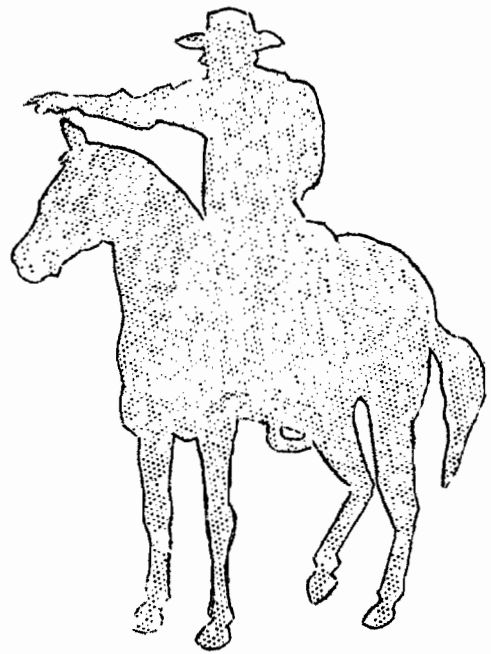


*Carl Reed*  
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UNIVERSITY OF CALIFORNIA  
College of Agriculture Extension Service  
Modoc County  
July 1952

## SECOND ANNUAL

### MODOC BEEF MANAGEMENT STUDY - 1952

This report covers the operations of 4 beef herds in Modoc County for the period March 1, 1951 to February 28, 1952. This is a very small sample of the beef industry in the county but contains different sized operations and the ranches are scattered about the county. The results should give a good representation of the beef industry of this area.

This study began in March 1950 and is being continued this year.

This study covers only the beef enterprise of the ranches involved. Other operations on the ranches include hay, pasture, and in some cases grain production. The feed from these other enterprises, which was used by the beef herd, was charged to the beef at market value as of harvest time. The labor and other expenses shown in this study are those involved in actually caring for the beef herd.

#### BEEF PRODUCTION IN MODOC COUNTY

Beef production in Modoc County consists largely of breeding herds producing calves for sale either as weaners or yearlings, although some steers are held over and sold as two-year olds. Except for hay and concentrates necessary during the winter months, most of the feed comes from various types of range.

The normal feed cycle is Taylor grazing or private range April-May; National Forest June-September; ranch range and aftermath pasture October-November; hay ~~and cottonseed cake~~ December-March. Some grain may be fed during the winter and cattle may be fed in the feed lot for a short time before being sold.

Very few fat cattle are sold, most of the sales being of feeder cattle.

The success of beef production in this area depends to a large extent on the best and cheapest feed available.

A. D. Reed  
Extension Economist  
Farm Management

Norman E. Nichols  
Farm Advisor and  
County Director

PRODUCTION FACTORS AND SUMMARY OF INCOME AND EXPENSE

	SERIAL NUMBERS					
	6	8	5	11	Av.	1950
Number of Breeding Cows	446	259	310	72	272	237
Average Animal Units	738	320	600	125	446	421
Animal Units per Cow	1.5	1.2	1.9	1.7	1.6	1.8
Pounds produced per Animal Unit	403	351	295	243	346	267
Pounds sold per Animal Unit	355	324	252	205	304	326
Percent Calf Crop	83	77	90	79	87	74
Average value per CWT. Produced	29.96	28.69	26.42	25.65	28.59	22.17
Net Cost per CWT.	18.46	18.72	23.17	39.31	20.88	21.49
Management Income per CWT.	11.50	9.97	3.25	-13.66	7.71	.68
Income per Animal Unit						
Stock Sales	112.12	98.94	69.38	60.42	92.06	71.26
Miscellaneous	—	—	1.34	—	.45	.67
Change Stock Inventory	13.52	10.41	14.70	1.83	12.54	-3.56
Total Income	125.64	109.35	85.42	62.25	105.05	68.37
Cash and Depreciation Costs per A.U.						
Feed	51.87	43.65	45.25	63.22	48.97	35.08
Stock Bought	4.78	8.76	6.09	—	5.60	8.57
Hired Labor	2.98	1.56	5.41	—	3.33	2.27
Miscellaneous	4.18	7.26	6.20	5.51	5.50	4.74
Depreciation	.82	.11	.34	5.37	.85	.77
Total	64.63	61.34	63.29	74.10	64.25	51.43
Farm Income per Animal Unit	61.01	48.01	22.13	-11.85	40.80	16.93
Family Labor per Animal Unit	3.93	4.22	3.12	9.17	4.08	5.18
Interest per Animal Unit	10.68	8.83	9.42	12.12	10.03	9.94
Management Income per A.U.	46.40	34.96	9.59	-33.14	26.69	1.81
Return per hour Family Labor	12.80	9.30	4.07	—	7.54	1.35
Percent return on Investment	26.8	24.8	10.1	—	18.3	5.9

