

OKLAHOMA AGRICULTURAL EXPERIMENT STATION  
ANIMAL HUSBANDRY DEPARTMENT  
STILLWATER, OKLAHOMA

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# Beef Cattle Feeding Investigations

PROGRESS REPORT

By  
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## PLAN OF EXPERIMENT

During the past few years the Oklahoma Experiment Station has been maintaining a herd of twenty-five cows. Some of the objects of this test are as follows:

- 1st. To determine the cost of maintaining the cow for one year.
- 2nd. To determine the cost of producing a calf.
- 3rd. To compare the use of the purebred bull and the scrub bull when mated to these cows.
- 4th. To compare the use of the purebred bull when mated with grade cows and scrub cows.
- 5th. To determine the cost of producing baby beef.
- 6th. To compare the results of feeding these calves from the various crosses, for a given period.

On November 1, 1927, the calves dropped from these cows were weaned. They were placed in the feed lot on November 16. They were given a grain ration until January 12, 1928. On this date they were placed on full feed. The calves were divided into three lots, as follows:

- Lot No. 1, eight calves, the produce of a scrub sire and scrub dams.
- Lot No. 2, four calves, the produce of a purebred sire and scrub dams.
- Lot No. 3, six calves, the produce of a purebred sire and high grade dams.

It is to be further noted in this test that both the calves in Lots II and III were sired by a purebred Hereford bull; also the calves in Lot I were

### MAINTENANCE COST, BOTH SUMMER AND WINTER, FOR TWENTY-FIVE COWS

November 21, 1926, to November 1, 1927

	Scrub Cows	Purebred Sires, Scrub Dams	Purebred Sires, Grade Dams
Lot Number .....	I	II	III
Number of cows in lot .....	10	7	8
Average weight, November 1, 1926 .....	676.8	795.7	787.7
Value per 100 lbs. ....	\$6.00	\$6.00	\$7.50
Average value per head, November 1, 1926 .....	40.60	47.74	59.08
Per cent of calf crop, 1927 .....	80%	57.5%	87.5%
Pasture cost per cow for seven months .....	4.50	4.50	4.50
Winter feed cost per cow, silage .....	11.81	11.81	11.81
Feed cost per cow, cottonseed meal, 5 months (150 days) .....	4.28	4.28	4.28
Feed cost per cow, roughage, 5 months (150 days) .....	3.00	3.00	3.00
Service fees per head .....	1.60	1.60	1.60
Interest per cow on original investment, at 6% .....	2.44	2.86	3.54
Interest on feed and other expenditures .....	1.69	1.69	1.69
Total cost of cow one year (except original cost) .....	29.32	29.74	30.42
Cost of calf at weaning time .....	36.65	52.05	40.56
Feed cost of calf, Nov. 1 to Jan. 12 (73 days) .....	5.95	5.95	5.95
Initial value per calf, January 12, 1928 .....	42.60	58.00	46.51

out of the same kind of cows as those in Lot II. The calves in all lots were fed the same grain ration and were fed according to appetite. The grain ration consisted of shelled corn, cottonseed meal and alfalfa hay. Cottonseed hulls were fed for the first 156 days. The calves were maintained on full feed until August 4th, which represented a 205 day feeding period.

The calves were measured for difference in height, heart girth, width and length, size of paunch, width and depth of chest, width of quarters and width of loin, length and width of head, and weight, both at the beginning and close of the experiment.

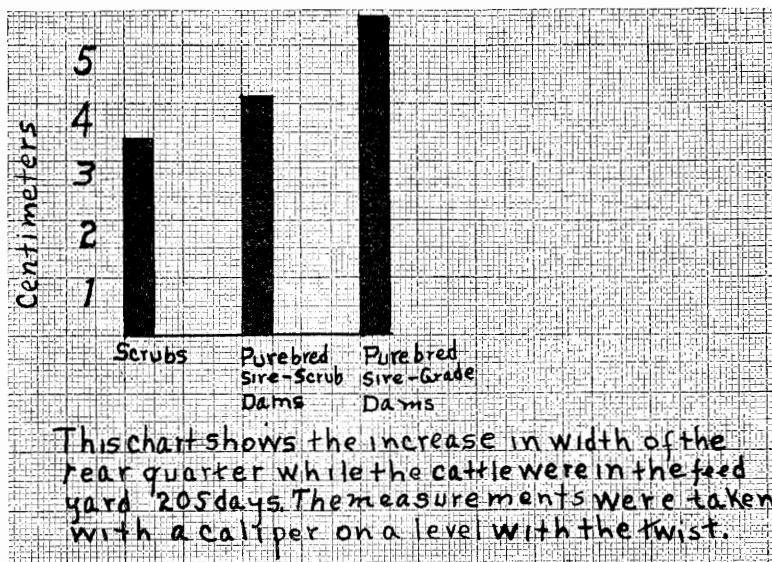
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January 12 to August 4 (205 days)

