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1979
Farm Business Analysis Report
DAIRY SUMMARY BY HERD SIZE

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Cooperative Extension Service
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DAIRY FARMS BY SIZE OF HERD

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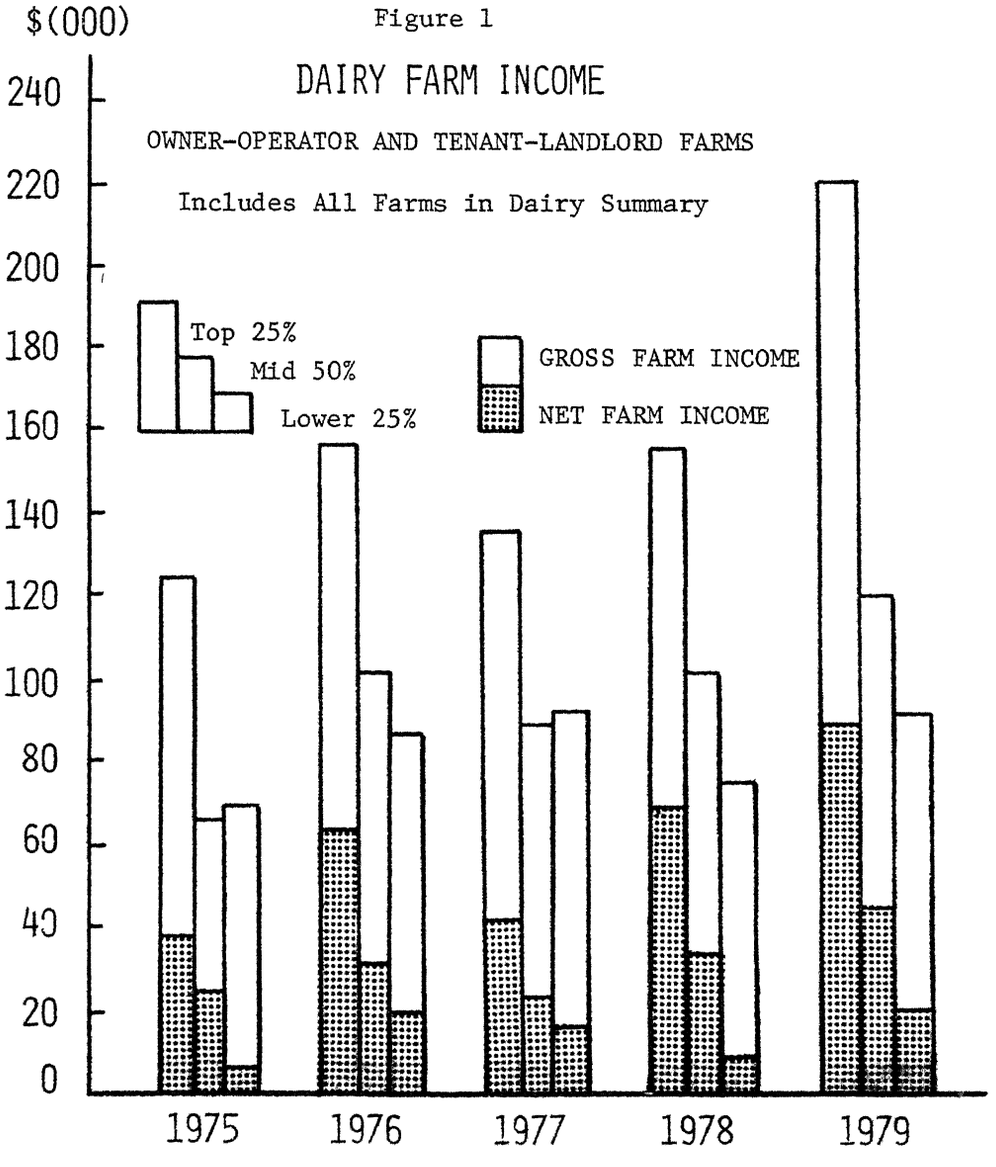
Introduction

This summary provides information about income, expense, and production levels achieved by Ohio dairy farmers. It can be used to aid dairy producers in recognizing areas of their operations which need improvement. One's individual records can be compared to the 1979 data in this report to spot these areas. Also, in order to recognize problems which may have developed over time, an individual dairy producer may compare this year's records with his previous year's records.

This summary uses data from 99 dairy farmers who submitted their 1979 farm enterprise records for analysis. These farms are split into three groups based upon the number of cows in the herd: less

Figure 1



than 40 cows, 40-79 cows, and 80 or more cows. Each group is then ranked according to income on the basis of return per hour to unpaid labor and management income. The 99 owner-operator and tenant-landlord dairy farms included in this summary are the same farms used in the 1979 Ohio Farm Business Analysis Report, Dairy Summary (Extension No. MM 353, ESO No. 684).

Farm Income Comparisons

A description of the farm income situation for these Ohio dairy farmers from 1975 through 1979 is given in figure 1. This graph includes all dairy farms summarized and is divided into three income groups. Although the same farms were not included in each year, improvement in both gross and net farm income has occurred, especially for the top 25%. Incomes for 1979 increased markedly over 1978. In fact, in 1979, the upper 25% and mid 50% groups reached their highest levels ever in the past five years for both gross and net farm income.

Table 1 gives a comparison of selected measures of average farm size and income per farm with those of the four previous years for each herd size group. Gross farm income and total investment are physical measures of size that showed substantial gains in 1979 over the previous years. Most noteable of these changes was the 80 or more cow category which had a 14% rise in gross farm income and a 20% gain in total investment from 1978 to 1979. The number of men per farm increased slightly and the number of cows per farm decreased for the two smaller herd groups. However, fewer men and more cows per farm were reported in 1979 for the herds in the 80 or more cows size group compared to 1978.

