



SHASTA COUNTY DAIRY MANAGEMENT STUDY
1948

Compiled by the
Agricultural Extension Service
in cooperation with

A group of local dairymen

Issued at the
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I N T R O D U C T I O N

This is the first annual report of the Shasta County Dairy Management Study covering the period March 1, 1948 to February 28, 1949. This study is conducted by the Agricultural Extension Service in cooperation with a group of local dairymen to assist them with their management problems and to provide useful information to local dairymen regarding economic trends and profitable management practices.

Cooperating dairymen submit monthly reports of their production, inputs, receipts, and expenses, and receive in return a detailed analysis of their year's operation. All material submitted by dairymen is confidential and references to records is by serial number only. For this reason, the size of herds is not listed in this report. However, since size of herd is of major importance, for complete interpretation, the market milk herds average 51 cows and the manufacturing milk herds average 16 cows.

This study is being continued in 1949 and will also be conducted in 1950 if interest is sufficient. Any dairyman wishing to participate in the study should contact the Farm Advisor's office in Redding.

The results of this study apply only to the records and periods covered and must not be interpreted as averages for the county. This study includes 253 cows out of over 4,500 in the county, or approximately 5% of the total dairy cows.

The records in this report cover only the operation of the dairy enterprises. Expenses of feed production or other enterprises on the farm are not included, but the feed used by the dairy herd is charged at the going market price. The records are kept as if the dairy cows were the only enterprises on the farm and all feed was purchased.

Table 1 - Income and Expenses Per Cow For Cooperators in The 1948 Shasta Dairy Study.
Records Arranged in Order at Management Outcome.

Serial No.	Stock Sales	Change Stock Inv.	Stock *1 Bought	Income			Expense						Mgt. Income	Farm *2 Income
				Net Stock Income	Milk and BF Income	Total Income	Feed	Labor	Misc.	Depreciation	Int. @ 5%	Total Expense		
					M A R K E T M I L K									
5	39.94	14.98	7.75	47.17	365.88	413.05	181.36	103.49	39.62	8.22	22.03	354.72	58.33	177.92
6	71.72	90.77	129.54	32.95	403.19	436.14	254.88	86.26	33.32	16.62	25.27	416.35	19.79	97.80
4	30.40	27.27	11.97	45.70	518.78	564.48	346.80	148.09	44.31	7.40	19.35	565.96	-1.48	165.96
1	31.65	-25.28		6.37	225.27	231.64	177.50	48.38	23.23	9.17	19.93	278.21	-46.57	-26.64
					M A N U F A C T U R I N G M I L K									
7	47.97	92.22	62.82	77.37	300.71	378.08	181.19	89.96	53.02	16.20	36.43	376.80	1.28	37.71
3	18.96	7.61		26.57	288.13	314.70	141.98	130.43	32.33	4.46	14.47	323.67	-8.97	135.93
2	41.67	-10.00	12.52	19.17	339.80	358.95	178.22	147.40	58.08	13.80	17.98	415.48	-56.53	105.45

*1 - Subtract from Stock Sales and Change in Stock Inventory to get Net Stock Income

*2 - Management Income plus Value of Family Labor and Interest on Investment

This table shows income and expenses broken down into the major items. It suggests to the individual where his greatest opportunities for greater efficiency lie. Tables which follow are intended to aid in analyzing the factors which cause the wide spread in income and costs.

Management Income is the "profit" the operator would receive if all labor were hired, and if the enterprise were charged 5% interest on the investment.

Farm Income is the "profit" the operator would receive if he did not charge the enterprise with the value of family labor or interest on the investment.

Table 2 - Analysis of Production and Factors Affecting Income for Cooperators in the 1948 Shasta Dairy Study.

Serial No.	Pounds Milk *1	Pounds Fat *1	Average Test	Percent Fat Sold	Percent Time Cows Milking	Av. Price	Av. Cost	Net Income	Cost Per	Hours Labor	Investment Per	Percent Cows	
						Lb. MF	Lb. MF	Lb. MF	Cwt. Milk	Per Cow	Per Cow	Sold	Died
M A R K E T M I L K													
5	7,859	324	4.1	85.2	84.3	1.33	1.11	.22	4.22	104.7	440.63	20.6	3.5
6	8,860	334	3.8	93.2	79.6	1.31	1.25	.06	4.48	86.3	505.48	24.5	0
4	8,145	411	5.0	99.4	86.6	1.27	1.27	0	6.10	148.1	386.96	19.1	2.4
1	4,514	193	4.3	92.4	68.9	1.26	1.53	-.27	6.33	64.4	398.68	19.8	0
M A N U F A C T U R I N G M I L K													
7	8,233	337	4.1	87.5	81.5	1.02	1.02	0	4.40	128.0	728.53	0	0
3	7,237	329	4.5	83.2	74.7	1.04	1.07	-.03	4.65	130.4	289.43	0	0
2	7,858	357	4.5	88.4	77.3	1.04	1.21	.17	5.40	148.6	359.68	24.0	0

*1 - From Cow Testing Records

The number of records in this study is relatively small and therefore adequate comparison cannot be made between records. The production per cow indicates the complexity of the problem facing the dairymen in this group. High production is normally associated with high returns, but in these records other factors appear to be as important as production.

