

OKLAHOMA
AGRICULTURAL AND MECHANICAL COLLEGE
AGRICULTURAL EXPERIMENT STATION
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Beef Cattle Feeding
Investigations

By
W. L. BLIZZARD



Steers in Lot III: Taken after a 200-day feeding period.

A COMPARISON OF RATIONS FOR FATTENING STEER CALVES

Many inquiries have been received by the Animal Husbandry Department during the past few years concerning the amount of cottonseed meal that is deemed advisable to use for fattening various ages of cattle. In more recent years, with the market demanding light weight cattle that are highly finished, the question has been asked how much meal should be used in fattening calves:

With some of these questions in mind, 50 high grade Hereford calves were secured from the Matador Land & Cattle Company ranch in Texas and were delivered in Stillwater on November 8th. These calves were carefully sorted as to size, weight, conformation and quality and were placed on feed on November 16th.

The primary objects of this test were as follows:

1st. To study various rations when combined with cottonseed meal for fattening steer calves.

2nd. To determine the amount of cottonseed meal that can be used profitably and safely in the fattening ration for calves.

3rd. To determine the advisability of adding ground limestone to the ration.

4th. To determine if it is advisable to substitute prairie hay for alfalfa hay when a heavy ration of meal and limestone is used.

5th. To determine the advisability of substituting cottonseed meal pound for pound for corn.

The 50 head of steer calves were divided into five lots of ten each and to be continued on feed for 200 days on daily rations as follows:

Lot 1. Ground corn, cottonseed meal $1\frac{1}{2}$ lbs., alfalfa hay, and ground limestone 2% of grain ration.

Lot 2. Ground corn, cottonseed meal $2\frac{1}{2}$ lbs., alfalfa hay, and ground limestone 2% of grain ration.

Lot 3. Ground corn, cottonseed meal $3\frac{1}{2}$ lbs., alfalfa hay, and ground limestone 2% of grain ration.

Lot 4. Ground corn, cottonseed meal $2\frac{1}{2}$ lbs., alfalfa hay.

Lot 5. Ground corn, cottonseed meal $2\frac{1}{2}$ lbs., prairie hay, and ground limestone 2% of grain ration.

STEER FEEDING INVESTIGATIONS—FINAL REPORT

Rations for Fattening Calves
November 16, 1927, to June 3, 1928
(200 days)

Lot Number	I	II	III	IV	V
Number of steers per lot	9*	10	10	10	10
Average initial weight	314.2	310.8	309.3	317.5	326.1
Average final weight	718.8	678.	705.	695.	703.
Average daily gain	2.02	1.83	1.98	1.89	1.88
Total concentrates per steer	9.43	9.40	9.43	9.52	9.43
Average Daily Ration:					
Ground corn	8.15	7.39	6.66	7.5	7.39
Cottonseed meal	1.28	2.01	2.77	2.02	2.04
Alfalfa hay	4.3	4.29	4.29	4.27	
Prairie hay					4.28
Ground limestone .....	.16	.15	.14		.15
Feed Cost Per Steer:					
Corn	\$21.81	\$19.78	\$17.81	\$20.09	\$19.80
Cottonseed meal	4.87	7.67	10.55	7.68	7.76
Alfalfa hay	6.44	6.44	6.44	6.41	
Prairie hay					3.42
Ground limestone .....	.25	.23	.22		.23
	\$33.37	\$34.12	\$35.02	\$34.18	\$31.21
Initial cost per head	\$35.00	\$35.00	\$35.00	\$35.00	\$35.00
Freight	1.18	1.18	1.18	1.18	1.18
Total cost per head	36.18	36.18	36.18	36.18	36.18
Grain to produce 100 lbs. gain	576.2	631.2	586.3	607.6	616.9
Hay to produce 100 lbs. gain	194.	211.3	211.3	203.4	194.1
Cost per 100 lbs. gain	8.25	9.29	8.85	9.05	8.28
Necessary selling price to break even	9.67	10.37	10.10	10.12	9.59
Sold to Wilson & Morris	13.75	13.00	13.75	13.00	13.00
Dressing percentage	55.5	57.7	56.3	56.4	55.9
Selling price per head	96.05	87.10	93.63	85.65	88.79
Freight, yardage, commission, etc.	2.75	2.75	2.75	2.75	2.75
Profit per head	23.75	14.05	19.68	12.54	18.65

*Steer No. 14, Lot I, died from pneumonia on February 15th.

