

**CO-OPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF CALIFORNIA**

**UNIVERSITY OF CALIFORNIA
COLLEGE OF AGRICULTURE
AND
UNITED STATES DEPARTMENT OF AGRICULTURE
CO-OPERATING**

**EXTENSION SERVICE
FARM ADVISOR WORK
AGRICULTURE CLUB WORK
HOME DEMONSTRATION WORK**

Office of the Director
College of Agriculture
Berkeley, California

BEEF CATTLE MANAGEMENT STUDY FOR
LASSEN COUNTY

1942

A study of income, costs and earnings on 9 beef cattle enterprises in Lassen County for the record year ending February 28, 1943

Study conducted by the
University of California Agricultural Extension Service
and the United States Department of Agriculture
in cooperation with a group of cattlemen from
Lassen County

Report issued October, 1943

Beef Cattle Management Study

Lassen County, 1942

by
L. W. Fluharty^{1/} and T. S. Brown^{2/}

During the past eight years the Agricultural Extension Service of the University of California has conducted a beef management study in Lassen County. During 1942, nine cattlemen completed records on their cattle enterprise. This report is a summary of these records and shows the profit-determining factors in comparison with records of the past seven years (tables 1 to 3 inclusive). Also included in this report (tables 4 to 7 inclusive) is an analysis of each record for 1942. These records are from typical beef cattle ranches in Lassen County, although the number of records involved is small in comparison with the entire number in the county. The authors of this report do not, therefore, present these data as averages for the district, although they are quite typical of the better managed beef cattle layouts. The purpose of these studies is to develop information which will be useful to the individual cattleman in deciding on the most profitable management practices to use in his operations.

Relation of Beef Cattle to Other Enterprises

On most of the beef cattle ranches included in this report there were other farm enterprises besides beef cattle, which contributed to the total income of the operator. This report, however, deals with the beef enterprise only. Some of the other enterprises, such as hay or pasture production, are carried on primarily for the purpose of furnishing needed materials for growing livestock. Other types of production, such as poultry raising or grain growing, may not have any relation to the cattle business. Where the farm business is made up of more than the cattle enterprise, it is necessary to departmentalize the farm accounts so that the beef enterprise will be charged with the proper expenses and credited with the proper income, in order to have a satisfactory analysis of the management factors responsible for success or failure in the beef cattle business. For example, all man labor, field power, cash and overhead expenses incurred in production of hay or other feed crops should be charged as a crop expense. Such expenses are a part of the cattle operation only at the time of use, and in such portions as the feed is used. Likewise, labor used in feeding is a cattle expense, not a feed cost.

Basis of Comparison

In order to make understandable comparisons of income and expense items between different operators, it has been necessary to establish some uniform standards of measurement. Most cattlemen are in the habit of using the breeding cow as a unit when making comparisons of inputs and receipts. The breeding cow is a satisfactory unit for comparing some items of production, such as percentage of calf crop, but does not serve well for making comparisons of many other production factors, such as carrying capacity of pastures or ranges. This is particularly true where the number of cows in relation to other stock varies widely from herd to herd. In order to overcome this handicap the "animal unit" or mature head equivalent seems to be the most

^{1/} Extension Specialist and Associate on Giannini Foundation for Agricultural Economics (Farm Management)

^{2/} Farm Advisor, Lassen County, California.

satisfactory unit with which to measure most production factors, as all types of operations can then be compared one with another. An "animal unit" is defined as the equivalent of a mature beef animal. One animal in the herd over two years of age for one month is considered "one animal unit month"; when in the herd one year, it constitutes one "full animal unit." When considering feed inputs one animal unit is considered equivalent to the intake of about 400 pounds of digestible nutrients per month. Animals from one to two years of age are considered .75 of an animal unit and calves from birth to one year are .50 of an animal unit each.

