

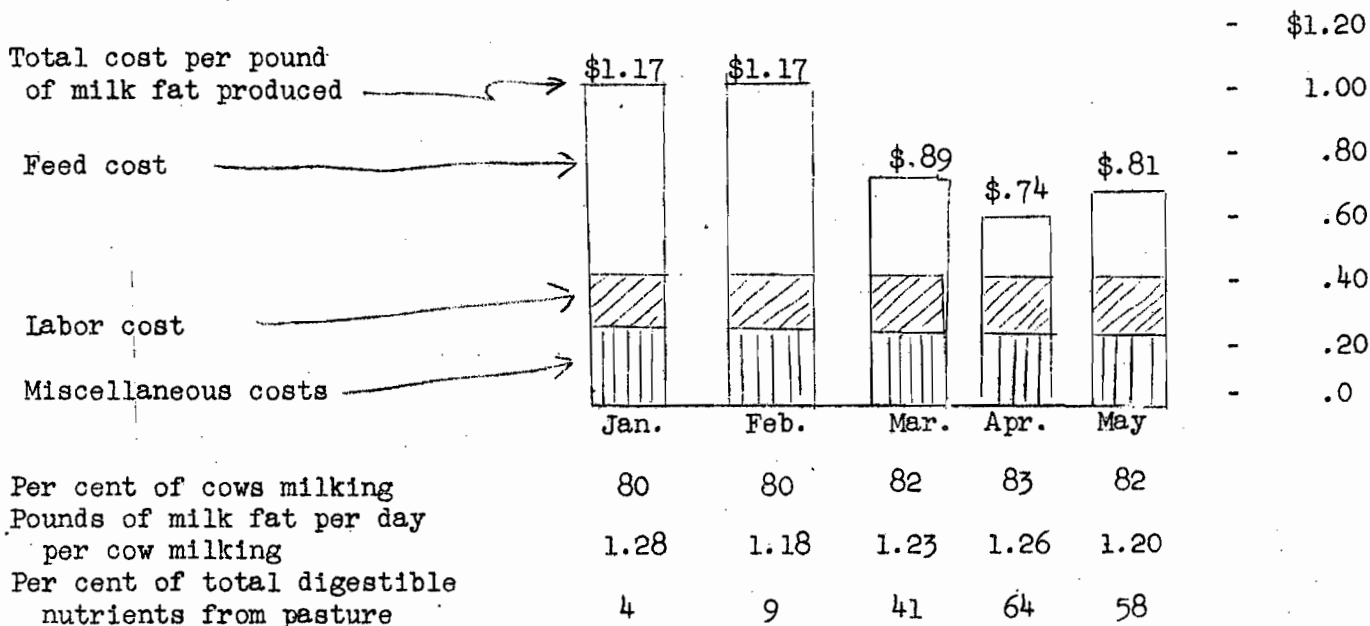
W. Reed

PROGRESS REPORT

of the

SEASONAL DAIRY MANAGEMENT STUDY
for
NAPA, MARIN, and SONOMA COUNTIES
covering
January to May, 1947

COSTS IN FLUID MILK DAIRIES



As use of pasture increases in the spring, feed and total costs are materially reduced. Will it pay local dairymen to stabilize production for market milk through the year? If so, what is the most profitable way? To answer these questions is the purpose of this study.

This study conducted by the
California Agricultural Extension Service
in cooperation with
The Bureau of Milk Control, California State Dept. of Agriculture
and
40 local dairymen.

Report compiled by
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INTRODUCTION

This is the first of several progress reports on the Seasonal Dairy Management Study for Napa, Marin, and Sonoma counties. This study is being conducted by the Agricultural Extension Service and the Bureau of Milk Control of the State Department of Agriculture in cooperation with about 40 local dairymen. Its purpose is to study the problem of spring production being higher than the rather uniform need for fluid milk through the year.

This study is based upon monthly cost surveys obtained by the Bureau of Milk Control and supplemental reports from these same dairymen obtained by local farm advisors. Cow freshening and replacement cycles and pasture use and cost of production are being obtained and studied. These data should show how to obtain the most profitable production, whether it be uniform through the year or designed to take maximum advantage of spring pasture.

Tables 1 to 5 present quantities and certain costs per cow for individual dairies. Fluid milk dairies are listed first followed by their average, "Av.A." Manufacturing milk dairies are listed near the bottom of these tables followed by their average, "Av.B." "Fat per cow" in these tables is milk fat produced per cow in herd and not per cow milking. Net total cost per cow is total cost less miscellaneous income.