The 1951 record year was much more profitable than 1950, Comparison of the average for the two years shows how misleading one years records may be in showing the profitability of a particular enterprise.

Number of Breeding Cows - the number on hand at the beginning of the record year plus heifers calving during the year.

Animal Unit - One mature beef animal or the equivalent in feed consumption.

Animal Unit values used in this study were:

Bulls, Cows and 2 year olds - 1.0

Calves and Weaners - .5

Yearlings - .75

Animal Units are used as a basis of comparison because herds vary in composition by age of animal. Some sell calves and others sell two year olds. Comparison on a per cow basis would not give an accurate picture for comparing these operations.

**MANAGEMENT INCOME** is the total income minus the total expense. It is the return to the rancher for his management of the beef herd.

## ANALYSIS OF SALES

	6	8	5	11	Av. 1951	Av. 1950
<b>Sales per Animal Unit</b>						
Bulls	3.28	1.47	.67	2.23	2.00	1.54
Cows	6.13	16.81	17.28	12.09	12.53	15.97
Calves	.62	34.97	--	--	6.53	7.35
Heifers	24.21	1.69	3.55	--	11.52	7.82
Steers 1-2	77.88	44.00	47.88	46.10	59.48	32.89
Steers 2-3	--	--	--	--	--	5.69
Total	112.12	98.94	69.38	60.42	92.06	71.26
<b>Average Price per Cwt. Sold</b>						
Bulls	25.10	23.40	27.16	22.50	24.80	31.35
Cows	24.05	23.00	22.91	25.30	23.93	19.43
Calves	31.45	35.00	--	--	34.90	24.46
Heifers	32.50	31.00	27.16	--	31.81	20.84
Steers 1-2	32.50	31.70	29.80	31.30	31.50	22.02
Steers 2-3	--	--	--	--	--	22.71
Average	31.31	30.56	27.60	29.50	30.29	21.88
<b>Average Weight per Animal Sold</b>						
Bulls	1380	1000	1470	1240	1310	1183
Cows	1110	975	1005	1195	1026	905
Calves	290	390	--	--	347	351
Heifers	645	872	783	--	666	602
Steers 1-2	900	840	964	770	905	822
Steers 2-3	--	--	--	--	--	962
<b>Investment per Animal Unit</b>						
Land in lots and corrals	2.03	1.56	.83	1.99	1.54	1.63
Buildings and Equipment	7.13	.56	1.14	57.13	7.46	7.46
Feed	13.55	2.40	13.56	9.57	11.27	14.25
Cattle	190.88	171.98	172.99	173.76	180.27	175.52
Total	213.59	176.50	188.52	242.45	200.54	198.86

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No one sales program is most profitable on all ranches. The relation of stock numbers to the amount of feed and the kind of feed available will influence the selling program. The higher the calf crop, the younger the calves should be sold. Young stock make good gains on good pasture but less productive range is better adapted to breeding herd use.

