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DAIRY MANAGEMENT PRACTICES AND FARM INCOMES

By

C. A. Bratton

December 1975

No. 75-27

DAIRY MANAGEMENT PRACTICES AND FARM INCOMES*

Introduction

Situation

Dairy farmers and agribusinessmen are concerned about the economic feasibility of management practices. They are interested in knowing how the practices pay under actual farm conditions. Two general questions for any new practice are: (1) will it work in a going operation, and (2) will it add to the profitability of the business.

New farm business practices have been studied over the years. Currently, research is underway on ways of reducing chore time on dairy farms. There is also much interest in combinations of various crop and livestock practices. The New York dairy business records summarized each year provide a core group for studying various practices in use on farms.

Methodology

Laboratory and test plot techniques are useful in studying the physical aspects of a practice, but for the economic aspects quantities of observations must be used. This is necessary in order to isolate the effects of a particular practice on the operation as a whole. It is also important that the observations be made with the practices incorporated into going commercial business operations.

Objective of This Study

To measure the effects of selected dairy management practices on the operator's income from the business. In brief, to determine if a practice pays.

Procedures Followed

The 628 New York dairy farms in the 1974 general business summary provided the core group for this study. The four parts of the analysis were: (1) Dairy management practices, such as type of barn or roughage programs, were selected from the records; computer programs were written to identify these practices, and they were then correlated with income. (2) A mail survey was made through the Extension Agents to obtain data on the types of milking systems in use on the farms in 1974. This information was merged with the existing records and the correlation of milking system and incomes was determined. (3) Of the 628 farms, 413 had D.H.I. records from which information on ten selected dairy practices was obtained and integrated with the business records for analysis purposes. (4) The dairy management practices of 44 businesses with good labor incomes were obtained by personal interviews. Three herd sizes (55-69, 85-99, and 150 or more cows) were sampled. This provided descriptive data on the practices used by good dairymen in 1974.

Results

Some results from the analyses are presented here.

* Report presented at Agway/College Dairy Conference, October 21-22, 1975, Syracuse, New York.

SELECTED BUSINESS FACTORS FOR PARLOR AND NON-PARLOR MILKING SYSTEMS
548 New York Dairy Farms, 1974

Factor	Milking System		All Farms
	Non-Parlor	Parlor	
Number of farms	370	178	548
% of farms	68%	32%	100%
Labor & management income/operator	\$2,582	\$9,317	\$5,661
<u>Size of Business</u>			
Number of cows	49	89	71
Crop acres	151	271	211
Man equivalent	2.0	2.8	2.4
Total capital	\$159,606	\$290,545	\$226,109
<u>Labor Efficiency</u>			
Cows per man	25	32	29
Lbs. milk sold/man	297,623	419,694	370,826
<u>Dairy Practices</u>			
% dipped teats	61%	92%	74%
% dry treated all cows	54%	77%	66%
% fed no grain in parlor	NA	23%	--
Milker units used	3.8	5.6	4.8
Number men milking	1.5	1.7	1.6
Men helping with chores	0.8	0.9	0.8
Morning milking time (hrs.)	2.1	2.6	2.3
Evening milking time (hrs.)	1.9	2.3	2.1
Man hours milking	6.0	8.3	7.0
Cows milked/man hour*	16.3	21.4	20.3

NA - Not applicable

*Total time from start to clean up.

Above is a general comparison of the parlor milking systems with the non-parlor systems. About one-third of the 548 farms reporting had parlors.

A higher proportion of the parlor system farms dipped teats and dry treated all cows for mastitis than did the nonparlor systems.

Cows milked per man hour averaged 21.4 in parlors compared with 16.3 for the nonparlor milking systems. The nonparlor systems averaged 2.5 milker units per man milking, while the parlor systems averaged 3.3 units per man.

The parlor systems were larger, more efficient in use of labor, and had larger labor and management incomes in 1974.