Net Income or Profit

The net income or profit earned by an enterprise is the difference between income and expense. Since accounting for different purposes may follow slightly different methods, the computed profit may not always be the same. In these records a uniform method of calculation was followed throughout so the relative profit in comparing different enterprises will show the relative efficiency or earning ability even though the exact figures may not check with those arrived at in the individual's personal accounting system. Some producers want as a profit the figure by which their income exceeds their actual cash outlay; others want their income above outlay minus their own wages for work done. In order to supply a number of earning ratios or figures, the following standard measures of net income are used in this report.

Management Income is the amount by which total income exceeds total costs, with costs including the wages of the operator for work actually done, depreciation on facilities and interest on investment. This is the amount left to reimburse the operator for his skill in management after all expenses have been met. If a loss occurs, it will be indicated by a minus sign (-) in front of the management income figure.

Labor and Management Income is the management income plus value of the operator's labor included as an expense. It is called, for brevity, Labor Income, and is the amount the operator can withdraw from his business to pay himself for labor and management.

Capital and Management Income is the management income plus the interest on investment included as such in the expense. It is the amount the producer can consider his return for management and invested capital. It is not shown in this report but may easily be computed by adding the proper figures.

Farm Income is the labor income plus interest on investment. It is the total amount receivable from the enterprise after meeting cash costs, the value of farm-produced feeds and depreciation on facilities. It includes a profit for skill in management, wages for labor performed and interest on capital invested. It is the amount the operator can safely withdraw from the business to live on and pay interest and principal on indebtedness, if any. Interest actually paid is not recognized in these costs, it being assumed that the interest computed on the investment could cover interest on borrowed capital, as well as that invested by the operator.

Total Farm Income is the farm income for the beef enterprise plus the interest on the owned range which was included as a part of the pasture cost in computing the beef record. This is the total amount the cattleman who is out of debt and has no interest to pay makes from his combined beef cattle and range enterprises.

Table 1. General summary of Lassen County Beef Cattle Management Records for 1942 with comparisons of records 1935-1942

Record Year	1935	1936	1937	1938	1939	1940	1941	1942	Eight-year average
Number of herds in study	10	11	9	9	11	12	13	9	* 84
Breeding cows per herd	303	305	276	181	353	210	302	233	270
Average number animal units per herd	639	657	558	356	665	377	616	438	538
Average an. units per 100 breeding cows	210.6	216.1	202.3	196.5	188.6	179.2	204.0	188	198
Calves raised per 100 breeding cows	74.9	76.7	68.0	75.2	72.4	77.9	81.4	86.1	76.6
Number of animals died or lost	5.2	4.5	7.1	4.8	2.4	3.4	2.3	2.7	4.0
Net head raised per 100 br. cows	69.7	72.2	60.9	70.4	70.0	74.5	79.1	83.4	72.5
Net head raised per 100 A.U.	33.1	35.5	30.1	35.8	37.1	41.6	38.8	44.4	37.0
Pounds beef produced per cow	591	599	486	586	521	545	608	573	564
Pounds beef produced per A.U.	281	277	240	298	276	304	298	305	285
Pounds beef sold per A.U.	243	212	287	410	278	271	268	295	283
Hay fed per A.U.-pounds	1939	1926	1952	1576	1762	2183	2513	2029	1985
Grain fed per A.U.-pounds	34	16	24	45	56	34	28	64	38
Salt fed per A.U.-pounds	10	8	7	10	13	--	8	8	9
Hours hired labor per A.U.	5.1	3.7	5.5	4.4	5.2	5.2	4.1	4.0	4.6
Hours operators labor per A.U.	2.3	2.4	3.2	3.5	1.6	3.0	1.9	3.4	2.7
Total man hours labor per A.U.	7.4	6.1	8.7	7.9	6.8	8.2	6.0	7.4	7.3
Value of hay per ton	\$ 5.57	5.68	6.23	5.56	6.06	6.08	7.00	9.68	6.48
Value of concentrates per cwt.	\$ 1.18	1.92	2.04	1.54	1.96	1.64	1.91	1.73	1.74
Value per hour hired labor	\$26.6	29.0	22.4	23.6	28.5	28.9	30.4	32.1	27.7
Value per hour operator's labor	\$32.0	38.0	22.5	25.7	36.3	31.4	43.2	45.9	34.4
Gross income per breeding cow	\$36.84	41.15	35.95	45.79	34.00	41.41	53.66	62.10	43.86
Gross income per animal unit	\$17.49	19.07	17.77	23.30	18.02	23.12	26.31	33.02	22.26
Gross income per cwt. of beef raised	\$ 6.23	6.87	7.34	7.81	6.53	7.60	8.83	10.83	7.75
Management income per animal unit	\$.32	2.11	-.11	2.21	.33	4.19	4.61	9.51	2.90
Farm income per animal unit	\$ 3.37	5.20	2.90	5.57	3.19	7.41	8.01	13.86	6.19
Farm, beef, and range income per A.U.	\$ 5.69	6.81	3.93	7.16	5.33	9.18	9.82	15.17	7.89
Management income per cwt. beef	\$.11	.76	-.04	.74	.12	1.38	1.55	3.12	.97
Farm income per cwt. beef	\$ 1.20	1.88	1.20	1.86	1.15	2.44	2.69	4.55	2.12
Farm, beef & range income per cwt.	\$ 2.03	2.46	1.63	2.39	1.93	3.02	3.30	4.98	2.72