Tables 6 and 7 present a more detailed comparison of input and cost averages for the first 5 months for the fluid and manufacturing milk groups respectively. Feed is shown in reported quantities per cow and also as converted to "total digestible nutrients" (T.D.N.). This is the net digestible portion available for growth and production. Pasture, as reported in head months (all cows), is figured at 500 pounds of total digestible nutrients because of the manner of reporting and a probable average production per cow of about 350 pounds of milk fat per year. The low cost of nutrients from pasture is shown by these calculations of comparative nutrient costs.

In comparing the averages in tables 6 and 7 it will be seen the production cost per pound of milk fat produced drops further in the manufacturing milk dairies because of a higher per cent of cows in milk and a greater proportion of feed from pasture. The production per cow in herd is higher in manufacturing milk herds only because a higher per cent of the cows are milking. Production per day per cow milking was higher in fluid milk herds every one of the five months. In May, it was 1.20 pounds of milk fat per day, as compared to 1.15 in the manufacturing milk herds.

Table 8 shows a summary of cow figures for the first 4 months covering most of the fluid milk herds and all of the manufacturing milk herds. Comparing figures for the two types of dairies shows the former are striving for a stable or level production through the year, while the latter are going for maximum production when natural feed is at its best. It is hoped this study in all its aspects will show which type of production will ordinarily be more profitable for each type of dairy.

Table 1, Inputs and Costs in Individual Dairies for January

Code No.	Fat per cow	Tons or hd.mo. per cow				Feed	Labor	Miscel.	Net total	Cost per lb. fat
		Hay	Conc.	Pasture	Other					
Costs per cow										
1	31.4	.46	.17	-	-	27.22	7.81	8.04	42.31	\$ 1.35
2	26.7	.44	.09	-	-	22.59	7.36	10.43	39.92	1.49
3	31.0	.48	.12	-	-	25.60	6.08	7.98	39.21	1.27
4	25.6	.45	.15	-	-	26.50	6.20	7.12	39.10	1.53
5	25.5	.28	.16	-	.08	23.41	4.37	4.68	31.78	1.25
11	32.5	.38	.14	-	.42	27.57	9.03	9.04	42.82	1.32
12	29.1	.39	.16	-	.35	27.26	4.89	9.04	40.50	1.39
13	16.5	.40	.14	-	-	23.83	6.07	6.36	35.59	2.16
14	19.9	.30	.09	-	-	18.64	4.55	4.50	27.02	1.35
15	25.3	.38	.12	-	.26	22.33	8.33	6.95	37.01	1.46
16	43.7	.27	.22	.05	-	24.59	7.85	8.18	39.56	.90
17	24.6	.23	.16	-	.07	22.56	6.00	4.79	32.71	1.33
18	25.5	.37	.11	-	-	21.08	8.33	6.79	35.67	1.40
19	26.1	.21	.13	.50	-	20.03	4.17	4.36	27.88	1.07
21	25.5	.37	.11	-	-	23.19	4.58	3.99	31.13	1.22
22	36.5	.24	.19	-	.30	27.86	7.33	6.64	41.04	1.12
23	24.6	.18	.12	.25	.25	20.40	3.55	3.60	26.89	1.09
24	36.8	.43	.15	-	-	24.07	4.37	4.60	32.31	.88
25	29.3	.37	.16	.14	-	23.94	5.28	4.65	32.32	1.10
26	30.3	.28	.23	-	.17	26.23	4.04	5.43	34.90	1.15
27	28.4	.43	.11	-	-	23.39	6.17	4.67	33.58	1.18
36	25.3	.27	.13	.39	-	22.60	5.50	7.41	34.85	1.38
37	23.6	.22	.16	-	-	20.93	5.41	5.45	31.06	1.32
38	30.6	.42	.13	-	-	23.91	5.52	6.11	34.70	1.13
39	36.7	.26	.15	-	-	19.71	6.37	5.30	30.71	.84
40	27.2	.38	.15	-	-	22.74	5.18	5.47	32.68	1.20
41	29.7	.43	.14	-	-	24.61	7.07	5.03	36.08	1.21
42	35.3	.33	.14	.10	.30	23.92	6.4	4.55	34.26	.97
43	29.1	.39	.16	-	-	24.06	6.49	5.64	35.43	1.22
44	22.0	.27	.17	-	-	20.91	3.24	4.05	27.26	1.24
45	28.8	.32	.13	-	-	19.89	5.92	5.14	30.28	1.05
46	26.5	.29	.12	-	.49	21.75	3.37	4.81	29.43	1.11
47	30.3	.46	.10	-	-	22.41	8.69	6.69	36.47	1.20
48	35.2	.46	.16	-	-	27.08	6.05	4.65	37.04	1.05
Av.A	28.7	.34	.14	.05	.08	23.12	5.70	5.64	33.67	1.17
30	36.8	.22	.15	.14	-	18.43	5.24	3.63	26.60	.72
31	20.5	.35	.11	-	-	20.14	4.46	6.27	30.25	1.47
32	36.1	.25	.17	-	-	20.38	4.34	3.93	27.93	.77
33	23.2	.30	.12	-	.31	21.87	10.50	8.92	34.05	1.47
34	26.0	.14	.16	-	.44	20.12	7.17	7.46	34.12	1.31
35	23.3	.40	.10	.19	-	21.48	8.06	6.15	35.06	1.50
51	17.6	.26	.05	.24	-	12.92	4.31	4.22	21.03	1.19
52	37.7	.30	.14	.15	.07	23.25	5.87	5.00	35.38	.89
Av.B	25.4	.27	.10	.14	.05	17.65	5.20	4.93	26.92	1.06

