

DAIRY FARM MANAGEMENT

Sept. 1981

A.E. Res. 81-10

BUSINESS SUMMARY

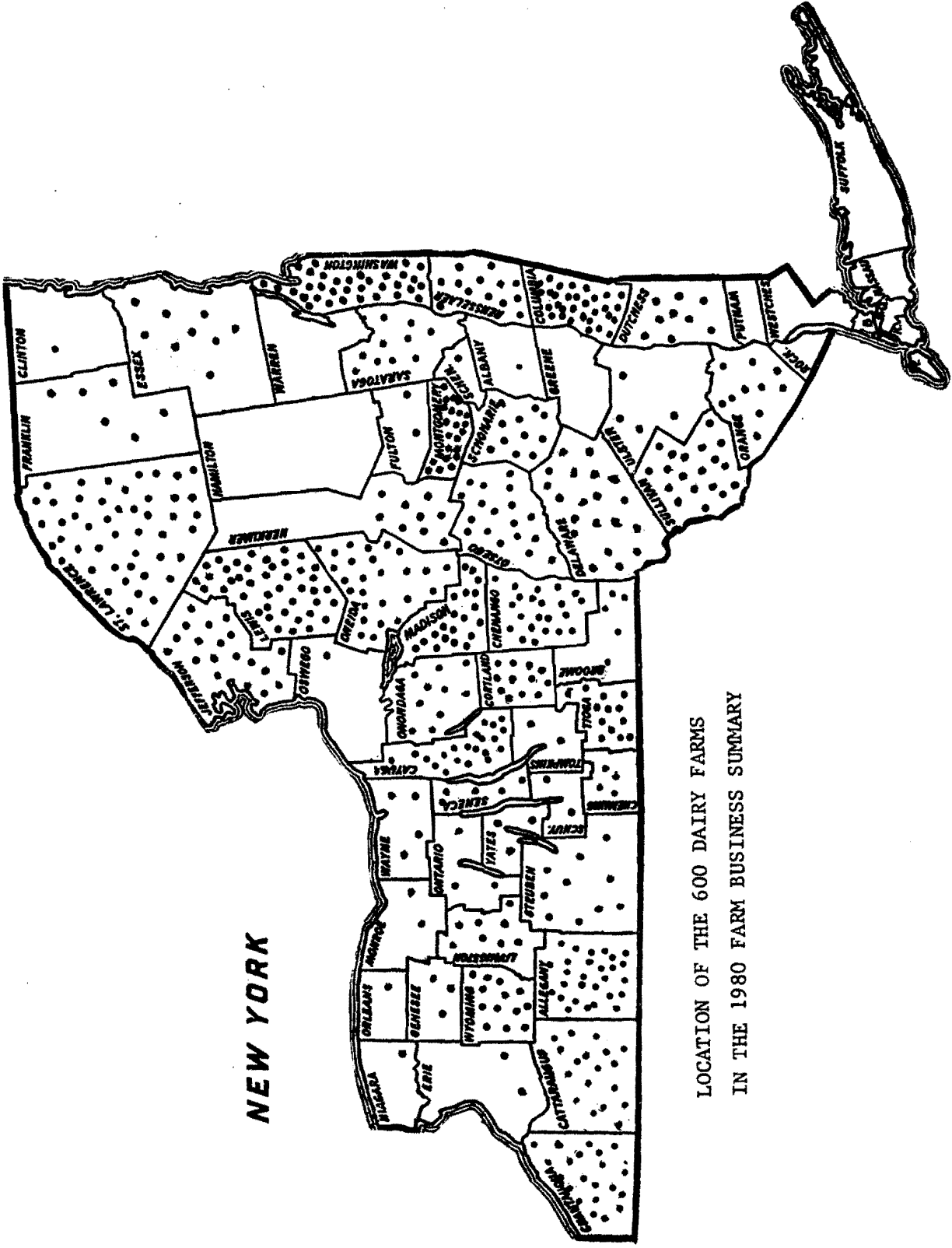
**New York
1980**

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LOCATION OF THE 600 DAIRY FARMS
IN THE 1980 FARM BUSINESS SUMMARY

INTRODUCTION

Farm business management projects are a basic part of the agricultural extension program in New York State. The New York State College of Agriculture and Life Sciences at Cornell University, and the County Extension staffs cooperate in sponsoring these projects. In 1980, about 750 dairy farmers participated in these management projects. The records submitted by dairy farmers from 49 counties provide the basis for extension educational programs and data for applied research studies.

Extension agents and specialists enrolled the cooperators and collected the records. Regional summary reports were prepared by the college staff for use by the agents. Each cooperator received a summary and analysis of his or her business, and a regional report for making comparisons. These extension activities aim to help the operators develop their managerial skills and solve business management problems.

The records from all regions of the state have been combined for use in an applied research study of the effects of changes in price, technology, and management on dairy farm incomes. This research also provides current farm business information for use by dairy farmers, extension staff, teachers, and others concerned with the New York dairy industry.