SELECTED BUSINESS FACTORS BY TYPE OF MILKING SYSTEM
548 New York Dairy Farms, 1974

Factor	Type of Milking System					
	Bucket & Carry Milk	Bucket & Dumping Station	Around Barn Pipeline	Walk Through Parlor	Side Opening Parlor	Herringbone Parlor
Number of farms	29	173	168	12	17	149
% of farms	5%	32%	31%	2%	3%	27%
Labor & management income/operator	\$1,508	\$1,926	\$4,311	\$9,908	\$7,340	\$10,703
<u>Size of Business</u>						
Number of cows	35	49	64	77	82	109
Crop acres	118	153	181	257	231	325
Man equivalent	1.7	2.0	2.2	2.6	2.7	3.1
Total capital	\$107,633	\$154,182	\$217,004	\$287,145	\$249,085	\$335,406
<u>Labor Efficiency</u>						
Cows per man	21	25	29	30	31	35
Lbs. milk sold/man	226,407	292,500	373,963	395,775	399,476	463,831
<u>Dairy Practices</u>						
% dipped teats	52%	62%	68%	100%	82%	93%
% dry treated all cows	38%	57%	66%	83%	71%	78%
% fed no grain in parlor	NA	NA	NA	25%	24%	21%
Milker units used	3.1	3.8	4.6	5.3	5.1	6.5
Number men milking	1.4	1.5	1.7	1.6	1.9	1.7
Men helping with chores	0.9	0.8	0.8	0.8	1.2	0.8
Morning milking time (hrs.)	1.8	2.3	2.1	2.5	2.5	2.7
Evening milking time (hrs.)	1.6	2.1	1.9	2.3	2.2	2.5
Man hours milking	5.0	6.6	6.8	7.8	9.3	8.6
Cows milked/man hour*	14.8	14.8	18.8	19.8	17.6	25.4

NA - Not applicable

*Total time from start to clean up.

About 5% of the farms still carried the milk, while 32% had dumping stations, and 31% had around the barn pipeline systems. The Herringbone type of milking parlor predominated among the parlor systems.

Around the barn pipeline farms averaged more cows than the farms with dumping stations but fewer than the parlor systems.

Farms with around the barn pipeline systems sold 50% more milk per man than the bucket and carry systems, while the Herringbone Parlor systems sold more than twice as much milk per man as the bucket and carry systems. Herringbone Parlor systems averaged 25.4 cows milked per man hour compared with 14.8 for the bucket systems or 70 percent more.

SELECTED BUSINESS FACTORS FOR HERRINGBONE PARLORS
548 New York Dairy Farms, 1974

Factor	Herringbone Parlors				
	Less than 8 Stalls	8 Stalls	10 Stalls	12 Stalls	More than 12 Stalls
Number of farms	24	66	9	39	11
% of farms	16%	44%	6%	26%	8%
Labor & management income/operator	\$10,289	\$9,720	\$6,033	\$10,338	\$20,073
<u>Size of Business</u>					
Number of cows	82	88	142	126	200
Crop acres	294	270	420	361	512
Man equivalent	2.6	2.6	3.8	3.7	5.3
Total capital	\$261,256	\$270,057	\$467,989	\$381,950	\$615,786
<u>Labor Efficiency</u>					
Cows per man	32	34	38	34	38
Lbs. milk sold per man	434,612	444,031	504,027	459,510	470,075
<u>Dairy Practices</u>					
% dipped teats	96%	89%	100%	97%	91%
% dry treated all cows	79%	73%	67%	87%	91%
% fed no grain in parlor	16%	15%	23%	31%	36%
Milker units used	5.3	5.5	6.7	7.6	11.5
Number men milking	1.5	1.4	1.9	1.9	2.3
Men helping with chores	0.7	0.9	0.9	0.7	0.7
Morning milking time (hrs.)	2.8	2.6	3.1	2.7	3.3
Evening milking time (hrs.)	2.5	2.4	2.8	2.5	2.7
Man hours milking	7.5	6.9	11.3	10.3	13.1
Cows milked/man hour*	21.9	25.5	25.1	24.5	30.5

*Total time from start to clean up.