TABLE 1

SIZE AND INCOME OF FARMS BY HERD SIZE
OHIO, 1975-1979

	SIZE OF FARM				INCOME PER FARM				
	Gross Income	Total Investment	Number of Men	Number of Cows	Net Cash Income	Net Farm Income	Family Labor and Management Income	Return to Investment	
Unit	$	$	M.Y.E.*	Head	$	$	$	$	%
Less Than 40 Cows									
1975	43,679	145,699	1.54	31.2	14,133	13,542	5,352	3,215	2.2
1976	55,585	181,506	1.58	32.1	15,303	19,526	9,503	11,069	6.1
1977	50,891	169,993	1.59	31.4	17,802	16,262	6,270	5,066	3.0
1978	64,042	199,579	1.56	32.0	16,810	22,653	12,735	14,203	7.1
1979	74,606	253,029	1.60	29.4	16,818	27,073	12,905	14,836	5.9
40-79 Cows									
1975	74,158	193,203	2.04	54.7	21,203	21,072	10,525	10,047	5.2
1976	90,148	235,145	2.13	57.4	23,857	26,350	14,801	16,743	7.1
1977	93,328	269,163	2.14	58.2	26,106	25,002	11,508	15,181	5.6
1978	106,693	306,391	2.06	57.9	24,529	36,211	17,658	23,880	7.8
1979	120,619	341,801	2.11	56.2	30,357	43,464	25,211	30,683	9.0
80 or More Cows									
1975	161,221	392,985	3.65	122.7	37,307	31,567	11,207	18,169	4.6
1976	199,330	460,176	3.69	120.1	51,320	60,105	33,989	48,494	10.5
1977	200,186	580,271	3.62	114.2	50,042	46,124	15,461	35,445	6.1
1978	237,157	591,500	3.54	104.1	43,151	87,950	56,173	75,912	12.8
1979	270,303	708,283	3.51	108.0	60,722	95,937	56,124	83,279	11.8

* M.Y.E. = Man Year Equivalent. One M.Y.E is defined as 3,000 hours.

TABLE 2
1979 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
BY HERD SIZE (AVG.)

	Unit	Less Than 40 Cows	40-79 Cows	80 or More Cows	All
INCOME					
Cash Receipts	$	57,205	94,912	206,884	107,618
Capital Gains and Losses	$	3,684	7,538	17,361	8,493
Inventory Changes	$	14,654	18,360	46,192	23,178
Feeder Livestock Purchase	$	-937	-191	-134	-397
Gross Income	$	74,606	120,619	270,303	138,892
EXPENSES					
Cash Expenses	$	40,387	64,555	146,162	74,786
Depreciation	$	8,083	12,790	28,338	14,709
Interest Not Charged	$	14,168	18,254	39,813	21,630
Unpaid Operator & Family Labor	$	17,046	20,162	25,964	20,480
Feeder Livestock Purchase	$	-937	-191	-134	-397
Total Farm Expense	$	78,747	115,570	240,143	131,208
MANAGEMENT INCOME & PROFIT					
Total	$	-4,141	5,049	30,160	7,684
As a Percent of Gross Income	%	-5.5	4.2	11.2	5.5
UNPAID OPERATOR & FAMILY LABOR					
Total	$	17,046	20,162	25,964	20,480
As a Percent of Gross Income	%	22.8	16.7	9.6	14.8
OVERHEAD COSTS					
Total	$	31,291	45,550	100,041	52,932
As a Percent of Gross Income	%	41.9	37.8	37.0	38.1
VARIABLE COSTS					
Total	$	30,410	49,858	114,138	57,796
As a Percent of Gross Income	%	40.8	41.3	42.2	41.6
NET CASH INCOME	$	16,818	30,357	60,722	32,832
NET FARM INCOME	$	27,073	43,464	95,937	49,794
INVESTMENT					
Total	$	253,029	341,801	708,283	393,536
Return to Investment	$	14,836	30,683	83,279	37,198
Profit Margin (Percent of Gross)	%	19.9	25.4	30.8	26.8
Turnover (Gross Per $1 Invested)	$	.295	.353	.382	.353
Return on Investment (Percent)	%	5.9	9.0	11.8	9.5
FAMILY LABOR & MANAGEMENT INCOME					
Total	$	12,905	25,211	56,124	28,164
Per Hour	$	3.01	4.97	9.55	5.37
NUMBER OF MEN	M.Y.E.	1.60	2.11	3.51	2.25
NUMBER OF COWS	Hd.	29.4	56.2	108.0	59.3
LABOR EFFICIENCY FACTOR	%	71.1	84.9	92.4	82.5
NUMBER OF FARMS	No.	29	49	21	99

Both cash and net farm incomes were generally much higher in 1979. Family labor and management income remained relatively stable, and percent return to investment fell for the smallest and the largest herd group. However, family labor and management income climbed $7,553 to $25,211 for the 40-79 cow group. In 1979, improved milk prices were a major contributor to greater cash income (the difference between cash receipts and cash expenses). Higher milk prices and appreciating livestock values both contributed to the increase in net farm income. For example, in the 80 or more cow group, the net change in inventory was $46,192, 67% of which was accounted for by raised breeding livestock.

A broader picture of 1979 income and expenses for Ohio dairy farmers grouped by herd size is given in Table 2, page 3 of this report. As expected, gross income, total expenses, and total investment are all greater with larger herd size. Also, in 1979, larger dairy farms generated more net farm, net cash, and family labor and management incomes. Another figure that increased in relation to herd size was return on investment, which is a measure of a farmer's returns to capital and management. This figure rose from 5.9 percent for the less than 40 cow herds, to 9.0 percent for the 40-79 cow herd size, to 11.8 percent for the 80 or more cow herds. The labor efficiency factor in Table 2 also demonstrates that as herd size increased, the larger farm were able to make more efficient use of labor. Thus not only did the farms with larger herds generate more volume, they were also able to realize greater returns at all points in their farm businesses in 1979.

However, a study of the comparison of farms within each herd size group (pages 8-13) shows that size alone does not guarantee profitability. Smaller herds with good management can still produce a good income, while larger herds with inferior management can be poor performers.

Milk Production Cost

Comparing the cost of producing milk with the price being received for milk provides the dairy farmer with a good means of measuring the financial health of his dairy operation. Table 3 compares the cost of production of a hundredweight of milk to the price received for the upper and lower 25% of all dairy farms summarized for each of the past five years. Although the cost of producing a hundredweight of milk for the upper 25% group rose 9% over 1978 costs, a substantial profit of $2.38 per cwt. was obtained thanks to a 15% rise in the price received for the milk. However, a similar increase in the price received for milk in the lower 25% group in 1979 was more than offset by a 27% increase in the cost of production, resulting in a loss of $2.19 per cwt.