* Totals

Table 2. General summary of Lassen County Beef Cattle Management 1942 (continued)

	1935	1936	1937	1938	1939	1940	1941	1942	Eight-year Average
<u>Cost per animal unit of producing beef</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
Rented grazing land	.52	.82	1.10	1.10	.80	.90	1.02	.95	.90
Temporary farm pasture	1.13	.97	.57	.77	.77	.75	.86	.88	.84
Owned permanent pasture and range	2.03	1.49	1.22	1.90	2.85	2.14	2.29	1.65	1.95
Total pasture cost	3.68	3.28	2.89	3.77	4.42	3.79	4.17	3.48	3.69
Value of hay used	5.40	5.47	6.08	4.38	5.34	6.63	8.80	9.82	6.49
Value of concentrates and grain	.40	.31	.49	.69	1.10	.55	.53	1.11	.65
Value of salt and minerals	.09	.09	.08	.09	.14	.12	.11	.11	.10
Total feed cost	9.57	9.15	9.54	8.93	11.00	11.09	13.61	14.52	10.93
Hired labor cost	1.35	1.22	1.23	1.03	1.49	1.50	1.25	1.28	1.29
Value of operator's labor	.73	.71	.73	.91	.56	.95	.84	1.56	.87
Value of horse labor	.42	.43	.42	.38	.41	.39	.42	.43	.41
Auto and truck expense	.22	.20	.21	.22	.24	.28	.24	.19	.22
Miscellaneous, taxes, etc.	.50	.52	.41	.47	.46	.74	.61	.61	.55
Depreciation	.36	.34	.34	.51	.41	.46	.37	.41	.40
Interest on investment	2.32	2.38	2.28	2.45	2.30	2.27	2.72	2.79	2.44
Total cost per animal unit	15.47	14.95	15.16	14.90	16.87	17.68	20.06	21.79	17.11
Less miscellaneous income	.10	.12	.12	-	.01	.14	.06	.02	.07
Net cost of production per A.U.	15.37	14.83	15.04	14.90	16.86	17.54	20.00	21.77	17.04
Total value of beef produced	15.69	16.94	14.93	17.11	17.19	21.73	24.61	31.28	19.94
Management income per A.U.	.32	2.11	-.11	2.21	.33	4.19	4.61	9.51	2.90
Plus operator's labor	.73	.71	.73	.91	.56	.95	.68	1.56	.85
Labor and management income	1.05	2.82	.62	3.12	.89	5.14	5.29	11.07	3.75
Plus interest on investment	2.32	2.38	2.28	2.45	2.30	2.27	2.72	2.79	2.44
Farm income, beef cattle only	3.37	5.20	2.90	5.57	3.19	7.41	8.01	13.86	6.19
Plus interest on range owned	2.32	1.61	1.03	1.59	2.14	1.77	1.81	1.31	1.70
Beef and range income per A.U.	5.69	6.81	3.93	7.16	5.33	9.18	9.82	15.17	7.89
Capital and management income	2.64	4.49	2.17	4.66	2.63	6.46	7.33	12.30	5.34
Per cent earned on investment	5.7	9.4	4.8	9.5	5.7	14.2	13.5	22.1	10.6
Labor and management income per hr.	.46	1.18	.19	.89	.56	1.71	2.78	3.26	1.38
Hours of operator's labor	2.3	2.4	3.2	3.5	1.6	3.0	1.9	3.4	2.7