The double-four (8 stall) herringbone parlor was most common followed by the double-six (12 stall) size. The number of stalls in the herringbone system seemed to be related to the size of herd as one might expect. There was no definite trend in labor efficiency by size of parlor. The larger parlors did use more milker units per man milking.

Teat dipping practices showed no relationship to the size of the herringbone parlors. A higher proportion of the farms with larger parlors did follow the practice of dry treating all cows.

The more stalls in the milking parlor the higher the percentage of farms feeding no grain in the parlor.

PRACTICES USED BY FARMERS WITH MILKING PARLORS
548 New York Dairy Farms, 1974

Practice	Number farms	Percent of Farms
Farms with parlors	178	100%
Single row parlor	9	5
Double row parlor	169	95
Used crowd gate	23	13%
Automatic prep stalls	2	1
Automatic quarter take-off	1	--
Automatic milker with reflex arm	3	2
Weigh jars in parlor	100	56%
Grain feeding in parlor:		
All grain	74	41%
Some grain	65	37
No grain	39	22

Only 5% of the milking parlors were single-row systems.

Crowd gates were reported by 13% of the farms with parlors.

Weigh jars were reported in use by 56% of the farms.

About one in five of the farms reported no grain fed in the parlor, while 41% reported feeding all grain in the parlor.

COMPARISON OF BUSINESS FACTORS FOR D.H.I. and NON-D.H.I. RECORD FARMS
583 New York Dairy Farms, 1974

Factor	D.H.I. Farms	Farms With No Dairy Production Records
Number of farms	413	170
% of farms	71%	29%
Labor & management income per operator	\$5,032	\$4,428
<u>Barn Type</u>		
% with free stalls	32%	32%
<u>Size of Business</u>		
Man equivalent	2.5	2.3
Total crop acres	217	203
Number of cows	74	67
Total capital (000)	\$240	\$214
<u>Rates of Production</u>		
Lbs. milk sold/cow	12,904	11,830
Tons hay crops/acre (H.E.)	2.7	2.6
Tons corn silage/acre	13.6	13.3
<u>Labor Efficiency</u>		
Lbs. milk sold/man	381,960	352,267
<u>Feeding Practices</u>		
Feed bought/cow	\$335	\$279
% feed bought is of milk sales	30%	28%

About 70% of the farms in the business management group had Dairy Herd Improvement records, while 30% had none.

The farms with D.H.I. records were a little larger, slightly better, and had higher labor and management incomes.

Those with D.H.I. records sold an average of 1000 pounds more milk per cow than those with no records.

On the following three pages, the farm business factors have been reported as the farms were sorted by: (1) labor and management income, (2) size of herd, and (3) pounds of milk sold per cow.

SELECTED BUSINESS FACTORS BY SIZE OF LABOR AND MANAGEMENT INCOME PER OPERATOR
413 New York State "D.H.I." Dairy Farms, 1974

