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Sheep Feeding Investigations

Comparative Rations for Fattening Wether Lambs

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SHEEP FEEDING INVESTIGATIONS

FATTENING LAMBS----44 DAYS

INTRODUCTION

In the last few years we have confined our experimental studies of sheep to the wintering of ewes. Many of the inquiries coming to this office are inquiries on the care of the breeding flock during the winter months. In our investigations we have used Oklahoma feeds exclusively. This work on the various grain crops would not be complete without some work on their value for fattening lambs.

We believe that, although Oklahoma will never be the leading sheep state, the feeding of lambs will increase greatly as soon as farmers become acquainted with the possibilities for profit in this work. It is our aim to be able to answer any questions regarding lamb feeding that may come to us in the future.

OBJECT OF EXPERIMENT

1. To determine the advisability of finishing lambs in Oklahoma.
2. To determine the value of kafir compared to corn for fattening lambs.
3. To determine the value of darso compared to corn for fattening lambs.
4. To determine the value of barley compared to corn for fattening lambs.
5. To determine the advisability of grinding kafir for fattening lambs.

Animals Used

One hundred head of white faced Idaho lambs were purchased on the Kansas City market September 28 through John Clay Commission Co., for $13.25 per hundred. Average weight 69 pounds. Total weight 6900 at $13.25 is $914.25 plus feed, dipping and commission brought the total cost at Kansas City to $949.00.

The lambs were placed on feed as soon as they arrived but grain was not added until a few days later. The lambs were four days on the road and averaged sixty-five pounds per head when unloaded.

Shortly after unloading these lambs developed necrobacillosis. The lips were scraped and treated with a 50 percent solution of silver nitrate every third day. This treatment as well as the disease caused a good deal of pain and undoubtedly decreased the rate of gain.

Methods of Feeding and Handling

The lambs were fed twice daily at 7:00 a. m. and 5:30 p. m. The rations were divided equally into two feeds. The combination hay and grain racks

were used for feeding. These combination racks consisted of hay racks with tight grain troughs at bottom. Small outside runs were provided for exercise but feeding was done under cover.

The linseed oil meal was pea size and mixed with the grain before feeding. Salt and water were before the lambs at all times. The feeding started October 3 and finished November 15, making a feeding period of 44 days. Weights were taken three days in succession at beginning and end of experiment and every ten days during the experiment.

Rations Used

The lambs were divided as evenly as possible into five pens of twenty lambs each and fed the following rations:

Pen I	Pen II	Pen III
Alfalfa hay	Alfalfa hay	Alfalfa hay
Shelled corn	Shelled kafir	Shelled darso
Linseed oil meal	Linseed oil meal	Linseed oil meal

Pen IV	Pen V
Alfalfa hay	Alfalfa hay
Whole barley	Ground kafir
Linseed oil meal	Linseed oil meal

Table I

Pen No.	1	2	3	4	5
No. days on test	44	44	44	44	44
No. of lambs per pen	20	20	20	20	20
Initial weight	70.3	70	70.6	70.4	70.6
Final weight	81.88	81.9	82.7	80.8	81.0
Gain in weight per lamb	11.58	11.9	12.1	10.4	10.4
Daily ration in pounds:					
Alfalfa hay	1.33	1.33	1.33	1.33	1.33
Corn	1.118				
Kafir		1.118			
Linseed oil meal	.128	.128	.128	.128	.128
Darso			1.118		
Barley				1.118	
Ground kafir					1.118
Initial cost at Kansas City per lb.	13.25	13.25	13.25	13.25	13.25
Cost per 100 lbs. gain	12.00	11.74	11.63	14.64	13.18
Cost per pen at Stillwater	235.79	235.79	235.79	235.79	235.79
Cost at Kansas City	247.79	247.79	247.79	247.79	247.79
Selling cost	3.00	3.00	3.00	3.00	3.00
Necessary selling price to break even (per lb.)	15.525	15.50	15.35	15.94	15.67
Selling price	14.18	14.18	14.18	14.18	14.18
Profit per pen	—21.68	—21.36	—19.07	—25.12	—23.91

Pen I, receiving a standard ration of alfalfa hay, corn and linseed oil meal, made very satisfactory gains and were in fine condition at the close of the test.

Pen II, receiving kafir instead of corn, made slightly more gains than Pen I, receiving corn.

Pen III, receiving darso grain, made more rapid and cheaper gains than either corn or kafir.

Table II—Comparing Corn and Kafir

	Pen I—Corn	Pen II—Kafir
No. days on test	44	44
No. of lambs per pen	20	20
Initial weight	70.3	70
Final weight	81.88	81.9
Gain in weight	11.58	11.9
Daily ration:		
Alfalfa hay	1.33	1.33
Corn	1.118	
Kafir		1.118
Linseed oil meal		.128
Cost for 100 lbs. gain	12.00	11.74
Necessary selling price to break even	15.525	15.50
Profit per pen	—21.68	—21.26

In the above comparison, the pen receiving kafir made slightly larger gains than the pen receiving corn.