Table 3. General summary of Lassen County Beef Cattle Management 1942 (continued)

	1935	1936	1937	1938	1939	1940	1941	1942	Eight-year average
Cost per cwt. of producing beef	\$	\$	\$	\$	\$	\$	\$	\$	\$
Range and pasture	1.31	1.18	1.19	1.26	1.60	1.25	1.40	1.14	1.29
Value farm hay	1.93	1.97	2.51	1.47	1.93	2.18	2.95	3.22	2.27
Grain and concentrates	.14	.11	.20	.23	.40	.18	.18	.36	.22
Salt and minerals	.03	.03	.04	.03	.05	.04	.04	.04	.04
Total feed cost	3.41	3.29	3.94	2.99	3.98	3.65	4.57	4.76	3.82
Hired labor	.48	.44	.51	.35	.54	.49	.47	.42	.46
Operator's labor	.26	.26	.30	.30	.20	.31	.23	.51	.30
Horse labor	.15	.16	.17	.13	.15	.13	.14	.14	.15
Auto and truck	.08	.07	.09	.07	.09	.09	.08	.06	.08
Miscellaneous, taxes, etc.	.18	.19	.17	.16	.17	.24	.21	.20	.18
Depreciation	.13	.12	.14	.17	.15	.15	.12	.14	.14
Interest on investment	.83	.86	.94	.82	.83	.75	.91	.92	.86
Total production cost	5.51	5.39	6.26	4.99	6.11	5.81	6.73	7.15	5.99
Less miscellaneous income	.03	.04	.05	--	--	.04	.02	.01	.02
Net cost per hundredweight	5.48	5.35	6.21	4.99	6.11	5.77	6.71	7.14	5.97
Average value of beef produced	5.59	6.11	6.17	5.73	6.23	7.15	8.26	10.26	6.94
Management income per cwt.	.11	.76	-.04	.74	.12	1.38	1.55	3.12	.97
Plus operator's labor	.26	.26	.30	.30	.20	.31	.23	.51	.29
Labor and Management income	.37	1.02	.26	1.04	.32	1.69	1.78	3.63	1.26
Plus interest on investment	.83	.86	.94	.82	.83	.75	.91	.92	.86
Farm income beef only per cwt.	1.20	1.88	1.20	1.86	1.15	2.44	2.69	4.55	2.12
Plus interest on range owned	.83	.58	.43	.53	.78	.58	.61	.43	.60
Beef and range income per cwt.	2.03	2.46	1.63	2.39	1.93	3.02	3.30	4.98	2.72
Average price received beef sold	5.86	6.48	6.14	5.68	6.48	7.52	8.80	10.09	7.13

Table 4. General Summary of Individual Records on Animal Unit Basis, Lassen County, 1942