TABLE 3

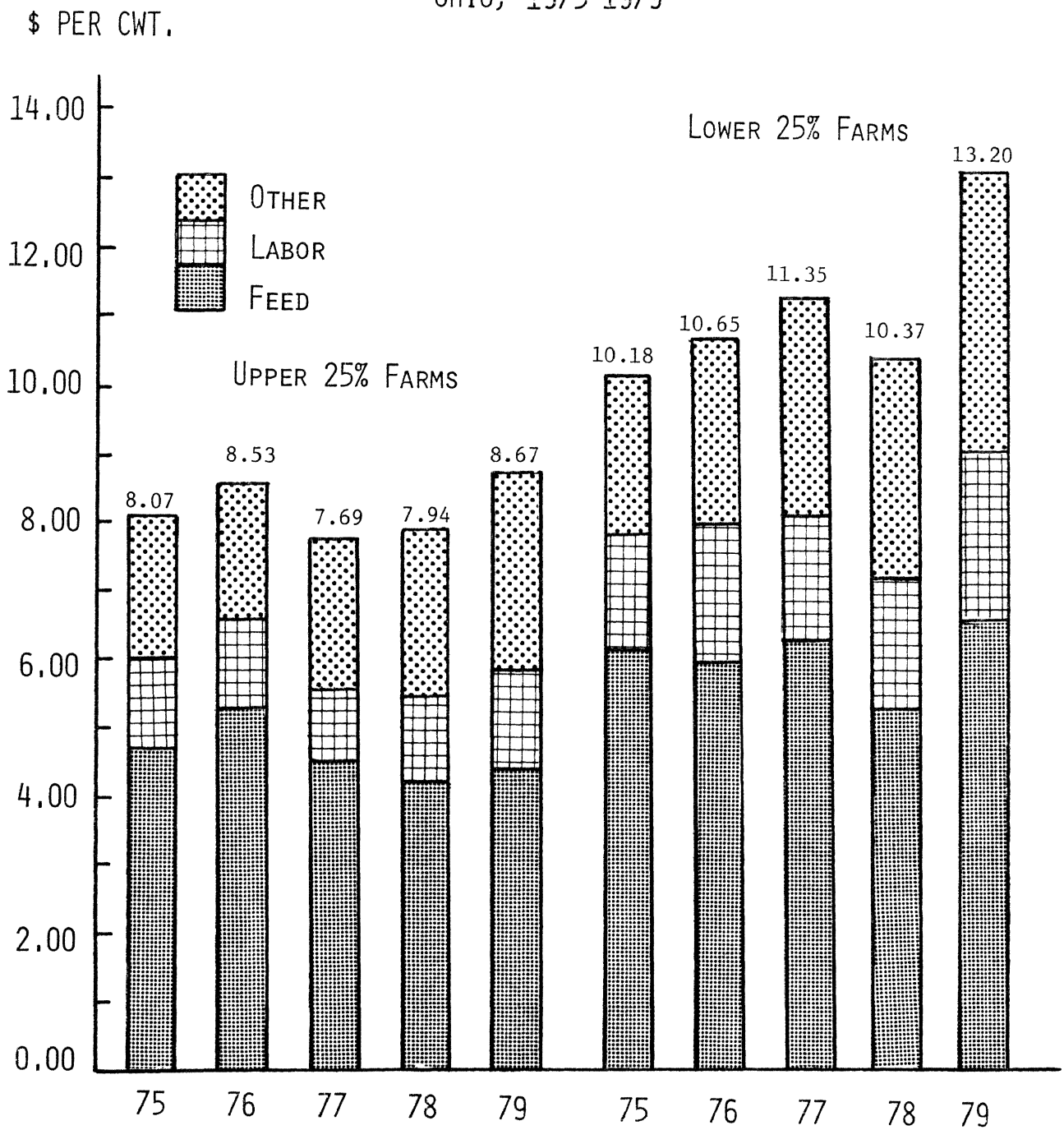
COMPARISON OF PRICE RECEIVED WITH TOTAL COST OF PRODUCING MILK, OHIO, 1975-1979

	Upper 25% Farms			Lower 25% Farms		
	Price Received	Cost of Production	Profit (Loss)	Price Received	Cost of Production	Profit (Loss)
	$ Per Cwt	$ Per Cwt	$ Per Cwt	$ Per Cwt	$ Per Cwt	$ Per Cwt
1975	8.01	8.07	(.06)	7.94	10.18	(2.24)
1976	9.14	8.53	.61	9.00	10.65	(1.65)
1977	9.06	7.69	1.37	8.71	11.35	(2.64)
1978	9.61	7.94	1.67	9.44	10.37	(.93)
1979	11.05	8.67	2.38	11.01	13.20	(2.19)

