

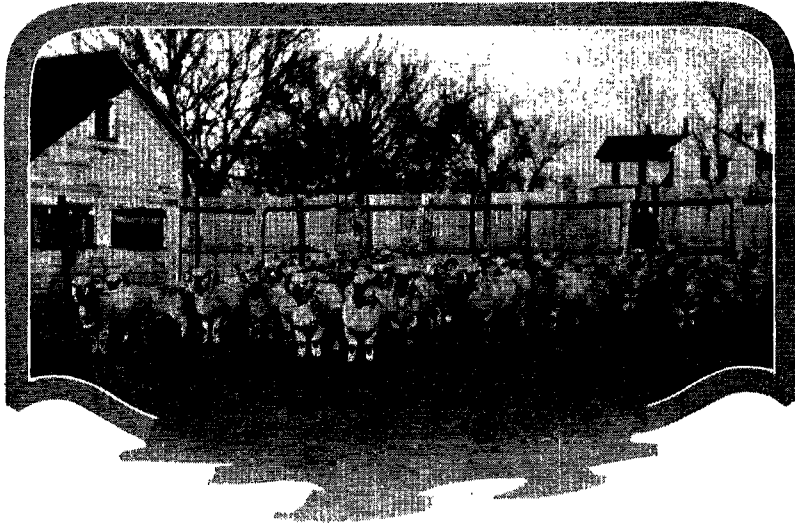
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AGRICULTURAL EXPERIMENT STATION

KANSAS STATE AGRICULTURAL COLLEGE
MANHATTAN, KANSAS

DEPARTMENT OF ANIMAL HUSBANDRY



GRAND CHAMPION CARLOAD OF FAT LAMBS, AMERICAN ROYAL, 1922.

LAMB FEEDING INVESTIGATIONS, 1922-23.¹

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Feeding western lambs is a business of considerable importance and magnitude in Kansas and many inquiries are received by the Kansas Agricultural Experiment Station from Kansas feeders relative to the many problems confronting the lamb feeder. A question that has been asked many times is: "What is the most satisfactory form in which kafir may be fed to fattening lambs when cost of handling, as well as rapidity of gains, is considered?" Another question that has been frequently asked is: "Can alfalfa be satisfactorily replaced by sweet clover in a ration for fattening lambs?"

1. Contribution No. 73 from the Department of Animal Husbandry.

A feeding test was conducted by the Kansas Agricultural Experiment Station during the winter of 1922-'23 for the purpose of securing information that might help to answer these two questions. The kafir fed was of good quality. The sweet clover had been planted with oats and the growth was largely made after the oats were harvested. It was so large when cut that the hay was coarse and woody and in addition contained considerable of the oat stubble. These factors made the sweet clover hay used rather poor in quality.

Seven lots of 20 lambs each were used in the test. They were New Mexico lambs weighing approximately 60 pounds when the test was started, November 20, 1922. They were lambs of good quality and quite uniform in size and conformation.

The lambs were fed grain twice daily, at 6:30 a.m. and 4:30 p.m. Where both silage and hay was a part of the ration, the silage was fed in the evening and the hay in the morning. Where hay alone constituted the roughage, half the hay was fed in the morning and half in the evening. Finely ground stock salt was kept before the lambs at all times. The lambs were weighed at the same hour on three successive days at the beginning of the test and the average of these three weights was used as the initial weight. The final weights were secured in a similar manner. The test extended over a period of 83 days, at the end of which time the lambs were ready for market. The rations for each of the seven lots were as follows:

<i>Lot No.</i>	<i>Ration.</i>
1.	Shelled corn: Cane silage, cottonseed meal, and alfalfa hay.
2.	Threshed kafir, cane silage, cottonseed meal, and alfalfa hay.
3.	Ground threshed kafir, cane silage, cottonseed meal, and alfalfa hay.
4.	Kafir heads, cane silage, cottonseed meal, and alfalfa hay.
5.	Shelled corn, cane silage, cottonseed meal, and sweet clover hay.
6.	Shelled corn, cane silage, and sweet clover hay.
7.	Shelled corn and sweet clover hay.

The relative efficiency of the various forms of kafir and of sweet clover and alfalfa hays fed in fattening these seven lots of lambs may be ascertained by a study of the results of the test given in Table I.

LAMB FEEDING INVESTIGATIONS, 1922-'23.

TABLE I. Results of a feeding test showing the relative efficiency of various forms of kafir and of sweet clover and alfalfa hays when fed to fattening lambs.