Item	Serial No. 111	Serial No. 113	Serial No. 104	Serial No. 110	Serial No. 102	Serial No. 116	Serial No. 117	Serial No. 107	Serial No. 106	Average all records
Pounds beef produced per A.U.	342	339	276	325	348	245	291	305	295	305
Pounds beef sold per A.U.	427	358	286	352	388	229	226	244	230	295
Value per cwt. beef produced	\$12.30	\$10.67	\$11.34	\$ 9.99	\$10.69	\$ 9.89	\$ 9.32	\$ 9.18	\$ 8.95	\$10.26
Value per cwt. all beef sold	11.00	10.88	10.41	9.77	10.18	10.24	10.64	9.81	9.97	10.09
Net head raised per 100 A.U.	70	51	37	64	62	36	29	43	39	44
Head died per 100 An. units	1.0	1.9	1.1	0	1.4	1.1	1.1	3.8	1.4	1.4
<u>Main animals sold in 1942</u>										
<u>aside from cows</u>										
Kind	calves	H-S 1-2	St 1-2	calves	calves	St 1-2	St 2-3	St 1-2	St 1-2	xxx
Average weight - pounds	426	654	644	314	452	602	1,063	714	620	610
Value per head	\$53.46	\$72.74	\$70.82	\$36.17	\$56.41	\$66.27	\$118.20	\$71.44	\$68.24	\$68.19
Price received per cwt.	\$12.56	\$11.12	\$11.00	\$11.50	\$12.48	\$11.00	\$ 11.12	\$10.01	\$11.00	\$11.31
<u>Dollars per animal unit</u>										
Value beef produced	\$47.01	\$39.01	\$32.19	\$34.36	\$40.38	\$26.78	\$ 30.52	\$29.60	\$27.27	\$33.02
Cost of production	22.69	23.94	19.66	24.50	33.55	20.53	24.29	26.87	25.45	23.51
Management income	24.32	15.07	12.53	9.86	6.83	6.25	6.23	2.73	1.82	9.51
Labor income	25.55	16.64	13.33	12.82	9.53	7.96	8.01	4.70	2.93	11.07
Farm income	28.26	19.48	16.36	15.43	12.28	10.55	10.66	7.54	5.70	13.86
Farm income, beef and range	29.44	20.41	18.63	17.44	12.28	11.68	11.64	8.83	7.25	15.17

A general summary of the nine beef herds in Lassen County, which finished the management record year for 1942, is shown in table 4. These records are arranged from left to right in order of the management income per animal unit. All cooperators showed a management income for the year after all expenses had been met including pay for the actual labor performed by the operator, depreciation and a capital rental of 5 per cent on the investment.

There was a wide margin between the highest profit and lowest profit record. A look at the above table discloses that this difference can almost entirely be accounted for by the higher value of beef produced per animal unit. This higher value was brought about the more production per breeding cow coupled with a higher value per hundredweight. The low profit cooperator also had a higher cost of production.

Three of the nine cooperators sold principally weaner calves aside from cows. With one exception the others sold yearlings. The one exception (No. 117) sold principally two-year olds. There was a wide-spread between some of the main profit-producing factors from record to record. For example, serial number 102 produced 348 pounds of beef per animal unit while serial number 116 produced only 245 pounds. The income per hundredweight of beef produced ranged from a high of \$11.00 for record number 111 to a low of \$9.77 for record number 110. Costs, the third important profit-determining factor, also covered a wide range. The high cost record, number 102, was about 70 per cent higher than the low cost record, number 104. Most of the records showed a total cost of around \$24.00 per animal unit for the year. By tracing each record through the following tables, the operator can determine for himself wherein management practices differed from other records or from the average as shown in the last column of table 4.

Table 5. Analysis of Pasture Costs and Other Inputs for Individual Records for the Beef Management Study.