Figure 2

MILK PRODUCTION COST

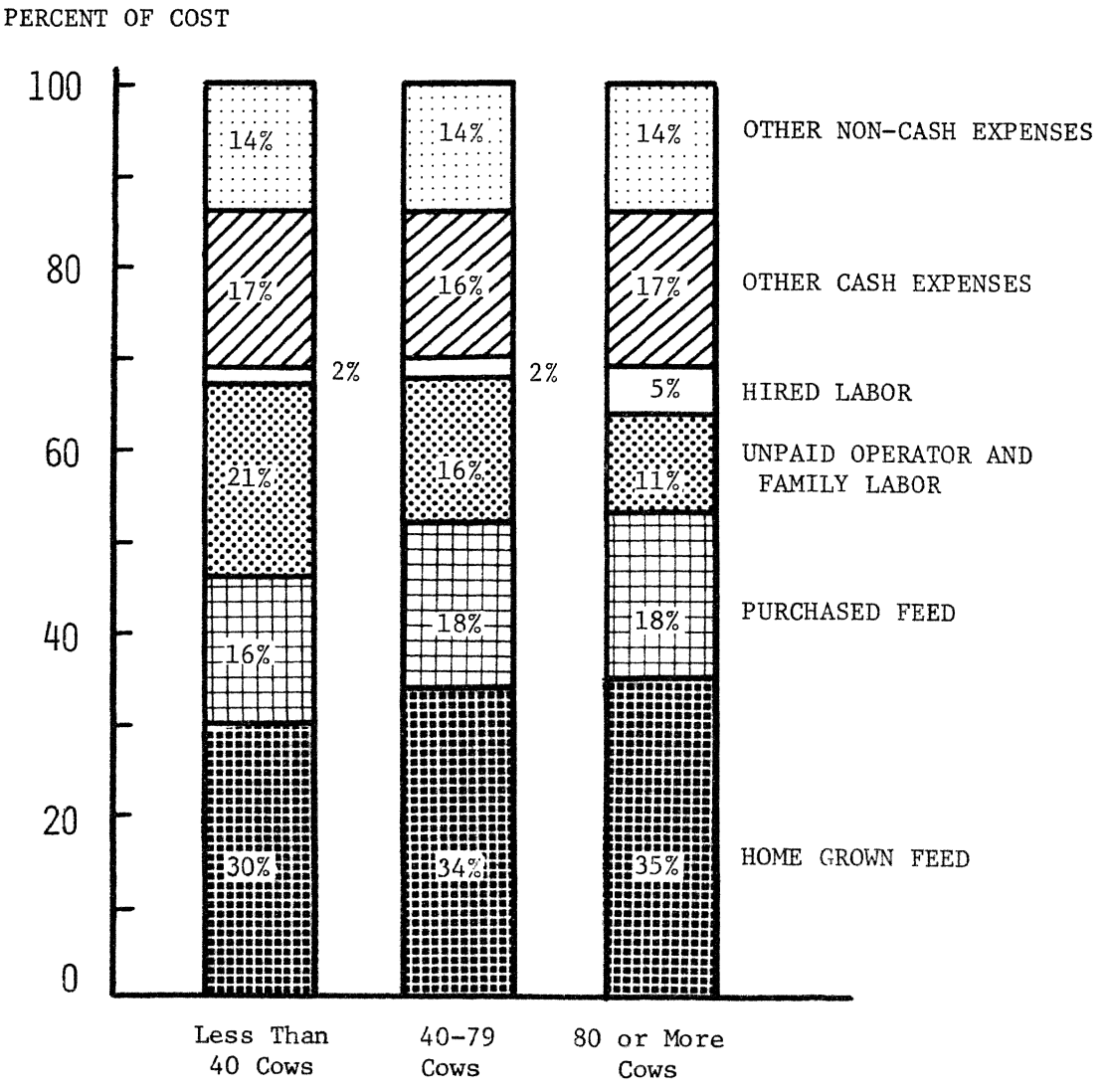
OHIO, 1975-1979



A graphic breakdown of the costs involved with producing a cwt. of milk is shown in Figure 2. Feed, labor, and other costs for 1975-1979 are included in the breakdown. Both the upper 25% and lower 25% farms suffered increases in their production costs over 1978, with rises of 9% and 27% respectively. One reason for the large difference in the increase in production costs between the two groups is that the feed bill climbed 27% for the lower 25% group, but grew only 6% for the upper 25% group. Most of the feed bill increase is accounted for by the rise in the cost of purchased feed. Since 50-65% of milk production cost went for feed costs any fluctuations in grain, forage, and/or supplement costs can quickly be spotted when analyzing total production costs.