Factor	Labor and Management Income Per Operator							
	Below -\$4,999	-\$4,999 to -\$1	0 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$19,999	\$20,000 or more	
Number of farms	75	62	75	83	57	30	31	
% of farms	18%	15%	18%	20%	14%	7%	8%	
Labor & management income/operator	-\$12,330	-\$2,320	\$2,635	\$7,441	\$11,968	\$17,701	\$30,460	
Barn Type								
% with free stall	32%	21%	27%	22%	37%	37%	77%	
Size of Business								
Man equivalent	2.7	2.1	2.5	2.2	2.3	2.6	3.6	
Total crop acres	223	178	197	195	207	261	360	
Number of cows	75	60	70	63	71	87	128	
Total capital (000)	\$269	\$208	\$218	\$209	\$218	\$289	\$359	
Rates of production								
Lbs. milk sold/cow	12,204	12,247	12,519	13,113	13,276	13,608	14,276	
Tons hay crops/acre (H.E.)	2.5	2.6	2.5	2.5	2.7	3.2	3.3	
Tons corn silage/acre	13.3	12.6	13.4	13.2	13.6	14.9	15.0	
Labor Efficiency								
Lbs. milk sold/man (000)	343	353	351	381	405	459	510	
Feeding Practices								
Feed bought/cow	\$358	\$344	\$344	\$329	\$331	\$319	\$319	
Lbs. concentrate fed	4,600	4,397	4,749	4,868	5,061	5,297	5,239	
Feeding index	123	118	119	119	119	123	117	
Rate of roughage feeding	2.5	2.4	2.4	2.4	2.4	2.4	2.4	
% NE from concentrates	42	42	43	44	45	47	45	
% NE from succulents	33	33	30	33	36	31	44	
% NE from dry hay	14	15	16	15	13	14	7	
Breeding Practices								
% days in milk	86%	85%	88%	85%	86%	86%	88%	
Projected calving interval (mo.)	13.3	13.1	13.1	13.0	12.9	12.6	12.6	
Average days dry	65	67	66	65	62	61	57	
Breedings per conception	1.8	1.7	1.7	1.6	1.7	1.7	1.7	
Av. age at first calving	30	29	29	29	29	29	29	
Av. age all cows	56	55	58	56	56	55	53	
Av. weight first calving	1,060	1,060	1,060	1,080	1,050	1,080	1,110	
Av. weight all cows	1,230	1,220	1,240	1,250	1,230	1,250	1,270	

SELECTED BUSINESS FACTORS BY SIZE OF HERD
 413 New York State "D.H.I." Dairy Farms, 1974

Factor	Number of Cows in Herd						
	Under 40	40-54	55-69	70-84	85-99	100-149	Over 150
Number of farms	41	119	91	48	30	60	24
% of farms	10%	29%	22%	12%	7%	14%	6%
Labor & management income/operator	\$2,540	\$2,698	\$2,482	\$3,841	\$10,539	\$7,308	\$14,853
Barn Type							
% with free stalls	7%	8%	20%	48%	50%	67%	96%
<u>Size of Business</u>							
Man equivalent	1.4	1.8	2.2	2.5	2.9	3.5	5.3
Total crop acres	99	139	195	234	250	334	518
Number of cows	34	46	61	75	91	118	194
Total capital (000)	\$118	\$161	\$219	\$237	\$297	\$364	\$538
<u>Rates of Production</u>							
Lbs. milk sold/cow	12,788	12,765	12,707	12,823	13,156	13,236	12,965
Tons hay crops/acre (H.E.)	2.5	2.5	2.5	2.4	3.1	3.0	2.9
Tons corn silage/acre	14.5	13.1	12.8	13.4	14.2	14.4	13.6
<u>Labor Efficiency</u>							
Lbs. milk sold/man (000)	306	321	357	385	410	446	472
<u>Feeding Practices</u>							
Feed bought/cow	\$340	\$335	\$323	\$346	\$307	\$347	\$347
Lbs. concentrate fed	4,661	4,634	4,668	4,892	5,064	5,056	5,441
Feeding index	118	117	120	122	124	122	122
Rate of roughage feeding	2.4	2.4	2.4	2.4	2.4	2.4	2.4
% NE from concentrates	42	44	42	44	44	45	47
% NE from succulents	23	29	35	36	42	40	43
% NE from dry hay	20	16	15	13	8	10	6
<u>Breeding Practices</u>							
% days in milk	85	85	86	86	87	86	87
Projected calving interval (mo.)	13.0	12.9	13.0	13.1	12.9	13.3	12.7
Average days dry	66	66	64	64	60	63	61
Breedings per conception	1.7	1.7	1.7	1.7	1.6	1.8	1.9
Av. age at first calving	28	29	29	30	29	29	29
Av. age all cows	58	57	56	55	54	54	54
Av. weight first calving	1,060	1,050	1,070	1,070	1,080	1,080	1,080
Av. weight all cows	1,230	1,230	1,240	1,240	1,250	1,260	1,240

