

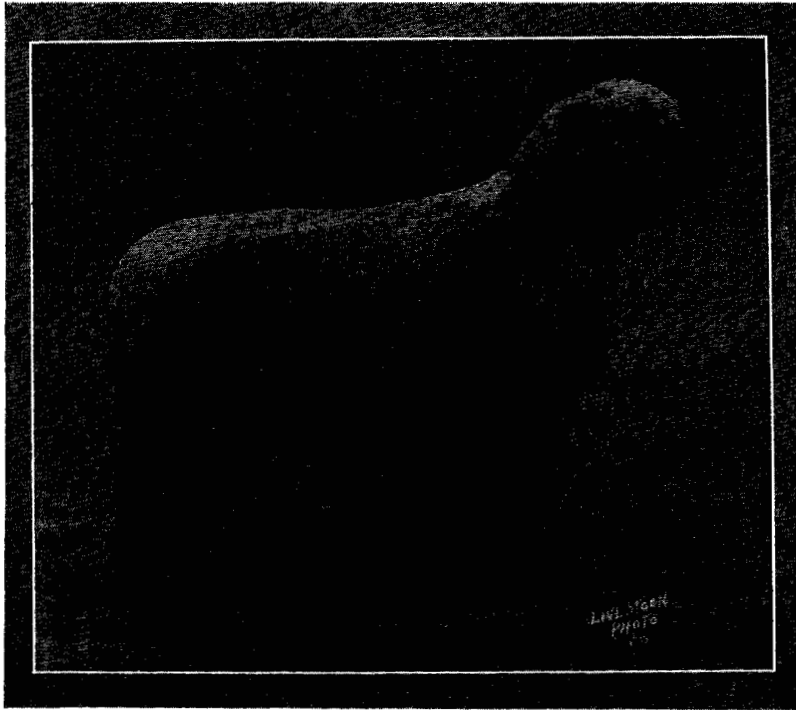
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# AGRICULTURAL EXPERIMENT STATION

KANSAS STATE AGRICULTURAL COLLEGE  
MANHATTAN, KANSAS

DEPARTMENT OF ANIMAL HUSBANDRY



CHAMPION CROSSBRED WETHER, INTERNATIONAL LIVE-STOCK  
EXPOSITION, CHICAGO, 1925

## LAMB FEEDING INVESTIGATIONS, 1925-'26<sup>1</sup>

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In numerous feeding trials conducted by the Kansas Agricultural Experiment Station with western lambs, shelled corn and alfalfa hay have always proved to be the best of Kansas-grown feeds for putting lambs in a marketable condition. The addition of nitrogenous concentrates to a ration of shelled corn and alfalfa hay cheapened and also increased the gains.

1. Contribution No. 81 from the Department of Animal Husbandry.

For those sections of Kansas where corn is not a sure crop, it has been found that the kafirs and other grain sorghums are for all practical purposes equal, pound for pound, to corn. It has also been found that the sorghums for lamb feeding are preferable when fed in the head.

No satisfactory substitute has been found for alfalfa hay. In one trial sweet clover hay proved a good substitute as far as the rate and cost of gain was concerned, but the lambs fed sweet clover did not carry as much finish and consequently sold for less than the alfalfa-fed lambs.

The feeding experiments indicate that alfalfa hay stands supreme among Kansas-grown roughages for fattening lambs. This fact in itself offers certain problems in different sections of the state. In parts of Kansas where alfalfa is a good crop, the problem is one of utilizing the crop. It may be of interest to some alfalfa growers in this connection to know that western lambs costing \$13.10 per hundredweight, fed shelled corn and alfalfa hay, paid \$80.40 per ton for the alfalfa hay fed them when corn was figured at 70 cents per bushel.

Where alfalfa is not successfully grown, the problem then is the opposite—how to get along without it or at least with the smallest possible amount. During the winter of 1925-'26 feeder lambs were exceedingly high-priced. So was alfalfa hay. Corn and other concentrates were cheap in comparison. In view of this situation the lamb feeding experiments were conducted with an idea of determining the minimum efficient utilization of alfalfa hay when corn was fed according to the appetite of the lambs.

One lot of 52 lambs was fed one-half pound of alfalfa hay per lamb per day, a similar lot was fed one pound, and a third lot, one and one-half pounds. In addition to the hay the lambs were given all the shelled corn they would clean up. The lots were fed for 60 days.

There was little difference in the gains made by the three lots during the 60-day period. In all lots the daily gains increased as the feeding progressed, unusually large gains being made in the last 20 days of the trial. For the first 20 days the gains increased with the amount of hay fed, but for the last two 20-day periods the gains increased with the amount of corn fed. For the entire 60 days the gains were greatest where the smallest amount of alfalfa hay was fed.

Increasing the corn and decreasing the hay lowered the cost of gain in this trial when corn was figured at 70 cents per bushel and alfalfa hay at \$15 per ton.

From the standpoint of finish there was little difference in the one-half pound and one pound hay lots, but the one and one-half pound hay lot was notably deficient in finish and bloom, so much so that they were seriously objected to by packer buyers.

Cheaper gains, more rapid gains, and a more desirable finish may be had when the ration consists of comparatively small amounts of alfalfa hay and large amounts of shelled corn. While this is figured on the basis of 70 cents for corn and \$15 for alfalfa, the same will hold true as long as the cost of a pound of corn does not exceed four times the cost of a pound of alfalfa hay.

The gains made at different periods by these lots show that it would be advisable to feed a larger amount of hay at the beginning of a feeding period than at the close.

The results indicate further that it is not advisable to feed so much as one and one-half pounds of hay to fattening lambs. When such a large amount is fed they will not eat enough corn to put on a suitable finish.

Results in detail are given in Table I.

TABLE I.—Results of a 60-day experiment to determine the minimum efficient utilization of alfalfa hay when fed with a full feed of corn in fattening lambs.

Lot No. ....	1	2	3
Number of lambs in lot.....	52	51	52
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Initial weight per lamb at feed lot.....	66.49	67.29	66.99
Selling weight per lamb at Kansas City.....	81.35	81.76	80.96
Gain per lamb based on selling weights.....	14.86	14.47	13.97
Average daily gain based on selling weights.....	.25	.24	.23
Average daily ration per lamb:			
Shelled corn.....	1.22	1.13	.83
Alfalfa hay.....	.50	1.00	1.49
Feed required for 100 pounds gain:			
Shelled corn.....	492.93	466.76	356.55
Alfalfa hay.....	203.30	414.65	639.80
Cost of 100 pounds gain.....	\$7.68	\$8.94	\$9.26
Necessary selling price to break even based on market weights when feeders cost:			
\$11 per hundredweight.....	\$10.40	\$10.64	\$10.70
\$12 per hundredweight.....	11.22	11.46	11.52
\$13 per hundredweight.....	12.03	12.29	12.35
\$14 per hundredweight.....	12.86	13.11	13.18
\$15 per hundredweight.....	13.67	13.93	14.01