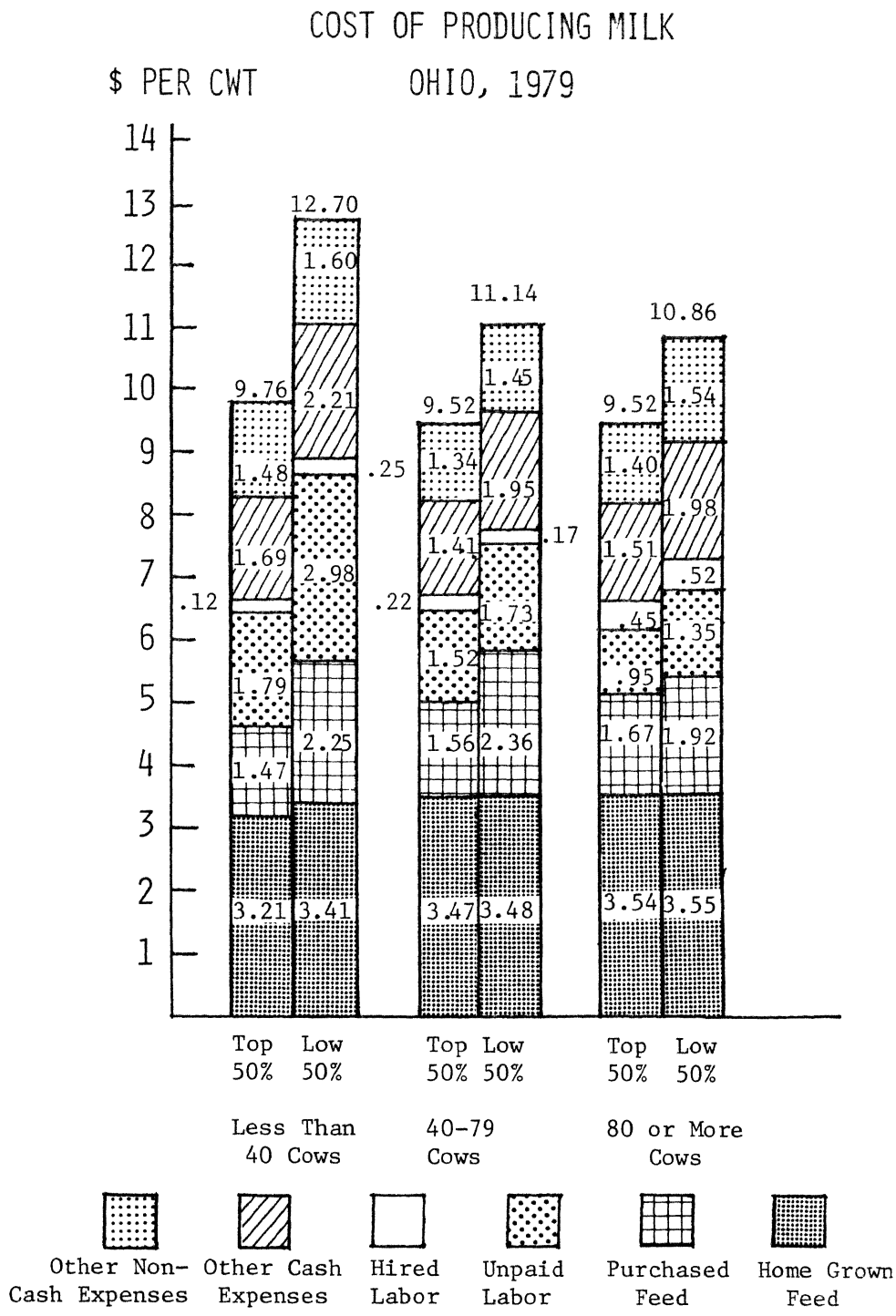
Figure 3

PERCENT OF MILK PRODUCTION COST BY SIZE OF HERD OHIO, 1979



In figure 3, the distribution of milk production costs illustrates that the various cost ingredients in producing milk differ by herd size. The proportion of total cost made up by hired labor increased as herd size increased, while the unpaid family labor decreased. Overall, total labor costs made up a smaller proportion of all costs of milk production for larger herds since they used less labor to produce a cwt. of milk. Both "other cash" and "other non-cash" expenses were nearly identical for all herd sizes. Also, feed costs were similar for the 2 larger herd size groups. As in the past, the portion of total milk production costs made up by cash expenses (purchased feed, hired labor, and other cash expenses) which must be met to remain in operation, increased with herd size.

Figure 4



Costs of milk production per cwt. for each of the income levels of the three herd sizes are illustrated in figure 4. This graph shows that there are large differences between average expenses of the more efficient and less efficient producers with each herd size. Regardless of herd size, efficiency is the key to keeping milk production costs low.

Differences within Herd Size

The main body of tables on pages 8-13 of this summary gives selected income, cost, and efficiency measures for Ohio dairy farms grouped in three herd size categories. The farms in each herd size are placed into income groups by their return per hour to Family Labor and Management Income.

1979 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
LESS THAN 40 COWS

	Unit	Upper 50%	Average	Lower 50%	My Farm
INCOME					
Cash Receipts	$	64,925	57,205	48,935	
Capital Gains	$	4,758	3,684	2,532	
Inventory Changes	$	17,568	14,654	11,532	
Feeder Livestock Purchase	$	-878	-937	-1,001	
Gross Farm Income	$	86,373	74,606	61,998	
EXPENSES					
Cash Expenses	$	42,178	40,387	38,468	
Depreciation	$	9,263	8,083	6,821	
Interest Not Charged	$	11,786	14,168	16,721	
Unpaid Operator & Family Labor	$	16,206	17,046	17,945	
Feeder Livestock Purchase	$	-878	-937	-1,001	
Total Farm Expense	$	78,555	78,747	78,954	
MANAGEMENT INCOME & PROFIT					
Total	$	7,818	-4,141	-16,956	
As a Percent of Gross Income	%	9.1	-5.5	-27.3	
UNPAID OPERATOR & FAMILY LABOR					
Total	$	16,206	17,046	17,945	
As a Percent of Gross Income	%	18.8	22.8	28.9	
OVERHEAD COSTS					
Total	$	30,704	31,291	31,922	
As a Percent of Gross Income	%	35.5	41.9	51.5	
VARIABLE COSTS					
Total	$	31,645	30,410	29,087	
As a Percent of Gross Income	%	36.6	40.8	46.9	
NET CASH INCOME	$	22,747	16,818	10,467	
NET FARM INCOME	$	35,810	27,073	17,710	
INVESTMENT					
Total	$	224,801	253,029	283,277	
Return to Investment	$	24,678	14,836	4,290	
Profit Margin (% of Gross)	%	33.1	19.9	6.9	
Turnover (Gross Per $1 Invested)	$	.384	.295	.219	
Return on Investment (Percent)	%	11.0	5.9	1.5	
FAMILY LABOR & MANAGEMENT INCOME					
Total	$	24,024	12,905	989	
Per Hour	$	5.54	3.01	.23	
LABOR EFFICIENCY FACTOR	%	73.7	71.1	68.3	
NUMBER OF FARMS	No.	15	29	14	

1979 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
LESS THAN 40 COWS

	Unit	Upper 50%	Average	Lower 50%	My Farm
SIZE OF BUSINESS					
Number of Men	M.Y.E.	1.59	1.60	1.62	
Number of Cows	Hd.	30.4	29.4	28.4	
Pounds of 3.5 Milk Sold	Lb.	431,276	386,533	338,594	
Total Harvested Crop Acres	A.	171	155	137	
Acres Corn & Corn Silage	A.	73	60	46	
Soybean Acres	A.	13	14	16	
Alfalfa & Clover-Mixed Hay	A.	50	47	47	
Capital Investment	$	224,801	253,029	283,277	
Gross Income	$	86,373	74,606	61,998	
Value of All Crops	$	33,862	29,770	25,386	
Value of Net Livestock Increase	$	69,335	59,403	48,763	
EFFICIENCY FACTORS					
Gross Income Per Man	$	54,323	46,629	38,270	
Total Labor & Management Income Per Fulltime Operator	$	19,219	10,492	817	
All Crop Production Value Per Acre	$	197	191	181	
Machinery Investment Per Tillable Acre	$	196	219	252	
Machinery Cost Per Tillable Acre	$	87	92	100	
Harvested Crop Acres Per Man	A.	108	97	85	
MILK PRODUCTION COSTS PER CWT.					
Purchased Feed	$	1.47	1.79	2.25	
Hired Labor	$	.12	.18	.25	
Paid Interest	$	.32	.36	.41	
Breeding Fees	$	.16	.16	.15	
Other Cash	$	1.21	1.37	1.65	
Total Cash Expenses		3.28	3.86	4.71	
Homegrown Feeds	$	3.21	3.30	3.41	
Depreciation	$	.67	.61	.54	
Unpaid Labor	$	1.79	2.28	2.98	
Interest Not Charged	$	.81	.91	1.06	
Total Not-Cash Expenses	$	6.48	7.10	7.99	
Total Cost of Milk Sold	$	9.76	10.96	12.70	
DAIRY PERFORMANCE FACTORS					
Value of Milk Sold, Per Cwt.	$	10.69	10.59	10.46	
Pounds of 3.5 Milk Sold Per Cow	Lb.	14,187	13,147	11,922	
Dairy Returns Per $1 Feed Fed	$	2.28	2.08	1.85	
Pounds of Milk Sold Per Man					
Total Farm	Lb.	271,243	241,583	209,009	
Enterprise Only	Lb.	590,789	484,985	384,766	
Number of Cows Per Man					
Total Farm	Hd.	19.1	18.4	17.5	
Enterprise Only	Hd.	32.3	29.4	26.5	
Value of Dairy Increase	$	13,169	10,419	7,463	
Value of Milk Sold	$	46,105	40,941	35,409	
Total Value of Dairy Production	$	59,274	51,360	42,882	
Value of Production Per Cow	$	1,950	1,747	1,510	
Value of Milk Sold Per Cow	$	1,517	1,393	1,247	
Feed Cost for Milk Per Cow	$	665	669	675	
Value of Milk Over Feed Cost/Cow	$	852	724	572	
Unpaid Labor and Mgmt. Inc./Cow	$	495	313	104	