SELECTED BUSINESS FACTORS BY POUNDS MILK SOLD PER COW
413 New York State "D.H.I." Dairy Farms, 1974

Factor	Pounds Milk Sold Per Cow							
	Less than 10,000	10,000 to 10,999	11,000 to 11,999	12,000 to 12,999	13,000 to 13,999	14,000 to 14,999	15,000 to 15,999	More than 16,000
Number of farms	32	40	57	85	96	67	25	11
% of farms	8%	10%	14%	20%	23%	16%	6%	3%
Labor & management income/operator	-\$4,574	\$300	\$143	\$4,999	\$7,052	\$8,980	\$13,105	\$11,045
Barn Type								
% with free stalls	25%	30%	30%	32%	32%	33%	36%	45%
Size of Business								
Man equivalent	2.5	2.3	2.4	2.4	2.4	2.6	3.0	2.6
Total crop acres	212	182	213	219	221	216	258	236
Number of cows	71	68	70	75	73	77	88	74
Total capital (000)	\$225	\$204	\$220	\$236	\$248	\$248	\$295	\$289
Rates of Production								
Lbs. milk sold/cow	8,969	10,715	11,619	12,549	13,588	14,649	15,466	16,816
Tons hay crops/acre (H.E.)	2.4	2.6	2.5	2.7	2.7	2.8	2.9	2.4
Tons corn silage/acre	12.7	14.3	12.9	13.5	13.5	13.5	15.7	12.8
Labor Efficiency								
Lbs. milk sold/man (000)	255	324	336	389	410	437	454	482
Feeding Practices								
Feed bought/cow	\$240	\$277	\$313	\$324	\$342	\$383	\$399	\$477
Lbs. concentrate fed	3,561	3,922	4,359	4,815	5,139	5,380	5,524	6,059
Feeding index	123	119	122	120	118	119	115	117
Rate of roughage feeding	2.5	2.3	2.4	2.4	2.3	2.4	2.4	2.5
% NE from concentrates	37	40	41	43	45	46	46	48
% NE from succulents	37	30	32	33	33	34	37	34
% NE from dry hay	16	17	15	14	14	14	10	12
Breeding Practices								
% days in milk	84	85	85	85	86	87	87	89
Projected calving interval (mo.)	12.8	12.9	13.3	12.9	13.0	13.1	12.9	13.0
Average days dry	67	68	68	65	63	62	58	53
Breedings per conception	1.6	1.7	1.7	1.6	1.7	1.8	1.8	1.9
Av. age at first calving	29	29	30	30	29	28	28	29
Av. age all cows	60	58	57	56	54	55	55	54
Av. weight first calving	980	1,050	1,040	1,070	1,080	1,090	1,110	1,140
Av. weight all cows	1,140	1,200	1,220	1,240	1,250	1,270	1,290	1,300

SELECTED BUSINESS FACTORS BY POUNDS CONCENTRATE FED PER COW
413 New York State "D.H.I." Dairy Farms, 1974

Factor	Pounds Concentrate Fed Cow				
	Less than 3,000	3,000- 4,000	4,001- 5,000	5,001- 6,000	More than 6,000
Number of farms	27	72	150	112	52
% of farms	7%	17%	36%	27%	13%
Labor & management income/operator	\$5,664	\$772	\$5,013	\$5,217	\$9,228
Number of cows	71	66	71	77	90
Lbs. milk sold/cow	11,883	11,739	12,534	13,462	14,153
% feed is of milk receipts	28%	28%	30%	33%	29%
Feed bought/cow	\$284	\$282	\$320	\$381	\$357
Crop expense/cow	\$91	\$86	\$92	\$99	\$109
Feeding index	111	116	117	121	129
Rate of roughage feeding	2.4	2.5	2.4	2.3	2.3
Income over value of feed	\$604	\$618	\$693	\$702	\$719
% NE from concentrates	31	36	42	47	52
% NE from succulents	38	38	32	32	33
% NE from dry hay	16	16	16	13	10

