7.04	6.11	6.94	6.05	6.43	6.84
Est.fixed costs including							
int., labor & equipment	.90	.90	.88	.90	.88	.89	.90
Shipping & selling expense	.49	.48	.47	.47	.47	.47	.47
Total cost at mkt. (Denver)	17.17	17.41	16.40	17.18	16.27	16.72	17.04
Total est. operating costs	8.17	8.42	7.46	8.31	7.40	7.79	8.21
Return per lamb to							
cover operating costs	8.17	7.86	7.46	7.22	7.52	7.19	7.30
Price per cwt. flat (Denver)	15.50	15.35	15.40	15.20	15.35	15.20	15.25
Return per lamb	17.17	16.85	16.40	16.09	16.39	16.12	16.13
Profit per lamb	.00	-.56	.00	-1.09	.12	-.60	-.91
Necessary selling price							
per cwt. to break even	15.50	15.86	15.40	16.23	15.24	15.77	16.11
Margin over purchase price							
needed to break even	3.15	3.51	3.05	3.88	2.89	3.42	3.76
Feed Costs Used:							
Whole Corn	\$48.00 per ton		Whole Oats	\$52.00 per ton		Corn Silage	\$ 7.50 per ton
Gr. Corn	49.00 " "		Gr. Alfalfa	22.00 " "		Alf. Silage	10.50 " "
Rolled Barley	47.00 " "		Wet Beet Pulp	2.75 " "		Salt	.75 per cwt.

**SLAUGHTER DATA**  
**Slaughter and Grading at Armour & Co., Denver, Feb. 23, 1944**  
**Report by Armour & Co. Personnel and U.S. Gov't Inspector**  
**(Report based on lambs by lots)**

Lot Number	5	6	7	8	9	10	11
Number of Lambs	20	20	20	18	20	19	20
Feed Fed:	Cut Mixture	Cut Mixture	Wh. Corn	Grain Mix	Grain Mix	Grain Mix	Grain Mix
It self-fed in	(Gr.Corn)	(Gr.Corn)		(Gr.Corn)	(Gr.Corn)	(Gr.Corn)	(Gr.Corn)
all lots	(Gr.Alf.)	(Gr.Alf.)		(R.Barley)	(R.Barley)	(R.Barley)	(R.Barley)
All grain hand fed		(Self-Fed)		(Wh. Oats)	(Wh. Oats)	(Wh. Oats)	(Wh. Oats)
except Lot 6					Wet B.Pulp	Corn Sil.	Alf. Sil.
Gr.Alf. self-fed	Gr. Alf.		Gr. Alf.	Gr. Alf.	Gr. Alf.	Gr. Alf.	Gr. Alf.
Market Weight	110.8	109.8	106.5	105.8	106.8	106.1	105.8
Dressed Weight (Cold)	54.7	54.3	51.4	49.5	50.8	50.5	50.1
Dressing Percent	49.4	49.5	48.2	46.7	47.6	47.7	47.3
<b>Armour &amp; Co. Carcass Grades</b>							
(Warm)							
Grade AA	18	12	12	9	14	8	10
Grade A	2	8	8	9	6	11	10
<b>Government Carcass Grades</b>							
(Chilled)							
Choice	19	15	14	8	15	10	11
Good	1	5	6	10	5	9	9
<b>Carcass Ranking</b>							
	1	2	4	7	3	6	5

(1960-44)

Lamb Feeding Experiment  
Summary and Observations  
1943-44

A cut mixture of six parts corn to one part chopped alfalfa hay hand-fed with self-fed chopped alfalfa hay gave the largest daily gain of 0.41 pounds per day and produced the highest ranking carcasses with 19 choice and 1 good. The feed replacement value of the ground corn in the cut mixture, with feed costs used, was \$48.61 per ton or 101% the value of whole corn when both were self-fed chopped alfalfa hay.

With present feed prices, the grain mixture (equal parts ground corn, rolled barley and whole oats) used in this experiment was worth 75% the value of whole corn when both were self-fed with chopped alfalfa hay. The grain mixture and whole corn gave the same daily gain of 0.37 pounds, however, these gains cost \$1.93 more per hundred pounds gain for the grain mixture than for the whole corn.

A cut mixture of one part corn to two parts chopped alfalfa hay self-fed produced the second highest daily gains with 0.39 pounds and the second highest ranking carcasses with 15 choice and 5 good. However, with present feed prices, the corn in the cut mixture hand-fed with self-fed chopped alfalfa hay was worth 117% of the value of the corn in the cut mixture self-fed.

Beet pulp with the grain mixture and chopped alfalfa hay was the cheapest ration fed producing a daily gain of 0.37 pounds, and 3rd highest ranking carcasses with 15 choice and 5 good. It proved, in this experiment, to be worth  $3 \frac{1}{3}$  times its factory cost and  $2 \frac{1}{2}$  times its cost when corrected for shrinkage.

Corn silage when added to a ration of the grain mixture and self-fed chopped alfalfa hay, in this experiment, had a feed replacement value of \$8.10, or 108% of its cost of \$7.50 per ton. This ration produced the lowest daily gain of 0.35 pounds and next to the lowest ranking carcasses with 10 choice and 9 good.

Alfalfa silage when added to a ration of the grain mixture and self-fed chopped alfalfa hay produced daily gains of 0.37 pounds and had the 5th ranking carcasses with 11 choice and 9 good. In this experiment, it had a replacement value of \$7.13. The alfalfa silage was not of a high quality and was not palatable. The lambs would eat only 0.43 pounds per day.

The dressing percentages ranged from 49.5% for the lambs self-fed the cut mixture to 46.7% for the lambs fed the grain mixture and self-fed chopped alfalfa hay. They would probably have sheared 5 or 6 pounds of wool.

The death loss for the experiment was 2.1%. Three lambs died from over-eating. Two lambs were from the lot fed the grain mixture and self-fed chopped alfalfa hay and one was from the lot fed the grain mixture, corn silage and self-fed chopped alfalfa hay.