The cost of gain was also slightly in favor of Pen II, receiving kafir. This advantage is not marked but enough to indicate that kafir is of as much value as corn for fattening lambs.

Table III—Comparing Corn, Kafir and Darso

	Pen I—Corn	Pen II—Kafir	Pen III—Darso
No. Days on test	44	44	44
No. of lambs on feed	20	20	20
Initial weight per lamb	70.3	70	70.6
Final weight per lamb	81.88	81.9	82.7
Gain in weight	11.58	11.9	12.1
Daily ration:			
Alfalfa hay	1.33	1.33	1.33
Linseed oil meal	.128	.128	.128
Corn	1.118		
Kafir		1.118	
Darso			1.118
Cost for 100 lbs. gain	12.00	11.74	11.63
Necessary selling price to break even	15.525	15.50	15.35
Profit per pen	—21.68	—21.26	—19.07

In Table III it will be noted that the greatest gain was made in Pen III, receiving darso. The advantage in loss per pen was $2.61 in favor of Pen III over Pen I and $2.19 in favor of Pen III over Pen II. This is a little over 10 cents per lamb but in some seasons will mean profit instead of loss.

Table IV—Comparing Corn to Barley

	Pen I—Corn	Pen IV—Barley
No. of days on test	44	44
No. of lambs per pen	20	20
Initial weight per lamb	70.3	70.4
Final weight per lamb	81.88	80.8
Gain in weight	11.85	10.4
Daily ration:		
Alfalfa hay	1.33	1.33
Linseed oil meal	.128	.128
Corn	1.118	
Barley		1.118
Feed cost per 100 lbs. gain	12.00	14.64
Necessary selling price to break even	15.525	15.94
Selling price	14.18	14.18
Profit per pen	—21.68	—25.12

Table IV indicates that barley proved less satisfactory than corn for fattening lambs. Referring to Table I, we find it required 417.21 pounds of barley for 100 pounds gain while corn required 366.4 pounds. This shows barley to be less valuable than corn in our present test. Figuring the relative value of barley and corn exclusive of hay and linseed oil meal, barley proved 88 percent as efficient as corn on a weight basis.

Pen IV received whole barley and had a greater cost per 100 pounds gain than any other pen. This is due in part to the relative efficiency of barley compared to the other grains used and its cost per pound. Corn cost $1.00 per bushel of 56 pounds. Barley cost $1.00 per bushel of 48 pounds. The relative cost per pound was corn, 1.784c; barley, 2.083c.

Table V—Comparing Corn, Kafir and Ground Kafir

	Pen I	Pen II	Pen V
No. days on test	44	44	44
No. lambs on feed	20	20	20
Initial weight per lamb	70.3	70	70.6
Final weight per lamb	81.88	81.9	81.0
Gain in weight	11.85	11.9	10.4
Daily ration:			
Alfalfa hay	1.33	1.33	1.33
Corn	1.118		
Kafir		1.118	
Ground kafir			1.11
Linseed oil meal	.128	.128	.128
Cost for 100 lbs. gain	12.00	11.74	13.56
Necessary selling price to break even	15.525	15.50	15.67
Profit per pen	—21.68	—21.26	—23.91

Table V shows a decided disadvantage in grinding kafir for lambs. It is not only of no value but is a positive detriment. This lessened value is probably due to a decreased digestibility and a greater loss of grain because of its fineness. If the digestibility is lower it will be because the lambs eat the ground grain very fast not allowing a thorough mixing with saliva before swallowing. The greatest difference here is due to loss of grain.

Discussion of Tables

All of the pens in this test lost money due to the following reasons: The lambs cost $13.25 per hundred and sold for $14.18 per hundred when fat. This is a margin of only 93 cents. The freight on these lambs from Kansas City to Stillwater and return was $1.20 per head or about $1.50 per hundred pounds.

Considering our distance from market, we should have a margin of at least $2.00 per 100 pounds in order to have a chance for profit. This could be overcome in part by buying lighter lambs and putting more pounds gain on them before marketing. In our best pens, the lambs brought about $3.00 per hundred more than the gains cost so the larger gains would decrease the necessary margin.

Summary

1. Lambs can be fattened satisfactorily on Oklahoma feeds and will ordinarily be profitable with a $2.00 margin.
2. Kafir proved of as much value as corn for fattening lambs.
3. Darso apparently is of as much value as corn or kafir for fattening lambs.
4. Barley is of decidedly less value than corn for fattening lambs.
5. Grinding kafir decreases its value for fattening lambs.

The alfalfa hay used in this test was raised on the College farm and was mostly second cutting high grade hay.

The barley was bought from a local farmer and was No. 1 in every respect.

The kafir was bought from a local dealer and was a good grade.

The darso was also bought locally, and was first class.

The linseed oil meal was No. 1 and was bought from the Fredonia Oil Works Company of Fredonia, Kansas.

Cost of Feeds

Alfalfa hay	$17.00 per ton
Corn	$1.00 per bushel
Kafir	$1.00 per bushel
Darso	$1.00 per bushel
Barley	$1.00 per bushel
Linseed oil meal	$2.50 per hundred