The D.H.I. farms were grouped on the basis of pounds of concentrates fed per cow. In general, the more concentrates fed, the higher the production per cow and the higher the labor and management income per operator.

The higher rates of concentrate feeding tended to be in the larger herds. Also, as the concentrates went up the percent of nutrients from roughages declined. However, the rate of roughage feeding decline was slight.

For each increase of 1,000 pounds of concentrate fed per cow, there was an increase of 700 to 900 pounds of milk sold per cow. Examining the milk response to levels of concentrate feeding, the pounds of milk sold per pound of concentrate fed ranged from 3.4 at the 3,000 to 4,000 pound level, to 2.8 at the 4,000 to 5,000 level, 2.4 at the 5,000 to 6,000 level, and 2.2 at the over 6,000 pound of concentrate level.

Both the feed bought per cow and the crop expense per cow increased as the pounds of concentrate fed per cow increased. This suggests that the added concentrates came from both more grain grown and more purchased.

In general, it appears that it paid to feed concentrates at the higher levels on these 413 D.H.I. farms.

SELECTED BUSINESS FACTORS BY PROJECTED MINIMUM CALVING INTERVAL
413 New York State "D.H.I." Dairy Farms, 1974

Factor	Projected Minimum Calving Interval (months)				
	Less than 12.5	12.5-12.9	13.0-13.4	13.5-14.0	More than 14.0
Number of farms	43	151	111	68	40
% of farms	10%	37%	27%	16%	10%
Labor & management income/operator	\$5,703	\$6,511	\$4,149	\$4,648	\$1,962
Number of cows	60	70	80	81	73
Lbs. milk sold/cow	13,160	12,971	13,220	12,731	12,267
Vet & medicine expense/cow	\$19.57	\$17.31	\$19.08	\$16.48	\$14.47
Projected minimum calving interval (months)	11.3	12.7	13.2	13.7	14.4
Income over value of feed	\$685	\$692	\$686	\$664	\$651
Breedings per conception	1.4	1.6	1.8	1.9	1.9
Days dry	63	64	65	65	62

The D.H.I. farms were also studied on the basis of the projected minimum calving interval. Although the relationship is not distinct, there is a general indication that the shorter calving intervals were more profitable. The farms with calving intervals of less than 13 months had considerably higher labor and management incomes even though the herds were smaller in size. (Generally, larger herds pay better.)

SELECTED BUSINESS FACTORS BY AVERAGE DAYS DRY
413 New York State "D.H.I." Dairy Farms, 1974

Factor	Average Days Dry					
	Less than 50	51-55	56-60	61-65	66-70	More than 70
Number of farms	27	46	50	104	82	104
% of farms	7%	11%	12%	25%	20%	25%
Labor & management income/operator	\$13,130	\$7,488	\$6,918	\$5,670	\$3,331	\$1,599
Number of cows	82	88	80	69	76	66
Lbs. milk sold/cow	14,071	13,420	13,648	12,997	12,068	12,508
Vet expense/cow	\$19.30	\$18.02	\$18.14	\$15.48	\$17.30	\$18.76
Av. days dry	46	52	57	62	67	78
Breedings per conception	1.7	1.7	1.7	1.7	1.7	1.7
Income over value of feed	\$716	\$738	\$735	\$683	\$647	\$647
Projected minimum calving interval	13.1	12.9	13.1	13.1	13.2	12.8

Average days dry is one of the management practices reported in the D.H.I. records. The farms were sorted on the basis of average days dry. As expected, with longer dry periods less milk was sold per cow and in turn the average labor and management income per operator was lower.