ANALYSIS OF FEED COSTS AND CONSUMPTION

	6	8	5	21.	Av. 1951	Av. 1950
<b>Feed costs per Animal Unit</b>						
Hay	40.64	35.03	30.75	45.06	36.63	23.15
Concentrate	2.83	1.41	5.30	4.88	3.57	3.35
Pasture	7.99	6.73	9.19	13.19	8.53	8.04
Salt	.36	.48	--	.09	.24	.54
Total	51.87	43.65	45.25	63.22	48.97	35.08
<b>Feed Used per Animal Unit</b>						
Animal Units Months Forest	1.7	4.8	.5	3.0	1.9	1.6
Animal Unit Months Taylor Graz.	3.6	--	5.7	.3	3.4	.6
Acres Owned or Rented Pasture	3.4	4.2	5.9	7.6	4.7	5.2
Acres Aftermath	.8	2.0	.6	2.2	1.1	1.1
Tons Hay	2.0	1.8	1.5	1.9	1.8	1.3
Pounds Concentrate	72	47	154	128	99	90
<b>Percent of Feed by Source</b>						
Hay	34	45	24	40	32	37
Concentrate	1	1	2	2	1	2
Pasture	65	54	24	58	67	61
<b>Calculated Animal Unit Months</b>						
feed Required	8858	3836	7194	1505	5348	--
<b>Total Animal Unit Months</b>						
feed Required	11058	3121	9777	1513	6368	--
<b>Cost per Animal Unit Month of Feed</b>						
Hay	8.00	8.00	8.00	9.20	8.10	7.13
Concentrate	20.25	16.10	17.65	19.75	18.50	19.25
Pasture	.82	1.27	.76	1.90	.89	1.49
Average	3.46	4.47	2.78	5.23	3.43	3.98
<b>Hours Labor per Animal Unit</b>						
	7	6	8	9	7	8

Feed costs were figured as follows:

Hay - market value at harvest

Concentrate - Market value at harvest or purchase price

Pasture -

    Rented - Actual cost

    Owned range - Interest on investment plus taxes

    Aftermath - \$3 per animal unit month

An animal unit month of feed was figured as 400 pounds of Total Digestible Nutrients (TDN) per month.

TDN was figured as hay - 50%, concentrate - 75% and animals on pasture were assumed to have obtained 400 pounds TDN per month per animal unit.

Profitable beef production requires a succession of economical feed sources throughout the year and ample reserves of hay to last through periods of unusual feeding conditions.

## CODE ANALYSIS

- No. 6 A well managed ranch with sufficient size to make real economics in the use of labor and equipment. Production was excellent, with a good calf crop and a good sales price.
- No. 8 A good sized operation with good production but low calf crop. Income and expense items are good. Pasture costs are high and perhaps need a closer checking another year. Since the actual amount of feed used is lower than the calculated amount needed our estimates of pasture used is lower than the calculated amount needed our estimates of pasture used may be low.
- No. 5 A large operation with a high calf crop but with a low pounds of meat produced per animal. Amounts of feed fed were higher than the estimated amount necessary. Probably need a closer count on the average number of stock on the ranch. Made good use of range as a source of feed and the costs per unit of grazing obtained were low.
- No. 11 A small herd which could increase the efficiency of operation by an increase in size. The number of cows needs to be increased by about  $1/3$  in order to meet the minimum requirements of a 100 cow breeding herd which is usually necessary for a satisfactory family living where beef is the only income producing enterprise. Production was low and the calf crop needs to be improved. Feed costs are higher than for any other record. Pasture costs are particularly out of line. Either the pastures have not been credited with all the feed they have produced or the value of the pasture is too high. Cost of the pasture from owned range was figured as taxes plus interest on land value. The amount of TDN used by the herd checks with the amount required according to our number of animal units. Suggest that next year a close account be kept of the numbers, ages and dates stock are on the various ranges along with any supplemental feed fed to determine the actual amount of grazing being obtained from the various fields. Part of the low standing may be due to the fact that all heifers were kept on the breeding herd. If our inventory value does not equal the actual costs of raising, it would result in a book loss for the record. The record shows a total cost of \$95.00 pwe animal unit for the year while the inventory value of the heifers increased from \$150 to \$175.