1979 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
40-79 COWS

	Unit	Upper 50%	Average	Lower 50%	My Farm
INCOME					
Cash Receipts	$	104,668	94,912	84,749	
Capital Gains and Losses	$	8,144	7,538	6,906	
Inventory Changes	$	23,198	18,360	13,321	
Feeder Livestock Purchase	$	-76	-191	-312	
Gross Income	$	135,934	120,619	104,664	
EXPENSES					
Cash Expenses	$	64,020	64,555	65,113	
Depreciation	$	13,874	12,790	11,659	
Interest Not Charged	$	19,078	18,254	17,394	
Unpaid Operator & Family Labor	$	20,432	20,162	19,881	
Feeder Livestock Purchase	$	-76	-191	-312	
Total Farm Expense	$	117,328	115,570	113,735	
MANAGEMENT INCOME & PROFIT					
Total	$	18,606	5,049	-9,071	
As a Percent of Gross Income	%	13.7	4.2	-8.7	
UNPAID OPERATOR & FAMILY LABOR					
Total	$	20,432	20,162	19,881	
As a Percent of Gross Income	%	15.0	16.7	19.0	
OVERHEAD COSTS					
Total	$	46,153	45,550	44,922	
As a Percent of Gross Income	%	34.0	37.8	42.9	
VARIABLE COSTS					
Total	$	50,743	49.858	48,932	
As a Percent of Gross Income	%	37.3	41.3	46.8	
NET CASH INCOME	$	40,648	30,357	19,636	
NET FARM INCOME	$	58,116	43,464	28,204	
INVESTMENT					
Total	$	329,296	341,801	354,826	
Return to Investment	$	43,302	30,683	17,539	
Profit Margin (Percent of Gross)	%	31.9	25.4	16.8	
Turnover (Gross Per $1 Invested)	$	.413	.353	.295	
Return on Investment (Percent)	%	13.1	9.0	4.9	
FAMILY LABOR & MANAGEMENT INCOME					
Total	$	39,038	25,211	10,810	
Per Hour	$	8.00	4.97	2.05	
LABOR EFFICIENCY FACTOR	%	86.1	84.9	83.6	
NUMBER OF FARMS	No.	25	49	24	

1979 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
40-79 COWS

	Unit	Upper 50%	Average	Lower 50	My Farm
SIZE OF BUSINESS					
Number of Men	M.Y.E.	2.10	2.11	2.11	
Number of Cows	Hd.	58.2	56.2	54.0	
Pounds of 3.5 Milk Sold	Lb.	824,943	757,332	686,903	
Total Harvested Crop Acres	A.	224	198	171	
Acres Corn & Corn Silage	A.	97	87	74	
Soybean Acres	A.	13	8	2	
Alfalfa & Clover-Mixed Hay	A.	52	51	49	
Capital Investment	$	329,296	341,801	354,826	
Gross Income	$	135,934	120,619	104,664	
Value of All Crops	$	51,487	43,913	36,023	
Value of Net Livestock Increase	$	114,678	105,697	96,341	
EFFICIENCY FACTORS					
Gross Income Per Man	$	64,730	57,165	49,604	
Total Labor & Management Income Per Fulltime Operator	$	27,223	16,920	6,974	
All Crop Production Value Per Acre	$	230	222	211	
Machinery Investment Per Tillable Acre	$	246	266	293	
Machinery Cost Per Tillable Acre	$	102	109	119	
Harvested Crop Acres Per Man	A.	107	94	81	
MILK PRODUCTION COSTS PER CWT.					
Purchased Feed	$	1.56	1.91	2.36	
Hired Labor	$	.22	.20	.17	
Paid Interest	$	.25	.34	.46	
Breeding Fees	$	.16	.18	.20	
Other Cash	$	1.00	1.11	1.29	
Total Cash Expenses	$	3.19	3.74	4.43	
Homegrown Feeds	$	3.47	3.48	3.48	
Depreciation	$	.59	.63	.68	
Unpaid Labor	$	1.52	1.61	1.73	
Interest Not Charged	$	.75	.76	.77	
Total Non-Cash Expenses	$	6.33	6.48	6.66	
Total Cost of Milk Sold	$	9.52	10.22	11.09	
DAIRY PERFORMANCE FACTORS					
Value of Milk Sold, Per Cwt.	$	10.74	10.86	11.01	
Pounds of 3.5 Milk Sold Per Cow	Lb.	14,174	13,476	12,720	
Dairy Returns Per $1 Feed Fed	$	2.14	2.02	1.88	
Pounds of 3.5 Milk Sold Per					
Total Farm	Lb.	392,830	358,925	325,546	
Enterprise Only (Milk Summary)	Lb.	674,340	624,175	572,419	
Number of Cows Per Man					
Total Farm	Hd.	27.7	26.6	25.6	
Enterprise Only (Dairy Summary)	Hd.	37.2	36.7	36.1	
Value of Dairy Increase	$	24,624	21,593	18,435	
Value of Milk Sold	$	88,588	82,230	75,607	
Total Value of Dairy Production	$	113,212	103,823	94,042	
Value of Production Per Cow	$	1,945	1,847	1,742	
Value of Milk Sold Per Cow	$	1,522	1,463	1,400	
Feed Cost for Milk Per Cow	$	712	726	743	
Value of Milk Over Feed Cost Per Cow	$	810	737	657	
Unpaid Labor and Mgmt. Income Per Cow	$	497	383	256	