Cost of Feeds:

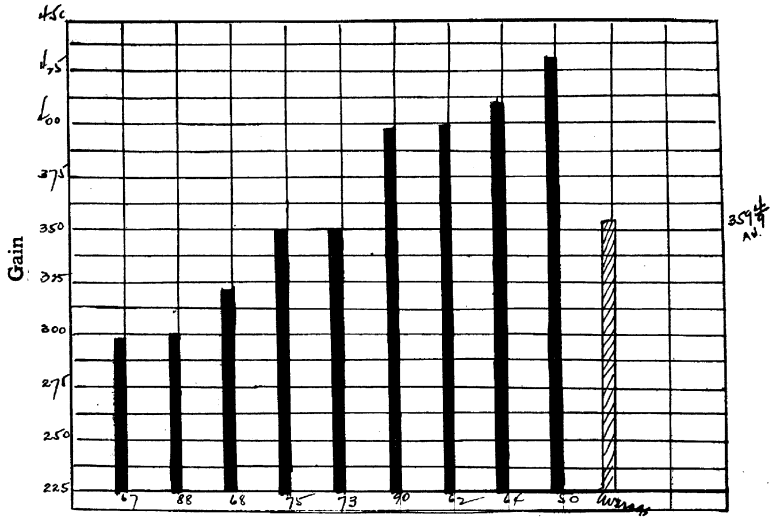
Ground shelled corn	\$.75 per bu.
Cottonseed meal (43% protein)	38.00 per ton
Alfalfa hay	15.00 per ton
Prairie hay	8.00 per ton
Limestone	16.00 per ton

Amount of Meal Furnished Experimental Steers, Showing the Rate of Increase of Meal by Periods.

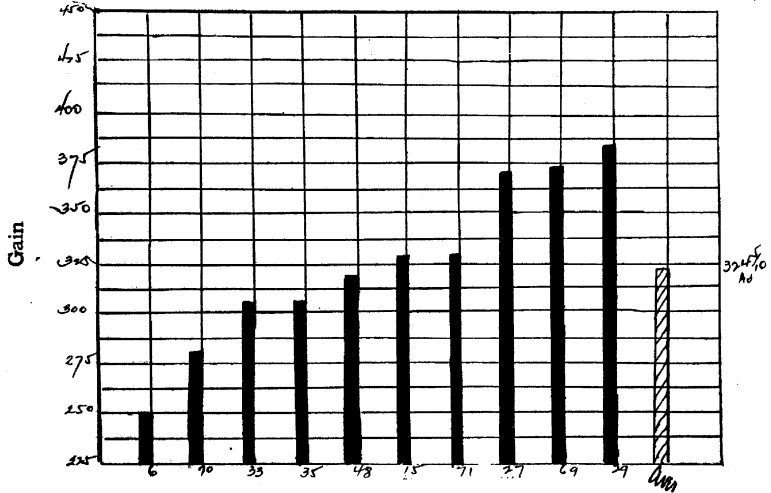
	I	II	III	IV	V
1st Period					
Nov. 16-Dec. 16 .....	.33	.40	.54	.46	.49
2nd Period					
Dec. 16-Jan. 15	1.02	1.7	2.5	1.7	1.7
3rd Period					
Jan. 15-Feb. 14	1.2	2.0	2.8	2.0	2.0
4th Period					
Feb. 14-Mar. 15	1.2	2.0	2.8	2.0	2.0
5th Period					
Mar. 15-Apr. 14	1.5	2.4	3.3	2.4	2.4
6th Period					
Apr. 14-May 14	2.0	2.92	4.	2.96	3.0
7th Period					
May 14-June 3	2.0	2.92	4.	2.96	3.0

Variations in Gains Made by the Individual Steers. (180 day period)