Table 2, Inputs and Costs in Individual Dairies for February

Code No.	Fat per cow	Tons or hd.mo. per cow				Feed	Labor	Miscel.	Net total	Cost per lb. fat
		Hay	Conc.	Pasture	Other					
1	28.7	.39	.13	.10	-	22.98	7.81	7.04	37.14	\$ 1.29
2	25.3	.40	.09	.10	-	21.00	6.06	9.49	36.08	1.42
3	29.0	.41	.11	.06	-	22.71	5.87	6.94	35.10	1.21
4	23.7	.40	.14	.05	-	24.64	6.57	7.32	37.79	1.60
5	23.5	.24	.08	.05	.07	16.02	4.37	4.35	24.06	1.02
11	26.6	.37	.15	.14	.36	29.64	8.60	8.60	44.17	1.66
12	28.4	.32	.16	-	.35	26.48	4.89	8.56	39.24	1.38
13	19.4	.35	.12	-	-	21.05	5.95	5.97	32.32	1.66
14	16.9	.27	.08	-	-	16.84	4.55	4.18	24.90	1.47
15	22.3	.35	.11	-	.23	20.16	8.33	6.30	34.19	1.54
16	36.4	.24	.20	.05	-	22.23	7.85	7.85	36.86	1.01
17	23.9	.21	.16	-	.04	20.71	6.00	4.55	30.62	1.28
18	23.6	.21	.12	.50	-	17.91	7.63	5.80	30.81	1.31
19	25.6	.21	.12	.50	-	18.48	4.17	4.30	26.28	1.03
21	25.1	.33	.10	.15	.07	20.73	4.52	3.68	28.31	1.13
22	34.0	.19	.11	.25	.16	18.55	7.43	6.17	31.35	.92
23	23.0	.16	.11	.25	.23	18.53	4.16	3.34	25.37	1.10
24	32.6	.35	.14	.09	-	24.97	4.11	5.09	33.48	1.03
25	27.0	.34	.15	-	-	21.24	4.54	4.70	29.73	1.10
26	31.2	.22	.14	.20	.08	19.99	4.23	5.56	28.94	.93
27	27.2	.38	.10	-	-	20.89	6.10	4.31	30.66	1.13
36	25.8	.15	.14	.62	-	18.81	5.79	7.22	31.20	1.21
37	23.4	.22	.15	.50	-	20.32	5.41	5.31	30.31	1.29
38	27.7	.38	.12	-	-	22.49	5.52	5.87	33.04	1.19
39	35.5	.4	.12	-	-	19.42	6.21	5.02	29.99	.84
40	24.9	.34	.13	-	-	20.54	5.18	5.12	30.14	1.21
41	30.0	.40	.13	-	-	21.93	7.27	4.92	33.46	1.12
42	32.4	.30	.13	.10	.30	22.18	6.55	4.40	32.42	1.00
43	26.5	.35	.14	-	-	21.03	6.49	5.24	32.00	1.21
44	21.6	.24	.15	-	-	18.89	3.24	3.79	24.97	1.16
45	28.1	.29	.13	-	-	20.85	5.91	4.96	31.05	1.11
46	24.0	.26	.11	-	.32	18.80	4.49	4.52	27.31	1.14
47	25.3	.36	.11	-	-	20.59	8.32	6.18	34.44	1.36
48	32.1	.21	.12	-	.65	27.65	6.44	4.81	38.21	1.08
Av. A	26.6	.29	.13	.12	.06	20.93	5.74	5.36	31.29	1.17
30	23.6	.20	.13	-	-	16.24	5.24	3.39	24.17	.72
31	21.0	.36	.10	.39	-	21.07	4.46	5.64	30.56	1.46
32	38.9	.22	.14	-	-	17.70	4.00	3.49	24.51	.63
33	26.3	.27	.13	-	.28	21.46	10.50	9.39	34.13	1.30
34	27.8	.13	.14	-	.39	18.05	7.17	7.15	31.74	1.14
35	27.1	.32	.09	.29	-	18.13	8.06	5.76	31.35	1.16
51	19.8	.26	.05	.17	-	13.69	4.50	4.03	21.71	1.10
52	35.1	.23	.13	.31	.07	19.94	5.87	4.74	29.88	.85
Av. B	26.7	.25	.10	.16	.04	16.78	5.22	4.63	25.78	.97