1979 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
80 OR MORE COWS

	Unit	Upper 50%	Average	Lower 50%	My Farm
INCOME					
Cash Receipts	$	232,826	206,884	178,347	
Capital Gains and Losses	$	23,335	17,361	10,790	
Inventory Changes	$	74,655	46,192	14,881	
Feeder Livestock Purchase	$	-45	-134	-232	
Gross Farm Income	$	330,771	270,303	203,786	
EXPENSES					
Cash Expenses	$	168,092	146,162	122,040	
Depreciation	$	33,200	28,338	22,990	
Interest Not Charged	$	42,225	39,813	37,160	
Unpaid Operator & Family Labor	$	27,757	25,964	23,991	
Feeder Livestock Purchase	$	-45	-134	-232	
Total Farm Expense	$	271,229	240,143	205,949	
MANAGEMENT INCOME & PROFIT					
Total	$	59,542	30,160	-2,163	
As a Percent of Gross Income	%	18.0	11.2	-1.1	
UNPAID OPERATOR & FAMILY LABOR					
Total	$	27,757	25,964	23,991	
As a Percent of Gross Income	%	8.4	9.6	11.8	
OVERHEAD COSTS					
Total	$	112,223	100,041	86,637	
As a Percent of Gross Income	%	33.9	37.0	42.5	
VARIABLE COSTS					
Total	$	131,249	114,138	95,321	
As a Percent of Gross Income	%	39.7	42.2	46.8	
NET CASH INCOME	$	64,734	60,722	56,307	
NET FARM INCOME	$	129,524	95,937	58,988	
INVESTMENT					
Total	$	757,899	708,283	653,704	
Return to Investment	$	116,384	83,279	46,864	
Profit Margin (Percent of Gross)	%	35.2	30.8	23.0	
Turnover (Gross Per $1 Invested)	$	.436	.382	.312	
Return on Investment (Percent)	%	15.4	11.8	7.2	
FAMILY LABOR & MANAGEMENT INCOME					
Total	$	87,299	56,124	21,828	
Per Hour	$	13.98	9.55	3.99	
LABOR EFFICIENCY FACTOR	%	93.9	92.4	90.4	
NUMBER OF FARMS	No.	11	21	10	

1979 OHIO DAIRY FARM BUSINESS ANALYSIS SUMMARY
80 OR MORE COWS

	Unit	Upper 50%	Average	Lower 50%	My Farm
SIZE OF BUSINESS					
Number of Men	M.Y.E.	3.89	3.51	3.09	
Number of Cows	Hd.	120.9	108.0	93.9	
Pounds of 3.5 Milk Sold	Lb.	1,871,504	1,626,533	1,357,066	
Total Harvested Crop Acres	A.	441	379	309	
Acres of Corn & Corn Silage	A.	189	153	113	
Soybean Acres	A.	51	34	16	
Alfalfa & Clover-Mixed Hay	A.	87	80	71	
Capital Investment	$	757,899	708,283	653,704	
Gross Income	$	330,771	270,303	203,786	
Value of All Crops	$	116,075	94,812	71,424	
Value of Net Livestock Increase	$	295,406	241,816	182,867	
EFFICIENCY FACTORS					
Gross Income Per Man	$	85,031	77,009	65,950	
Total Labor & Management Income Per Fulltime Operator	$	48,231	32,968	13,815	
All Crop Production Value Per Acre	$	263	250	231	
Machinery Investment Per Tillable Acre	$	270	269	268	
Machinery Cost Per Tillable Acre	$	117	116	115	
Harvested Crop Acres Per Man	$	113	108	100	
MILK PRODUCTION COSTS PER CWT.					
Purchased Feed	$	1.67	1.77	1.92	
Hired Labor	$	.45	.47	.52	
Paid Interest	$	.21	.28	.41	
Breeding Fees	$	.16	.19	.25	
Other Cash	$	1.14	1.21	1.32	
Total Cash Expenses	$	3.63	3.92	4.42	
Homegrown Feeds	$	3.54	3.55	3.55	
Depreciation	$	.50	.56	.67	
Unpaid Labor	$	.95	1.10	1.35	
Interest Not Charged	$	.90	.89	.87	
Total Non-Cash Expenses	$	5.89	6.10	6.44	
Total Cost of Milk Sold	$	9.52	10.02	10.86	
DAIRY PERFORMANCE FACTORS					
Value of Milk Sold, Per Cwt.	$	11.05	11.18	11.38	
Pounds of 3.5 Milk Sold Per Cow	Lb.	15,480	15,060	14,452	
Dairy Returns Per $1 Feed Fed	$	2.12	2.10	2.08	
Pounds of 3.5 Milk Sold Per Man					
Total Farm	Lb.	481,106	463,400	439,180	
Enterprise Only	Lb.	853,269	773,312	665,228	
Number of Cows Per Man					
Total Farm	Hd.	31.1	30.8	30.4	
Enterprise Only	Hd.	41.4	40.8	40.0	
Value of Dairy Increase	$	68,256	47,017	23,654	
Value of Milk Sold	$	206,765	181,832	154,406	
Total Value of Dairy Production	$	275,021	228,849	178,061	
Value of Production Per Cow	$	2,275	2,119	1,896	
Value of Milk Sold Per Cow	$	1,710	1,684	1,644	
Feed Cost for Milk Per Cow	$	807	800	792	
Value of Milk Over Feed Cost Per Cow	$	903	884	852	
Unpaid Labor and Mgmt. Income Per Cow	$	507	425	310	

GLOSSARY OF SELECTED TERMS*

GROSS FARM INCOME - is the sum of all cash receipts plus increases in inventory and capital gains less decreases in inventory, capital losses, and feeder livestock purchases. Feeder livestock purchases are deducted to reflect on farm production.