Lot No.	1	2	3	4	5	6	7
Number of lambs in lot	20	20	20	20	20	20	19
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Av. initial wt. per lamb at feedlot	60.20	60.50	59.12	62.55	63.15	60.93	59.65
Av. final wt. per lamb at feedlot	90.12	88.83	87.27	90.77	93.37	89.38	89.12
Av. total gain per lamb at feedlot	29.92	28.33	28.15	28.22	30.22	28.45	29.47
Av. daily gain per lamb at feedlot . . . . .	.36	.34	.34	.34	.36	.34	.36
Av. daily ration per lamb:							
Shelled corn	1.30				1.29	1.29	1.29
Whole kafir		1.30					
Ground kafir			1.30				
Kafir heads (a)				2.05			
Cottonseed meal . . . . .	.16	.16	.16	.16	.16		
Sweet clover hay					1.44	1.50	2.77
Alfalfa hay	1.02	1.02	1.02	.96			
Cane silage . . . . .	.90	.91	.89	.79	1.34	1.20	
Feed required for 100 pounds gain based on home wts.:							
Shelled corn	359.33				355.10	377.15	364.12
Whole kafir		379.41					
Ground kafir			381.88				
Kafir heads (b)				602.13			
Cottonseed meal	43.45	45.88	46.18	46.07	43.02		
Alfalfa hay	282.79	298.59	300.53	282.46			
Sweet clover hay					395.15	437.96	780.10
Cane silage	245.36	266.12	262.70	231.96	368.51	348.68	

(a) Two parts grain to one part head.

(b) Two parts grain to one part head. The amount of kafir grain required to produce 100 pounds gain was approximately 401.42 pounds.

OBSERVATIONS.

1. The lambs fed whole threshed kafir (lot 2) made practically as rapid gains as those fed shelled corn (lot 1) and it required only 5.5 per cent more threshed kafir than shelled corn to make 100 pounds of gain.

2. The lambs fed ground threshed kafir (lot 3) made no more rapid gains than the lambs receiving whole threshed kafir and required two pounds more grain to make 100 pounds of gain.

3. The lambs fed kafir heads (lot 4) made just as rapid gains as the lambs fed either whole threshed kafir or ground threshed kafir and it required only 6 per cent more actual grain to make 100 pounds of gain.

4. The lambs fed sweet clover hay together with shelled corn, cane silage, and cottonseed meal (lot 5) made just as rapid gains as did the lambs fed alfalfa hay, shelled corn, cane silage, and cottonseed meal (lot 1), and actually required less corn to make 100 pounds of gain. It required more sweet clover than alfalfa hay

to make 100 pounds of gain, but this was due to a considerable extent to the coarseness and poor quality of the sweet clover hay.

5. The lambs fed sweetclover hay, cane silage, and shelled corn (lot 6), made very satisfactory daily gains,

6. The lambs fed sweet clover hay and shelled corn (lot 7) made as rapid daily gains as any other group in the experiment.

CONCLUSIONS.

1. Whole threshed kafir of good quality has practically the same feeding value pound for pound as corn for fattening lambs.

2. Grinding threshed kafir does not add to its efficiency as a feed for fattening lambs.

3. It is more economical to feed kafir in the head than threshed when threshing costs 8 cents a bushel, unless threshed kafir is worth \$1.50 or more per bushel on the farm.

4. Lambs will fatten just as rapidly when fed sweet clover hay as a part or all the roughage ration, as they will when alfalfa hay is used for the same purpose.

5. The practicability and economy of feeding kafir instead of corn as the grain portion of a lamb-fattening ration will depend upon the relative cost or value of the two feeds in a given locality: When kafir is the cheaper, feed kafir: When corn is the cheaper, feed corn.

6. The practicability and economy of feeding sweet clover hay instead of alfalfa hay as a part or all of the roughage portion of a lamb-fattening ration, will depend upon the availability of these two kinds of hay in a given locality. If sweet clover is available at a reasonable figure and alfalfa is not, feed sweet clover. If alfalfa is available at a reasonable figure and sweet clover is not, feed alfalfa.

7. Since kafir has practically the same feeding value pound for pound as corn for fattening lambs, the lamb-feeding area of Kansas could well be expanded westward by feeding kafir in place of corn.

8. Wherever sweet clover will grow and alfalfa will not grow, and this represents a considerable portion of the state, the farmer has at his disposal a protein-rich hay which, if put up before it gets too coarse, will serve as a splendid substitute for alfalfa as a part or all the roughage portion of a ration for fattening lambs.