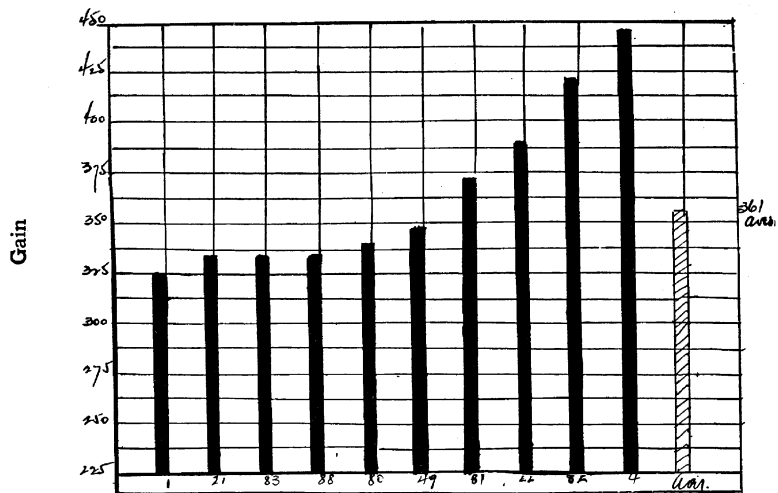
Lot No. 1



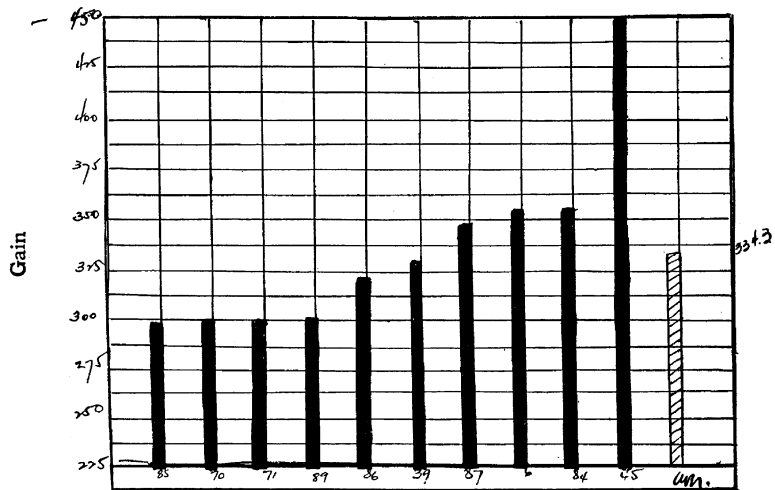
Lot No. 2



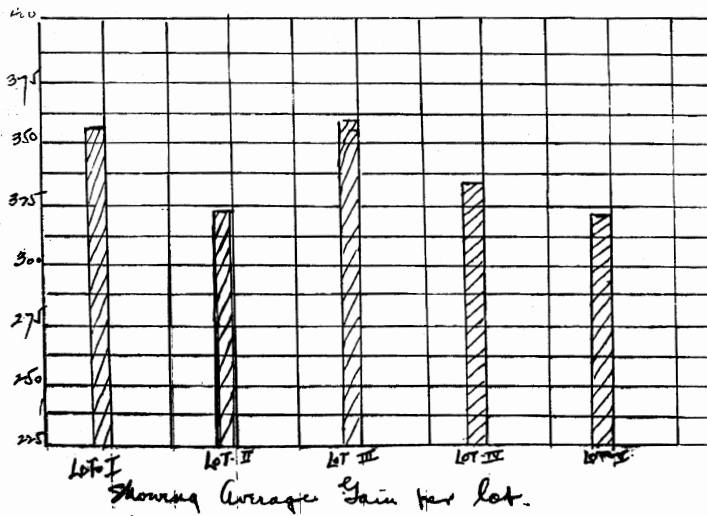
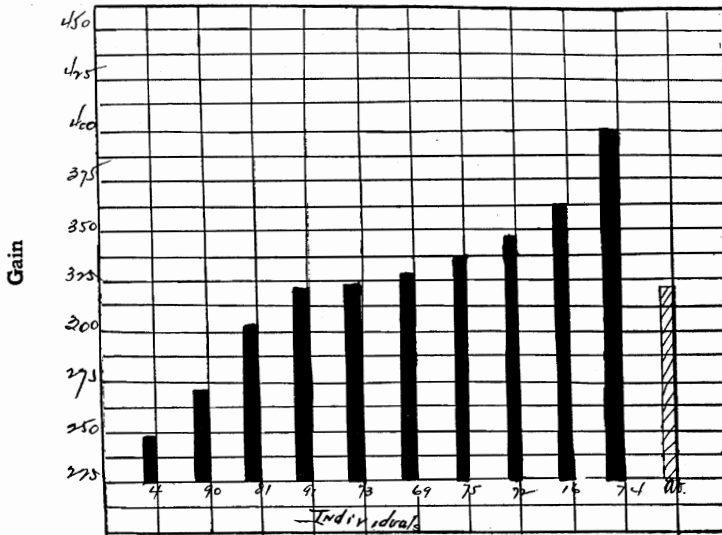
Lot No. 3



Lot No. 4



Lot No. 5



SUMMARY

1. The steers in all the lots were light weight at the beginning and did not make the daily gains in the early part of the period that would have been possible had these steers been 50 pounds heavier at the start.
2. The steers in all lots were fed according to appetite. As the amount of cottonseed meal was increased, the amount of corn was held down in proportion. Therefore, the total amount of concentrates remained approximately the same in each lot.
3. The steers in Lot I made slightly the largest average daily gain. Gains were made at the lowest cost per 100 pounds.
4. The gains in Lot V were made at a lower cost than lots 2, 3 and 4, which is probably due to a difference in cost of prairie hay and alfalfa hay, but the rate of gain was slower than in either Lot 1, 3 or 4.
5. The steers in Lot III made next to the largest daily gains. They had equal finish with the steers in Lot I and sold for the same price per 100 pounds. The steers in this lot also showed next to the largest profit. The cost per 100 pounds gain was slightly larger, due to the higher cost of cottonseed meal.
6. These steers were sold to Morris and Company and Wilson and Company on June 8th. Those in Lots I and III sold for \$13.75 per hundred. The steers in Lot I made the greatest profit, with the steers in Lot III a close second. The steers in Lot IV showed the least profit and it is quite evident that the lack of limestone in this lot had something to do with the daily gains and lack of finish.
7. The steers in Lot III averaged 3.2 pounds daily of cottonseed meal, showing it is possible to feed this weight calf this amount of meal for a 200-day period, when properly distributed.
8. The results of this experiment further indicate that the addition of limestone, the use of ground corn and alfalfa hay, makes it possible to feed cottonseed meal in larger amounts over a longer period of time to calves.