Items	Serial No. 111	Serial No. 113	Serial No. 104	Serial No. 110	Serial No. 102	Serial No. 116	Serial No. 117	Serial No. 107	Serial No. 106	Average all records
<u>Pasture costs per A.U.</u>										
National forest, pub.dom., etc.	\$0.80	\$0.49	\$0.02	\$0.65	\$0.02	\$0.74	\$0.39	\$0.80	\$0.39	\$0.41
Other rented range	.72	.08	.09	-	5.66	-	.36	-	-	.55
Own crop aftermath	.76	.98	1.15	1.19	--	.57	.99	.73	.87	.88
Permanent pasture	1.64	1.18	2.71	2.68	-	1.55	1.20	1.62	1.87	1.65
Total cost per A.U.	3.92	2.73	3.97	4.52	5.68	2.86	2.94	3.15	3.13	3.4
<u>Hay fed</u>										
Pounds per animal unit	1158	2413	1681	1361	2464	1419	2022	2464	2504	2029
Price per ton	\$10.00	\$ 9.00	\$10.00	\$10.00	\$10.00	\$ 7.60	\$10.00	\$10.00	\$10.00	\$ 9.68
Hay cost per animal unit	5.79	10.86	8.41	6.80	12.32	5.39	10.11	12.32	12.52	9.82
<u>Concentrates</u>										
Pounds per animal unit	.69	82	18	76	176	1	-	32	139	64
Price per cwt.	\$ 2.17	\$ 1.45	-	\$ 2.28	\$ 1.86	\$ 2.30	-	\$ 1.28	\$1.65	\$1.73
Concentrate cost per A.U.	1.50	1.19	.35	1.74	3.27	.03	-	.41	2.30	1.11
<u>Hours of labor per A.U.</u>										
Hired labor	1.9	1.3	2.2	2.7	3.2	10.7	4.2	9.6	5.6	4.0
Operator's labor	2.5	3.1	1.6	5.9	5.4	3.4	3.6	7.1	2.8	3.4
Total labor	4.4	4.4	3.8	8.6	8.6	14.1	7.8	16.8	8.4	7.4
Cost per hour hired labor	\$0.36	\$ 0.42	\$ 0.35	\$ 0.43	\$ 0.40	\$ 0.32	\$0.38	\$ 0.27	\$0.24	\$0.32
<u>Investment per Animal Unit</u>										
Beef enterprise only	\$54.17	\$56.71	\$60.71	\$52.13	\$56.98	\$51.77	\$53.04	\$56.72	\$55.50	\$55.75
Range and pasture	23.64	18.47	45.26	40.19	-	22.61	19.61	25.74	30.92	26.33
Total	77.81	75.18	105.97	92.32	56.98	74.38	72.65	82.46	86.42	82.08

The most important cost elements for individual operators in the 1942 Lassen County beef management study are shown in the above table. The average pasture charge of \$3.48 per animal unit made up not quite 24 per cent of the total feed cost. The hay charge of \$9.82 per animal unit constituted almost 68 per cent of the total feed charge. Rented pasture was based on the actual amount paid by the stockman, while owned permanent pasture was based on 5 per cent interest on appraised value, taxes, and other direct expenses. Crop aftermath was charged at the estimated sale value of such feed to other cattlemen. Hay cost, which was figured at an average price of \$9.68 per ton loose in the stack was 2.82 times the pasture charge. It should be pointed out that cattlemen raise practically all the hay they feed, and the hay charge is based on average farm value over the entire year. At the figure shown in this table most cattlemen will make a farm income of around \$2.00 to \$2.50 per ton when selling their hay crop through cattle at the quoted prices.

Table 6. Expense per Animal Unit in Detail for Individual Records, Beef Management Study, Lassen County, 1942