Table 3 Inputs and Costs in Individual Dairies for March

Code No.	Fat per cow	Tons or hd.mo. per cow				Feed	Labor	Miscel.	Net total	Cost per lb. fat
		Hay	Conc.	Pasture	Other					
1	32.6	.19	.07	.60	-	15.13	7.81	7.37	29.61	\$.91
2	25.8	.08	.10	.81	-	13.93	6.06	9.62	29.13	1.13
3	32.7	.29	.11	.50	-	19.72	5.66	6.93	31.91	.97
4	21.5	.29	.13	.30	-	20.42	5.92	7.01	32.68	1.52
5	33.5	.12	.04	.70	-	10.14	5.09	5.05	19.50	.58
11	28.3	.25	.11	.49	-	21.27	6.53	8.88	34.05	1.20
12	32.9	.46	.11	-	-	30.64	4.89	8.39	43.23	1.31
13	27.1	.35	.17	.20	-	24.61	6.06	6.20	36.12	1.35
14	22.5	.12	.11	.70	-	15.38	5.66	4.99	25.35	1.13
15	26.9	.12	.10	.67	.14	14.59	4.77	6.91	25.61	.95
16	42.2	.21	.22	.21	-	23.62	8.41	8.63	39.52	.94
17	30.5	.08	.09	.68	.04	13.06	6.00	4.75	23.18	.76
18	33.1	.10	.13	.83	-	16.33	7.63	6.20	29.63	.89
19	28.2	.24	.12	.50	-	19.99	3.92	4.52	27.79	.97
21	34.7	.21	.12	.50	.07	19.34	4.44	4.26	27.43	.82
22	39.9	.23	.13	.51	-	20.69	7.63	6.74	34.23	.86
23	29.4	.14	.15	.55	.25	22.16	4.14	3.62	29.18	.99
24	39.9	.05	.16	.90	-	17.01	5.67	5.08	27.10	.68
25	34.2	.04	.09	1.00	-	11.23	4.65	4.96	20.08	.59
26	34.0	.16	.14	.70	-	19.52	4.04	5.55	28.31	.83
27	29.8	.27	.10	.41	-	19.35	6.04	4.53	29.27	.99
36	29.7	.06	.16	.88	-	17.36	6.46	8.96	32.16	1.08
37	29.0	.16	.12	.65	-	17.11	4.90	5.22	26.56	.92
39	42.0	.28	.14	.26	-	19.85	6.43	5.50	31.11	.74
40	28.1	.27	.10	.31	-	16.65	5.47	5.48	26.86	.96
41	33.4	.22	.14	.51	-	18.14	6.63	4.75	28.92	.87
42	36.5	.16	.11	.50	.56	19.61	6.38	4.60	29.88	.82
43	30.5	.09	.08	.86	-	10.77	6.49	5.43	21.93	.72
44	29.4	.13	.11	.62	.30	16.38	3.24	3.98	22.96	1.04
45	35.2	.23	.08	.55	-	17.09	5.86	4.77	27.04	.77
46	31.2	.10	.05	.60	.51	13.30	4.62	4.81	22.21	.71
47	26.7	.26	.06	.34	-	14.80	8.81	6.57	29.50	1.11
48	33.0	.33	.12	.30	-	19.93	6.20	4.80	30.24	.92
Av.A	31.3	.18	.11	.57	.08	17.20	5.75	5.63	27.85	.89
30	39.7	.11	.15	.50	-	16.04	5.24	3.55	24.11	.61
31	28.4	.12	.11	.75	-	15.05	4.46	6.23	25.14	.89
32	38.0	.16	.14	.25	-	15.94	5.13	3.63	23.99	.63
33	29.5	.23	.13	.50	.26	21.90	9.55	8.72	33.60	1.14
34	33.0	.21	.15	.52	-	20.48	6.94	6.96	33.44	1.01
35	35.3	-	.10	1.03	-	11.47	8.33	6.13	25.64	.73
51	31.2	.18	.07	.62	-	13.66	4.62	4.26	22.01	.70
52	42.8	.19	.16	.60	-	19.89	5.87	5.35	30.44	.71
Av.B	34.2	.16	.11	.57	.01	15.62	5.40	4.87	25.05	.73