Days dry apparently is a dairy management practice that has an effect on labor and management income per operator. In brief, the practice pays!

SELECTED BUSINESS FACTORS BY AVERAGE WEIGHT ALL COWS
413 New York State "D.H.I." Dairy Farms, 1974

Factor	Average Body Weight All Cows			
	Less than 1,100	1,101- 1,200	1,201- 1,300	More than 1,300
Number of farms	12	85	230	86
% of farms	3%	21%	56%	21%
Labor & management income/operator	-\$4,453	\$3,515	\$4,852	\$8,142
Number of cows	97	63	75	78
Feed bought/cow	\$272	\$323	\$336	\$360
% feed is of milk receipts	32%	31%	30%	30%
Lbs. milk sold/cow	8,936	12,368	13,003	13,935
Average B.F. test	4.43	3.62	3.60	3.66
Feeding index	121	119	120	118
Rate of roughage feeding	2.7	2.4	2.4	2.4
% NE from concentrates	38	43	44	43
% NE from succulents	45	30	34	34
% NE from dry hay	10	17	13	14
% NE from pasture	6	10	9	9

Body weights are reported in the D.H.I. records. In this study, the farms were sorted on the basis of average weight per cow. In general, the bigger (heavier) the cow the more milk she produced, and the larger the labor and management income for the operator. As indicated by the average test, the small cows tended to be high test breeds with corresponding low average pounds of milk sold per cow.

Size of cows appears to affect income.

STUDY OF DAIRY MANAGEMENT PRACTICES
44 Upper Income N.Y. Dairy Farmers, 1974

	Size of Herd			Overall Average
	55-69 Cows	85-99 Cows	Over 150 Cows	
<u>General Description</u>				
Number of farms visited	16	14	14	--
Number of free stall barns	2	8	13	--
Number of conventional barns	14	6	1	--
Herd size	61	91	196	116
Man equivalents	1.9	2.8	5.1	3.3
Crop acres	173	252	494	306
Crop acres rented	67	72	201	113
<u>Rates of Production and Efficiency of Operation</u>				
Lbs. milk sold per cow	13,572	13,298	13,122	13,331
Tons hay crops/acre (in H.E.)	2.9	3.4	3.7	3.3
Total tons foraged/acre (in H.E.)	3.4	3.9	4.2	3.8
Tons corn silage/acre	15.3	15.5	15.0	15.3
Bushels corn/acre	70.0	75.5	72.7	72.7
Lbs. milk sold/man	448,475	440,668	529,919	473,021
Feed purchased/cow	\$307	\$294	\$284	\$295
% purchased feed is of milk sales	27%	26%	26%	26%
Crop expense per cow	\$101	\$100	\$92	\$98
<u>Financial</u>				
Total investment/cow	\$3,178	\$3,181	\$2,615	\$2,991
Land & buildings/cow	\$1,653	\$1,652	\$1,202	\$1,502
Machinery investment/cow	\$590	\$477	\$419	\$495
Farm debt/cow	\$202	\$186	\$197	\$195
% debt payment is of milk sales	18%	13%	19%	17%
Labor & management income/operator	\$13,752	\$13,688	\$31,678	\$19,706

Upper income farms were selected from three herd-size groups for this phase of the study. The common business factors of rates of production, labor efficiency, capital efficiency, and cost control were all good for the three herd sizes. The large farms, however, had considerably lower capital investment per cow, higher pounds of milk sold per man, and larger labor and management incomes per operator than the other two.

The objective in this phase of the study was to observe the dairy management practices being used by the "better" dairymen and it appears from the table above that these were better than average dairy operations.