Items	Serial	Serial	Serial	Serial	Serial	Serial	Serial	Serial	Serial	Average
	No.	No.	No.	No.	No.	No.	No.	No.	No.	all
	111	113	104	110	102	116	117	107	106	records
Hay	\$5.79	\$10.86	\$8.41	\$6.80	\$12.32	\$ 5.39	\$10.11	\$12.32	\$12.52	\$ 9.82
Concentrates	1.50	1.19	.35	1.74	3.26	.03	-	.41	2.30	1.11
Range and pasture	3.92	2.73	3.97	4.52	5.68	2.85	2.94	3.15	3.13	3.48
Salt and minerals	.23	.14	.05	.09	.13	.06	.16	.04	.08	.11
Total all feed cost	11.44	14.92	12.78	13.15	21.39	8.33	13.21	15.92	18.03	14.52
Hired labor	.70	.53	.76	1.17	1.26	3.36	1.59	2.58	1.32	1.28
Operator's labor	1.23	1.57	.80	2.96	2.70	1.71	1.78	1.97	1.11	1.56
Horses and dogs	.41	.35	.27	.49	.38	.67	.62	.71	.35	.43
Autos and trucks	.07	.08	.06	.07	1.07	.16	.36	.09	.06	.19
Miscellaneous taxes, etc.	.58	.53	.49	1.30	.59	.83	.55	.65	.58	.61
Depreciation	.56	.38	.62	.90	.25	.32	.10	.53	.36	.41
Interest on investment	2.71	2.84	3.03	2.61	2.75	2.59	2.65	2.84	2.77	2.79
Total production expense	17.70	21.20	18.81	22.65	30.39	17.97	20.86	25.29	24.58	21.79
Minus miscellaneous income	-	.10	-	-	-	-	-	-	-	.02
Net production expense	17.70	21.10	18.81	22.65	30.39	17.97	20.86	25.29	24.58	21.77

In the above table the different items of expense have been brought together for the individual cooperators who finished the 1942 Lassen County beef cattle management study. It should be pointed out that the total production expense includes farm value of all feed, all labor, and overhead costs. On the average, feed costs represented a little over 66 per cent of all expense items. It should be pointed out, however, that ranch-raised feeds were charged at farm value, not farm costs. In most cases the hay charge per ton was more than the farm cost. Man labor accounted for slightly more than 13 per cent of the total, while horse labor, auto and truck charges, miscellaneous items and depreciation made up another $7\frac{1}{2}$ per cent. Interest on investment in the cattle business, exclusive of capital involved in the ownership of range, pasture and hay land, accounted for almost 13 per cent of the total cost. Total production expense ranged from a low of \$17.70 to a high of \$25.29 per animal unit.

A study of accounts during the past several years shows that beef cattle production costs have increased about 41 per cent during an eight-year period. It should be pointed out, however, that since 1935 there has also been a steady increase in value of beef raised.

Table 7. Cost, Value and Net Income per Hundredweight of Beef Produced for Lassen County, 1942.

Items	Serial No. 111	Serial No. 113	Serial No. 104	Serial No. 110	Serial No. 102	Serial No. 116	Serial No. 117	Serial No. 107	Serial No. 106	Average all record
<u>Cost per cwt. beef produced</u>										
Hay	\$1.69	\$3.20	\$3.04	\$2.09	\$ 3.54	\$2.20	\$3.48	\$4.04	\$4.24	\$ 3.22
Concentrates	.44	.35	.13	.53	.93	.01	-	.13	.78	.36
Range and pasture	1.15	.81	1.44	1.39	1.63	1.17	1.02	1.03	1.06	1.14
Salt and minerals	.07	.04	.02	.03	.04	.02	.05	.01	.03	.04
Total feed cost	3.35	4.40	4.63	4.04	6.14	3.40	4.55	5.21	6.11	4.76
Hired labor	.20	.16	.27	.36	.36	1.37	.55	.85	.44	.42
Operator's labor	.36	.46	.29	.91	.78	.70	.61	.64	.38	.51
Horses and dogs	.12	.10	.10	.15	.11	.27	.21	.23	.12	.14
Auto and truck	.02	.02	.02	.02	.31	.07	.13	.03	.02	.06
Miscellaneous, taxes, etc.	.17	.16	.18	.40	.17	.34	.19	.22	.20	.20
Depreciation	.17	.11	.22	.28	.07	.13	.03	.17	.12	.14
Interest on investment (5%)	.79	.84	1.10	.80	.79	1.06	.91	.93	.94	.92
Total cost of production	5.18	6.25	6.81	6.96	8.73	7.34	7.18	8.28	8.33	7.15
Av. value beef produced	12.30	10.67	11.35	9.99	10.69	9.89	9.32	9.18	8.95	10.26
Management income	7.12	4.42	4.54	3.03	1.96	2.55	2.14	0.90	0.62	3.11
Farm income beef only	8.27	5.75	5.93	4.74	3.53	4.31	3.66	2.47	1.94	4.55
Farm, beef and range inc.	8.62	6.02	6.75	5.36	3.53	4.77	4.00	2.89	2.46	4.98

The cost of beef per hundredweight is dependent upon the relationship between the cost per animal unit and the pounds of beef produced per animal unit. It will be seen from a comparison of the last and third-from-the-last columns that a high value of beef produced does not always result in a high farm income. High production costs may consume most of the value of beef produced. For this reason efficient management practices are as important in the long run as selling to best advantage.