Table 4, Inputs and Costs in Individual Dairies for April

Code No.	Fat per cow	Tons or hd. mo. per cow				Feed	Labor	Miscel.	Net Total	Cost per lb. fat			
		Hay	Conc.	Pasture	Other						Costs per cow		
1	31.4	.24	.09	.51	-	15.98	8.02	7.79	31.07	.99			
2	32.7	.09	.11	.81	-	14.05	6.76	10.33	30.62	.94			
3	33.2	.34	.11	.39	-	20.66	5.66	6.73	32.65	.98			
5	33.2	.09	.04	.82	-	9.39	5.09	4.88	18.59	.56			
11	27.7	.04	.11	1.00	-	13.03	6.07	8.70	25.15	.91			
12	30.3	.01	.08	1.00	-	10.93	4.32	7.19	21.82	.72			
13	28.1	-	.17	1.04	-	16.94	6.19	6.03	28.56	1.02			
14	21.8	-	.08	1.04	-	9.22	5.66	4.77	18.97	.87			
15	27.5	-	.07	1.04	-	8.67	4.77	7.03	19.82	.72			
16	42.6	.08	.14	.90	-	15.80	7.64	7.69	30.10	.71			
17	32.3	-	.02	1.02	-	5.21	6.00	4.41	14.98	.46			
18	41.2	-	.12	1.03	-	13.12	7.38	6.17	26.20	.64			
19	27.9	-	.06	1.02	-	7.93	4.04	4.24	15.56	.56			
21	36.0	.14	.11	.66	.07	16.73	4.44	4.19	24.74	.64			
22	40.9	.01	.12	1.00	-	13.01	8.12	6.49	26.80	.66			
23	30.3	.06	.07	1.02	-	13.36	3.81	3.57	20.14	.67			
24	32.0	-	.07	1.03	-	8.99	5.63	4.89	18.85	.59			
25	31.8	.04	.08	1.02	-	11.04	4.65	4.80	19.73	.62			
26	34.6	.01	.15	1.00	-	14.53	4.01	5.35	23.12	.67			
27	31.8	.08	.08	.83	-	14.13	5.91	4.30	23.71	.75			
36	28.2	.01	.14	.99	-	13.70	6.27	8.83	28.18	1.00			
37	33.7	-	.12	1.00	-	13.25	5.14	5.45	23.15	.69			
39	35.7	.37	.13	.09	-	20.95	5.49	5.30	31.07	.87			
40	26.8	.01	-	1.02	-	3.80	5.90	5.20	14.19	.53			
41	35.1	-	.12	1.03	-	12.12	6.89	4.74	23.13	.66			
42	34.6	.16	.11	.50	.51	18.28	6.48	4.72	28.79	.83			
43	29.0	.08	.08	.81	-	10.36	6.49	5.18	21.27	.73			
44	21.0	-	.08	1.00	.48	12.93	3.24	3.85	19.07	.91			
45	32.8	.22	.08	.53	-	16.53	6.12	4.70	26.69	.81			
46	29.8	.05	.06	.96	.58	13.19	4.62	4.75	22.05	.74			
47	30.0	.01	.03	1.00	-	7.23	8.81	6.34	21.71	.72			
48	33.2	.12	.11	.76	-	14.12	5.71	4.38	23.59	.71			
Av.A	31.3	.07	.09	.87	.08	12.51	5.73	5.49	23.00	.74			
30	36.6	.08	.11	.88	-	13.67	5.24	3.44	21.64	.59			
31	35.1	.02	.11	1.04	-	12.26	4.46	6.04	22.15	.63			
32	39.6	.01	.14	1.00	-	13.57	5.25	3.62	21.81	.55			
33	28.8	.10	.12	.57	.13	15.43	7.83	8.08	25.06	.89			
34	33.1	-	.08	1.03	-	11.18	6.94	6.76	24.27	.73			
35	32.8	.02	.07	1.00	-	9.77	8.33	6.01	23.49	.72			
51	34.0	-	.04	1.02	-	5.86	4.62	4.06	14.01	.41			
52	43.7	.09	.11	.88	-	14.55	5.87	4.77	24.52	.56			
Av.B	35.9	.03	.08	.97	.01	10.30	5.38	4.67	19.50	.54			