Even with these upper income dairymen there was a wide variation in the proportion using some of the practices studied. For example, only 8% of the 44 farms contracted heifer raising while 94% trimmed feet. The degree of adaption of each of these 28 practices can be observed from the table on page 16.

STUDY OF DAIRY MANAGEMENT PRACTICES
44 Upper Income N.Y. Dairy Farmers, 1974

Dairy Management Practices	Size of Herd			Average of 44 Farms
	55-69 Cows	85-99 Cows	Over 150 Cows	
	% farms reporting practice			
1. Roughages fed from storage year-round (no pasture or green chop)	25%	50%	86%	54%
2. All silage feeding program	0	7	43	17
3. Grew some grain for use on farm	94	71	71	79
4. % homegrown is of total feed requirements	48	54	45	49
5. Used a liquid protein supplement	13	21	23	19
6. Fed high moisture corn	38	43	57	46
7. Analyzed corn silage	38	50	86	58
8. Analyzed hay crop silage	44	57	100	67
9. Used a silage preservative	6	14	14	11
10. Controlled weeds in corn with herbicides only	69	79	57	68
11. 100% clear seeded	50	54	64	56
12. Followed recommended feeding practices explicitly*	13	22	15	17
13. Bred <u>all</u> cows artificially	88	64	36	63
14. Did own artificial inseminating	19	43	21	28
15. Routinely made prebreeding checks	40	38	33	37
16. Routinely made pregnancy checks	81	54	71	69
17. Calf mortality under 10%	88	72	59	73
18. Dipped calves' navel in iodine	31	21	46	33
19. Calves weaned at 6-8 weeks	69	43	64	59
20. Contracted heifer raising	0	0	25	8
21. Trimmed feet	88	93	100	94
22. Did own trimming	71	54	50	58
23. Farmer treated milk fever, ketosis cases	38	43	36	39
24. Used a teat dip	69	87	100	85
25. Dry treated all cows	56	67	93	72
26. Milking system checked by dealer serviceman in 1974	44	60	100	68
27. Had some weekend milkings off	38	64	86	63
28. Took <u>no</u> vacation in 1974	29	19	11	20

* Many made use of recommendations but did NOT follow explicitly.

HIGHLIGHTS FROM THE DAIRY FARM INTERVIEWS

1. In general, these upper income farms were located in areas with productive soil resources (good drainage, few stones, workable slopes, well suited to use of machinery).
2. The farms visited were somewhat smaller (as measured by acres, cows, man equivalent and capital investment) than the overall average for these herd sizes.
3. Rates of production and operational efficiency were better than the average of similar size farms in the Dairy Farm Business Summary (the 16 herds with 55-69 cows sold 100,000 pounds more milk per man than the group average).
4. More grain was purchased per cow than average: 80% of farms grew grain for on-farm use, which provided 50% of the grain requirements of the herd.
5. Only the largest farms were on all-silage programs. Hay and pasture still were an important part of most feeding programs.
6. 60% of the farmers had their hay-crop and corn-silages analyzed.
7. Herd health generally was left to the veterinarian. Few farmers treated sick cows for anything other than mastitis.
8. Teat dipping and dry cow treating was common on these farms.
9. Only 63% bred all cows artificially. Two-thirds of the large herds used a bull.
10. Four-fifths of these farm operators had a vacation in 1974.
11. Two-thirds of the farms had arrangements for taking weekend milkings off. The larger farms had more weekends off.
12. Acceptability of given management practices varied: accepted by some, rejected by others; acceptability was influenced by locality, climate, land resources, previous experience of operator or neighbors, and the aggressiveness of salesmen, and quality of service provided by dealers.

General Conclusions

1. Various combinations of dairy management practices were found in use. There was no "one" package of dairy management practices used generally by these upper income dairymen.
2. Success (in this case, better than average incomes) seems to depend on the farm resources (land, buildings, cattle, equipment, financial situation) available to the operator and his ability to select the appropriate combination of management practices that fit his situation.