Total cost of production ranged from a low of \$5.18 to a high of \$8.73 per hundredweight of beef produced. This is a difference of \$3.55 per hundredweight. When measured in terms of farm, beef, and range income, the variation of \$6.16 per hundredweight is even greater. It is evident that the low income producer should make an effort to find out and remedy, if possible, the handicaps under which he is operating. Otherwise, when prices of cattle decline, he is liable to find himself in financial difficulty.

Table 8. General Summary of Individual Records on a Breeding Cow Basis, Beef Management Study for Lassen County, 1942

Items	Serial	Serial	Serial	Serial	Serial	Serial	Serial	Serial	Serial	Average
	No.	No.	No.	No.	No.	No.	No.	No.	No.	all
	111	113	104	110	102	116	117	107	106	records
Calves raised per 100 cows	93.2	86.6	89.9	97.8	91.4	72.1	73.0	80.4	88.4	86.1
Pounds beef produced per cow	448	558	650	498	501	475	700	524	652	573
Animal units per cow	1.3	1.6	2.4	1.5	1.4	1.9	2.4	1.7	2.2	1.9
<u>All stock sold</u>										
Average weight per head, lbs.	548	582	706	511	618	754	1051	762	687	660
Average value per head	\$60.28	\$63.28	\$73.52	\$49.98	\$62.91	\$77.25	\$111.89	\$74.75	\$68.45	\$68.94
Av. price received per cwt.	11.00	10.88	10.41	9.77	10.18	10.24	10.64	9.81	9.97	10.44
Income per cow	\$61.65	\$64.20	\$75.68	\$52.55	\$58.11	\$51.91	\$73.45	\$50.84	\$60.22	\$62.10
Cost of production per cow	29.75	39.39	46.21	37.46	48.28	39.79	58.46	46.15	56.19	44.22
Management income per cow	31.90	24.81	29.47	15.09	9.83	12.12	14.99	4.69	4.03	17.88
Management & labor income per cow	33.51	27.40	31.35	19.61	13.72	15.43	19.27	8.07	6.49	20.81
Farm income per cow	37.06	32.07	38.49	23.60	17.68	20.45	25.65	12.94	12.62	26.05
Farm and range income	38.61	33.59	43.81	26.67	17.68	22.64	28.01	15.15	16.03	28.53

It was pointed out in the beginning of this report that the breeding cow is not a satisfactory unit for measuring many input or output factors of production. However, for the average cattleman, who runs a herd of breeding cows and does not indulge in buying and selling cattle not produced by the breeding herd, breeding cow figures on costs and income are excellent guides as to what he may expect. In the above table some of the input and output items are measured on a "per breeding cow basis." The number of breeding cows considered to have been in the herd is the number subjected to bull service in order to produce the current calf crop. These figures are adjusted where pregnant cows are bought or sold prior to calving.

One of the most significant lines of figures recorded in this table is the number of calves raised per 100 breeding cows. Not so many years ago a 70 per cent calf crop was not uncommon. Under present conditions, however, we seldom have an experienced cattleman reporting this low a calf crop. Of the nine cattlemen cooperating during the past year, six of them showed better than an 85 per cent calf crop. It is of interest to note that the farm and range income per cow varied from a high of \$43.81 per breeding cow to a low of \$15.15. This figure (farm and range income) shows how much money per breeding cow the operator had to meet his living expenses and other financial obligations without depleting his inventory values or using up money which should be set aside for depreciation reserves.