The amount of labor per cow varies more than any other major expense factor. It appears that manufacturing milk dairies require more labor than market milk dairies. This is due to the smaller size of manufacturing milk dairies. The smaller dairies have fewer labor saving devices and require relatively more time for milking, feeding and cleaning up. This study suggests that for maximum labor efficiency, a dairy enterprise should have not less than 25 to 30 cows.

The investment per cow does not vary significantly between market and manufacturing milk dairies. The percentage of registered cows is the greatest factor here. The market milk dairies are carrying a market milk barn and refrigeration equipment investment of approximately 100 dollars per cow. If the manufacturing milk dairies in this study converted to market milk production with the same size herd, they would carry an additional investment of over 300 dollars per cow. At 5 percent, the interest charges would be over 15 dollars per cow, compared with the 5 dollars per cow charge made against the market milk dairies listed here. This again illustrates the importance of an enterprise of adequate size. However, a charge of 15 dollars per cow is less than 5 percent of the total cost of production. Market milk producers received 25 percent more for their produce during the past record year.

Table 3 - Analysis of Feed Consumption and Costs for Cooperators in the 1948 Shasta Dairy Study.

Serial No.	Pounds Per Cow			Animal Unit Months Pasture	Pounds TDN *1 Per Cow	Cost of Feed Per Unit					Feed Cost Per Cow				
	Hay	Concentrate	Silage			Hay Per Ton	Concentrate Per Cwt.	Silage Per Ton	Pasture Per AU Month	TDN Per Cwt.	Hay	Concentrate	Silage	Pasture	Total
							MARKET MILK								
5	4,878	1394	348	11.2	9,136	26.43	4.65	8.67	4.15	1.99	64.46	68.94	1.51	46.45	181.36
6	4,444	2796		9.2	8,936	34.40	4.65		5.21	2.85	76.44	130.32		48.12	254.88
4	3,780	4545	8756	6.5	10,022	30.15	4.29	10.00	7.75	3.46	56.99	195.79	43.78	50.24	346.80
1	5,477	622	1983	9.7	8,393	26.79	4.08	10.00	6.72	2.12	73.37	29.01	9.91	65.21	177.50
							MANUFACTURING MILK								
7	3,644	1442	622	11.1	8,568	27.07	4.18	5.00	3.64	2.11	49.33	60.30	31.11	44.45	181.19
3	2,753	1210		9.0	7,251	16.45	4.23		7.45	1.96	22.65	51.94		67.39	141.98
2	3,787	1956		10.6	8,641	28.89	4.40		3.55	2.06	54.70	86.08		37.44	178.22

*1 - Total Digestible Nutrients - That portion of the feed used which is digested and used by the animals for maintenance, growth and production. The amount of TDN in the various feeds used in this study are as follows: Hay 50%, Concentrates 75%, Silage 17%, and Pasture 500 lbs. per animal unit month.

The animal unit months of pasture was estimated from knowledge of the practices followed by the dairyman and not on actual records. These estimates should not be far from the actual usage, however. Pasture costs were calculated at \$35.00 per acre for irrigated pastures and non-irrigated pastures in proportion to their carrying capacity.

The cost per cwt. of TDN from the various feeds was as follows: Hay \$2.60, Concentrate \$5.99, Silage \$3.63, and Pasture \$1.12. This emphasizes the economy of letting the cows harvest their own feed on pasture.

The amount of feed per cow must take into account the number of young stock carried, which is indicated by the Animal Units per cow given in Table 4.

The variation in costs of feed, particularly hay, indicates that careful buying may contribute much to the efficiency of the enterprise.

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Table 4 - Analysis of Total Digestible Nutrients and Miscellaneous Costs for Cooperators in the 1948 Shasta Dairy Study.

Serial No.	Animal Units Per Cow	Pounds of TDN Per Cow						TDN Per Animal Unit	Cost Per Cow	
		Hay	Concentrate	Greens and Silage	Pasture	Total	Estimated Requirement *1		Cow Test	Vet and Med.
M A R K E T M I L K										
5	1.5	2439	1045	59	5593	9,136	8820	6,091	2.35	8.92
6	1.3	2222	2100		4614	8,936	8240	6,874	3.04	6.83
4	1.4	1890	3402	1488	3242	10,022	9320	7,159	3.25	7.93
1	1.6	2739	467	337	4850	8,393	7660	5,246	2.20	1.92
M A N U F A C T U R I N G M I L K										
7	1.4	1822	1084	106	5556	8568	8680	6,120	3.20	6.77
3	1.1	1377	900		4974	7251	7250	6,592	2.36	2.55
2	1.3	1894	1467		5280	8641	8410	6,647	2.46	2.50

*1 - Based on 4,800 lbs. TDN per Animal Unit other than Cows, and cow requirement estimated from butterfat production.

Most cows in this study have obtained about 60% of their nutrients from pasture. Yet the pasture cost is only about 25% of the total feed cost. Thus, economical milk production demands that cows receive ample pasture during the entire growing season. Overstocking and overgrazing will always result in higher costs because the shortage of pasture must be made up with a more expensive type feed.

Veterinary and medicine costs have been analyzed to determine if high production results in high cost of maintaining herd health. There is no correlation in these records.

The cost of cow testing records is listed to show how cow testing cost compares with total cost. In these dairies, an average of .7 of one cent out of every dollar was spent for individual cow production records. This is small cost for such an excellent guide toward better management and higher profits.