Table 5 Input and Costs in Individual Dairies for
May

Code No.	Fat per cow	Tons or hd.mo.per cow				Feed	Labor	Miscel.	Net total	Cost per lb. fat
		Hay	Conc.	Pasture	Other					
1	31.6	.26	.11	.51	-	18.21	8.12	8.05	33.67	\$ 1.07
2	29.5	.16	.10	.50	-	14.53	5.58	7.31	26.80	.51
3	31.3	.33	.10	.42	-	20.06	5.29	6.56	31.53	1.01
5	31.0	.09	.04	.83	-	8.62	4.63	4.72	17.27	.56
11	28.6	.36	.11	.76	-	12.24	6.68	8.38	24.61	.86
12	31.4	.02	.13	1.00	-	15.15	4.19	7.27	26.02	.83
13	27.8	-	.17	1.04	-	16.35	6.19	6.21	28.08	1.01
14	21.2	-	.08	.66	-	9.40	5.66	4.87	19.25	.91
15	26.7	-	.08	1.04	-	9.57	4.77	7.21	20.90	.78
16	46.6	-	.11	1.05	-	12.19	7.74	7.94	26.82	.58
17	28.2	-	.02	1.02	.16	6.40	5.95	4.74	16.49	.58
18	42.8	-	.10	1.03	-	11.36	7.38	6.46	24.69	.58
19	26.8	.01	.07	1.00	-	8.74	4.35	4.53	16.91	.63
21	34.4	.21	.12	.51	.07	18.55	4.32	4.51	26.78	.78
22	45.3	.05	.14	.94	-	15.64	8.88	7.18	30.84	.68
23	28.5	-	.08	1.02	-	11.05	3.60	3.56	17.63	.62
24	32.9	-	.10	1.03	-	10.92	5.56	5.13	20.96	.64
25	30.2	.26	.12	.51	-	18.56	4.69	5.07	27.56	.91
26	35.4	.02	.15	1.00	-	14.74	4.19	5.76	23.86	.67
27	33.6	.08	.07	.87	-	14.08	5.91	5.09	24.44	.73
36	32.5	.01	.15	.95	-	14.23	6.64	9.09	29.34	.90
37	33.9	-	.13	1.00	-	13.81	5.28	5.77	24.15	.71
39	33.4	.37	.15	.11	-	22.90	5.59	5.71	33.51	1.00
40	26.3	.09	.02	.85	-	7.18	5.90	5.40	17.76	.68
41	26.6	-	.11	1.02	-	11.97	6.55	4.67	22.60	.85
42	33.1	.24	.13	.26	.53	21.98	6.35	4.71	32.36	.98
43	30.0	.17	.10	.61	-	14.56	6.49	5.47	25.76	.86
44	19.2	-	.08	1.00	.45	12.84	3.24	3.96	19.09	1.00
45	24.3	.21	.10	.51	-	16.05	6.12	4.79	26.29	1.08
46	28.7	.13	.05	-	.55	11.90	4.62	4.89	20.90	.73
47	27.6	.02	.08	.98	-	10.37	8.87	6.62	25.18	.91
48	32.8	.31	.16	.34	-	21.44	5.76	4.66	31.24	.95
Av.A	30.4	.10	.10	.76	.09	13.93	5.74	5.67	24.61	.81
30	38.2	-	.11	1.02	-	11.55	5.24	3.46	19.54	.51
31	36.1	.02	.05	.90	.47	10.45	4.66	5.39	19.99	.55
32	37.1	.01	.14	1.00	-	13.46	5.02	3.71	21.59	.58
33	29.5	-	.13	1.09	-	14.21	7.83	8.47	24.22	.82
34	33.3	-	.10	1.03	-	12.35	6.94	7.00	25.68	.77
35	30.3	.02	.08	1.00	-	9.98	8.33	6.02	23.71	.78
51	32.2	-	.03	1.02	-	5.38	4.64	4.25	13.74	.43
52	41.8	.02	.12	1.00	-	12.70	5.87	5.00	22.90	.55
Av.	35.8	.01	.08	1.00	.04	9.63	5.35	4.75	18.91	.54