A total of 600 farm business records have been included in the general dairy summary for 1980. These farms do NOT represent the "average" for all dairy farms in the state. Participation was on a voluntary basis so not all areas or types of operations were represented (see map on opposite page). The 600 farms represent a cross section of better than average commercial dairy farm operators in the state.

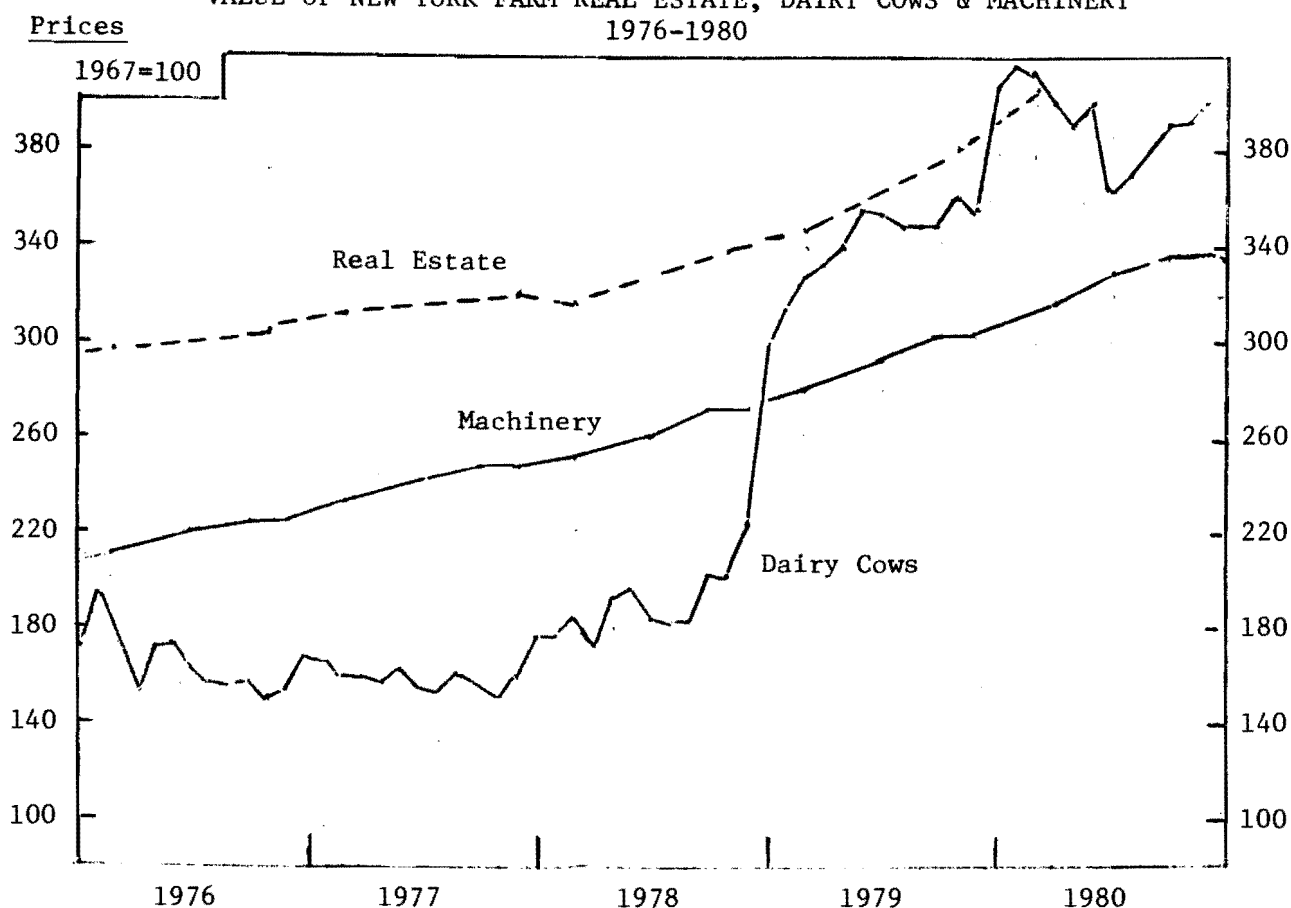
1980 Regional Summary Publications

<u>Region</u>	<u>Publications</u>	<u>Author(s)</u>
Eastern Plateau Region	A.E. Ext. 81-4	Stuart F. Smith
Oneida-Mohawk Region	A.E. Ext. 81-5	Eddy L. LaDue
Northern New York	A.E. Ext. 81-6	Robert A. Milligan & Linda Putnam
Southeastern New York	A.E. Ext. 81-8	Stuart F. Smith & Gerald J. Skoda
Northern Hudson Region	A.E. Ext. 81-9	Stuart F. Smith
Columbia-Dutchess Counties	A.E. Ext. 81-11	Stuart F. Smith
Western Plain Region	A.E. Ext. 81-12	Wayne A. Knoblauch
Central New York	A.E. Ext. 81-13	Wayne A. Knoblauch
Western Plateau Region	A.E. Ext. 81-14	Loren W. Tauer
Central Plain Region	A.E. Ext. 81-15	Wayne A. Knoblauch