LOT NUMBER	Calves with Scrub Sire and Scrub Dam Lot I	Calves with Purebred Sire and Scrub Dam Lot II	Calves with Purebred Sire and H. Gr. Dam Lot III
Number of cattle per lot .....	8	4	6
Ave. initial weight .....	479	540	520
Ave. final weight .....	819	919	897
Ave. daily gain .....	1.69	1.85	1.83
Total concentrates per head daily .....	11.39	11.38	11.38
Average Daily Ration:			
Cottonseed meal .....	1.5	1.5	1.49
*Cottonseed hulls .....	8.93	8.92	8.93
Corn (shelled) .....	9.89	9.88	9.89
Hay .....	4.24	4.24	4.24
Feed Cost per Head:			
Cottonseed meal .....	\$ 5.84	\$ 5.85	\$ 5.80
Cottonseed hulls .....	5.57	5.57	5.57
Corn (shelled) .....	27.15	27.14	27.15
Hay .....	6.52	6.52	6.52
Total .....	\$45.08	\$45.08	\$45.04
Initial cost per head figured on a basis of maintenance for the cow for one year .....	42.60	58.00	46.51
Grain to produce 100 lbs. gain .....	672.8	615.7	618.7
Roughage to produce 100 lbs. gain .....	652.	597.	600.2
Cost per 100 lbs. gain .....	12.99	11.89	11.94
Ave. weight at Okla. City .....	786.	885.	865.
Sold to Wilson & Co., Okla. City .....	\$12.00	\$14.25	\$15.50
Selling price per head .....	\$94.35	\$126.11	\$134.07
Freight, yardage, commission, etc. ....	3.17	3.17	3.17
Amount pork produced per steer .....	.92	1.51	1.87
Profit per head, plus pork .....	4.42	21.37	41.22
Dressing percentage .....	57.6	60.7	61.3

COST OF FEEDS:

Cottonseed meal .....	\$38.00 per ton
Cottonseed hulls .....	8.00 per ton
Shelled corn .....	.75 per bu.
Alfalfa hay .....	15.00 per ton

\*Hulls fed first 156 days of period.



## SUMMARY

1. The calves in Lot III, by a purebred sire and out of a high grade dam, made the largest profit per head, \$41.22. This amount includes the pork produced. This lot of calves sold for \$15.50, which is \$1.25 higher per hundred than the calves in Lot II. It is to be further noted that the calves in Lot III sold for \$3.50 more than the calves in Lot I. This difference represents in actual dollars \$36.80 in favor of the purebred sire and high grade dam.
2. The calves in Lot I required a greater cost per hundred pounds of gain. The calves in Lot I also had the least daily gain per head.
3. The higher initial cost per head of calves in Lot II is due to the fact that there were only 4 calves weaned in this lot, from 7 cows.
4. The calves in Lot III carried more finish than the calves in Lots I and II. Quality results in higher finish the latter part of the feeding period.
5. The calves in Lot II, which have the purebred sire and the scrub dam made decidedly more money than the calves in Lot I, which have the same kind of dams, with a scrub sire, showing that even with scrub cows, there is an added profit per head of \$16.95 in favor of the calves sired by the purebred.
6. In studying the measurements of these cattle in the three lots, at the close of the finishing period, a decided increase was shown in the width of the rear quarter, during the 205 days. There is a slight increase in Lots II and I, where the purebred sire and scrub dam are used and there is a more striking increase in Lot III where a purebred sire and grade dam were used. This further indicates that cattle which have quality show a greater development of high priced cuts at the finish.