INTEREST NOT CHARGED - represents an estimated charge for equity capital. It is determined by taking seven and one half percent of total investment and subtracting the amount of interest paid during the year. This calculation makes a similar charge for the total investment of each farm business.

UNPAID OPERATOR & FAMILY LABOR - is the wage charge for the operator and unpaid family labor using the time worked and rates per hour estimated by the farm operator.

TOTAL FARM EXPENSE - is the sum of all cash and non-cash expense for the farm less the cost of purchased feeder livestock. Non-cash expense includes depreciation, interest not charged and unpaid operator and family labor charge.

MANAGEMENT INCOME & PROFIT - equals Gross Income minus Total Farm Expense. This represents the return to management income and profit after all cash and non-cash expenses are deducted.

UNPAID LABOR & MANAGEMENT INCOME - equals Management Income and Profit plus Unpaid Operator and Family Labor. This represents the return to the operator and his family for their unpaid labor, management and profit.

NET FARM INCOME - equals Unpaid Labor and Management Income plus Interest Not Charged. This represents the return to the operator for equity capital, unpaid labor, management and profit.

RETURN TO INVESTMENT - equals Management Income and Profit plus paid and unpaid interest. Paid and unpaid interest equals seven and one half percent of Total Investment. This represents the return to all capital, owned and borrowed plus management and profit. This return times 100 divided by Total Investment gives Percent Return on Investment.

OVERHEAD COSTS - is the sum of depreciation, building repairs, interest paid, property taxes, cash rent, insurance and interest not charged. These represent costs that are essentially fixed and must be recovered regardless of the level of production.

VARIABLE COSTS - is the sum of all cash expenses other than those included in Overhead Costs. These costs vary with the level of production.

NUMBER OF MAN-YEAR EQUIVALENTS - represents the number of full-time man equivalents used on the farm for the entire year. Family labor is adjusted to a man-equivalent basis. One man-year equivalent is 3,000 hours.

*A complete listing of calculations is contained in occasional paper #300, "An Aid to Understanding the Individual Print-out."

VALUE OF ALL CROPS - represents all crop production valued at market price (not necessarily sold) plus government crop payments. Value of pasture is not included.

VALUE OF NET LIVESTOCK INCREASE - is the net value of livestock and livestock products produced during the year. This includes breeding fees, livestock products and livestock sold less value of livestock purchased during the year plus or minus changes in livestock inventory.

RETURN PER $ FEED FED TO ALL LIVESTOCK ENTERPRISES - equals the Value of Net Livestock Increase divided by the Total Value of Feed Fed to All Livestock. The returns per dollar of feed fed should pay for the feed, labor, overhead on buildings and equipment required by livestock, other production costs, and provide a profit.

MACHINERY COST PER TILLABLE ACRE - is the sum of fuel, oil, grease, repairs and machine hire expenditures plus charges for depreciation and investment, less custom work receipts divided by total tillable acres. Total tillable acres equal total harvested crop acres plus acres of rotation pasture.

PROFIT MARGIN - equals Management Income and Profit plus paid and unpaid interest divided by gross income times 100. This percent shows the dollars of profit and interest received as a percent of each dollar of gross income.

TURNOVER - equals Gross Income divided by Total Investment. This is the same as the Gross Income Per $1,000 Invested figure, but is given as a decimal figure rather than a return per $1,000. It gives the dollars of gross income received during the year for each dollar of investment.

RETURN ON INVESTMENT - equals Management Income and Profit plus paid and unpaid interest divided by Total Investment. This is the same as Percent Return on Investment. It gives the dollars of profit and interest received during the year as a percent of each dollar of investment.

LABOR EFFICIENCY FACTOR - the total standard PMWU's for all enterprises are added together and the total is divided by the Number of Man Equivalent Hours Used (as reported on page 1 of the input form 7363). This figure is multiplied by 100 to give a percent. If more units per hour were cared for than the standard, this factor will be larger than 100.

SAMPLE POPULATION

The 99 owner-operator and tenant-landlord dairy farm records summarized in this report are part of the 475 farm records of all types submitted by Ohio farmers to Ohio State University for analysis in 1979 Not all farm records were complete and accurate enough to be used in the summaries.

June, 1980

COMPARE YOURSELF TO OHIO'S TOP DAIRYMEN

Enter performance records from your farm to compare with the upper groups of similar sized herds from the 1979 Ohio Farm Business Analysis.

	Unit	My Farm	Number of Cows: 39 or Less Upper 50%	40-79 Upper 50%	80+ Upper 50%	Projection for next yr.
Am I Fully Employed?						
1. Cows Per Man - Total Farm	Hd.	_____	19	28	31	_____
- Enterprise	Hd.	_____	32	37	41	_____
2. Lbs. 3.5 Milk Sold Per Man - Farm	Lb.	_____	271,000	393,000	481,000	_____
Enterprise	Lb.	_____	591,000	674,000	853,000	_____
3. Harvested Crop Acres Per Man	A.	_____	108	107	113	_____
How Well Do My Cows Perform?						
4. Lbs. 3.5 Milk Per Cow	Lb.	_____	14,200	14,200	15,500	_____
5. Value of Milk Sold Per Cow	$	_____	1,517	1,522	1,710	_____
6. Dairy Returns Per $1 Feed Fed	$	_____	2.28	2.14	2.12	_____
7. Milk Value Over Feed Cost/Cow	$	_____	852	810	903	_____
8. Value of Milk Sold Per Cwt.	$	_____	10.69	10.74	11.05	_____
9. Cost of Milk Production Per Cwt.	$	_____	9.76	9.52	9.52	_____
How Well Do My Crops Perform?						
10. All Crop Production Value Per Acre	$	_____	197	230	263	_____
11. Machinery Investment Per Tillable Acre	$	_____	196	246	270	_____
12. Machinery Cost Per Tillable Acre	$	_____	87	102	117	_____
How Sound Is My Operation Financially?						
13. Gross Income Per Man	$	_____	54,000	65,000	85,000	_____
14. Overhead Costs As a % of Gross	%	_____	35.5	34.0	33.9	_____
15. Profit Margin	%	_____	33.1	31.9	35.2	_____
16. Turnover	$/$	_____	.384	.413	.436	_____
17. Return on Investment	%	_____	11.0	13.1	15.4	_____