Table 6. Cost Comparisons for Five Months-
Fluid Milk Dairies

	Jan.	Feb.	March	April	May
Number of Herds	32	33	32	32	32
Total number of cows, dry and milking	4235	4305	4036	4043	4089
Total cows milking	3383	3469	3325	3344	3356
Per cent milking	80%	80%	82%	83%	82%
Pounds of fat produced per cow in herd	28.7	26.6	31.3	31.3	30.4
Tons of hay per cow in herd	.34	.29	.18	.07	.10
Tons of concentrates	.14	.13	.11	.09	.10
Head month of pasture	.05	.12	.57	.87	.76
Tons of silage	.04	.03	.01	.00	.00
Tons of other feed	.04	.03	.07	.08	.09
Total Digestible Nutrients, lbs. per cow					
Hay at 50%	339	293	177	68	103
Concentrates at 75%	216	193	167	131	150
Pasture at 500 per head month	27	58	287	435	380
Silage at 17%	13	10	4	1	0
Other feed--various, .11 to 40%	12	10	21	24	27
Total per cow month	607	564	656	659	660
Pounds per pound fat produced	.21	.21	.21	.21	.22
Cost of hay per ton	\$33.45	\$34.59	\$34.83	\$ 32.75	\$ 29.21
Cost of concentrates per ton	74.98	73.41	73.62	72.46	72.24
Cost per head month of pasture	4.20	3.99	3.79	3.86	3.90
Cost per cwt. of T.D.N. in hay	\$ 3.35	\$ 3.46	\$ 3.48	\$ 3.28	\$ 2.92
Cost per cwt. of T.D.N. in concentrates	5.00	4.96	4.90	4.83	4.81
Cost per cwt. of T.D.N. in pasture	.84	.80	.76	.77	.78
Average cost per cwt. T.D.N. as used	3.81	3.71	2.62	1.90	2.11
Man months of labor per cow	.023	.023	.023	.023	.023
Cost per man month of labor	\$249	\$247	\$249	\$ 248	\$250
Feed cost per cow	\$ 23.12	\$ 20.93	\$ 17.20	\$ 12.51	\$ 13.93
Labor cost per cow	5.70	5.74	5.75	5.73	5.74
Miscellaneous costs	5.64	5.36	5.63	5.49	5.67
Total production cost	34.46	32.03	28.58	23.73	25.34
Less miscellaneous income	.79	.74	.73	.73	.73
Net total costs per cow	33.67	31.29	27.85	23.00	24.61
Feed cost per pound of milk fat	80.6¢	78.5¢	55.0¢	40.0¢	45.8¢
Labor cost	19.9	21.5	18.4	18.3	18.9
Miscellaneous costs less misc. income	16.9	17.3	15.6	15.2	16.2
Net total costs per lb. of fat	117.4	117.3	89.0	73.5	80.9

Fluid milk dairies maintained about the same number of cows and had only small increases in % of cows milking and pounds of milk fat produced per cow in herd. But the increased use of pasture considerably reduced feed cost and hence cost per cow and per pound of fat produced. April was the low cost month, with pastures providing less feed in May.

Table 7. Cost Comparison for Five Months
Manufacturing Milk Dairies

	Jan	Feb.	March	April	May
Number of records	8	8	8	8	8
Total cows in all herds	510	515	523	520	534
Number milking	402	444	484	504	522
Per cent milking	79%	86%	92%	97%	98%
Lbs. milk fat produced per cow in herd	25.4	26.7	34.2	35.9	34.8
Tons of hay per cow in herd	.27	.25	.16	.03	.01
Tons of concentrates	.10	.10	.11	.08	.08
Head months of pasture	.14	.16	.57	.97	1.00
Tons of silage	.04	.03	.01	.01	.00
Tons of other feed	.01	.01	--	--	.04
Total Digestible Nutrients, lbs. per cow					
Hay at 50%	272	253	158	25	7
Concentrates at 75%	155	143	162	123	114
Pasture at 500 lbs. per head mo.	68	79	286	487	501
Silage at 17%	13	11	4	2	0
Other, based on kind	2	2	0	0	11
Total lbs. per cow month	510	488	610	637	633
Lbs. per lb. fat produced	20	18	18	18	18
Cost of hay per ton	\$ 32.79	\$ 34.39	\$ 35.00	\$ 32.73	\$ 32.70
Cost of concentrates per ton	75.83	75.11	74.86	74.61	74.53
Cost per head month of pasture	3.09	3.19	3.29	3.26	3.28
Cost per cwt. of T.D.N. in hay	\$ 3.28	\$ 3.44	\$ 3.50	\$ 3.27	\$ 3.27
Cost per cwt. of T.D.N. in concentrates	5.05	5.01	4.98	4.97	4.96
Cost per cwt. of T.D.N. in pasture	.62	.64	.66	.65	.66
Av. cost per cwt. T.D.N. as fed	3.46	3.44	2.56	1.62	1.52
Man months of labor per cow	.026	.027	.027	.026	.026
Cost per man month of labor	\$ 196	\$ 194	\$ 204	\$ 203	\$ 204
Feed cost per cow	\$ 17.65	\$ 16.78	\$ 15.62	\$ 10.30	\$ 9.63
Labor cost per cow	5.20	5.22	5.40	5.38	5.35
Miscellaneous costs per cow	4.93	4.63	4.87	4.67	4.75
Total production cost	27.78	26.63	25.89	20.35	19.73
Less miscellaneous income	.86	.85	.84	.85	.82
Net total cost per cow	\$ 26.92	\$ 25.78	\$ 25.05	\$ 19.50	\$ 18.91
Feed cost per lb. milk fat	69.6¢	62.8¢	45.7¢	28.7¢	27.7¢
Labor cost	20.5	19.6	15.8	15.0	15.4
Miscellaneous costs less misc. income	16.0	14.2	11.8	10.7	11.3
Net total costs per lb. milk fat	106.1	96.6	73.3	54.4	54.4

As more of the cows freshen and are in milk, production per cow in herd increased and costs per pound of milk fat are reduced. Also as the proportion of pasture increases, feed costs per cow are reduced, which results in a considerable reduction in cost per pound of fat produced. Costs fell from \$1.06 a pound of fat in January to 54 cents in April and May. These dairies show more labor per cow than the fluid milk dairies on the previous page but average only 65 cows to the herd and some are much smaller. The fluid milk dairies average 127 cows per herd. UC Cooperative Extension

Table 8. Number of Cows and Changes by Months.
Per 100 cows - January 1st.

Month	Cows 1st of month			New heifers	Cows bought	Total freshenings	Cows died	Cows sold	Cows end of month
	Milking	Dry	Total No.						
Fluid Milk Herds									
Jan.	81.0	19.0	100.0	3.2	.2	9.2	.2	2.2	101.0
Feb.	82.3	18.7	101.0	2.0	.0	8.4	.2	1.6	101.2
March	84.0	17.2	101.2	2.7	.6	8.6	.3	1.5	101.0
April	84.2	16.8	101.0	2.4	.0	7.3	.1	1.6	101.7
May	85.8	15.9	101.7						
Manufacturing Milk Herds									
Jan.	78.4	21.6	100.0	7.3	.2	12.6	.2	.4	106.9
Feb.	88.1	18.8	106.9	5.4	.0	14.6	.2	.6	111.5
March	100.8	10.7	111.5	3.2	.0	9.0	.4	1.8	112.5
April	108.0	4.5	112.5	1.1	.4	3.4	.0	.2	113.8
May	110.8	3.0	113.8						

Variation in total herd milk production from month to month has two main causes. First is the number of cows in the herd and the per cent of these cows milking. Second, but of less importance, is the variation in production per cow due to variation in feed. The first or main cause results from the operator's policy as to time of freshening cows, time of selling culls, buying replacements, etc. From the supplemental reports on cow numbers furnished the Agricultural Extension Service by the cooperating dairymen we have prepared the above table. All figures are for 100 cows in the herd as of January 1st, 1947. Heifers are not counted as cows until they have their first calf so are added as cows in that month. The number of cows on January 1, both dry and milking plus the new heifers and cows bought less death losses and sales gives the total number of cows on the last of the month.

The first group of months in the above table gives cow figures for most of the fluid milk herds in the study. Notice how stable these herds remained both in % of cows milking and in size of herd. For each 100 cows on January 1 there were only 101.7 cows on May 1st and the 81% milking on January 1 had increased to only 85%. Total freshenings were rather even from 9.2 in January to 7.3 in April. The average of 8.4 per month would give 100 freshenings in 12 months. These dairymen appear to be striving for even production through the year.

The lower group of months shows data for the 8 manufacturing milk herds. They present a different picture with herds increasing 13.8% from January 1 to May 1 and per cent of cows milking increasing from 78% to over 97%. This indicates an effort to achieve maximum production at the time of year when feed cost is lowest due to natural pasture.