A Special Acknowledgement

Myrtle Voorheis has been helping us summarize and process dairy farm business records since 1961. During most of that time she has supervised record verification, data processing and production of farm reports. Myrtle has also prepared the graphs, tables and organized the data that appear in this annual publication. On July 31, 1981 Myrtle retired after 20 years with the Department of Agricultural Economics. Her help and extra efforts have been a key to the success of this program. Her ability and contributions have been recognized but will be fully appreciated next year when we attempt to do the dairy summary without Myrtle.

VALUE OF NEW YORK FARM REAL ESTATE, DAIRY COWS & MACHINERY
1976-1980



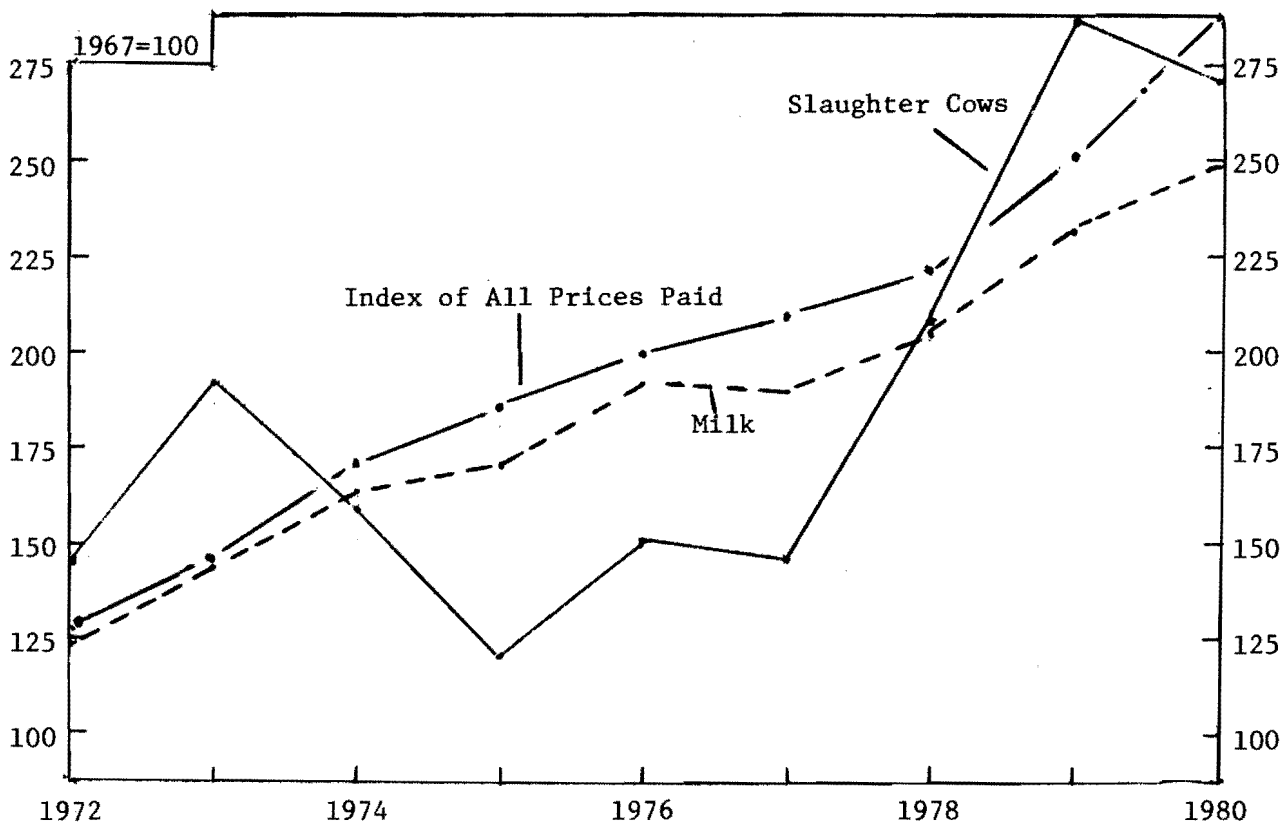
Price changes have a direct affect on the inventory values on New York dairy farms. Real estate and machinery prices have risen steadily during the past five years. Dairy cow prices rose sharply in late 1975, fluctuated throughout 1976, 1977, and most of 1978, and then jumped 130 percent between November 1978 and February 1980. Dairy cow prices weakened during the first half of 1980 but finished strong at \$1,240 per head in December. From 1967 to 1980, machinery prices have increased 238 percent, dairy cows 400 percent and real estate 306 percent.

Table 1. REPORTED VALUES OF DAIRY FARM INVENTORY ITEMS, 1975-1980

Year*	N.Y. Dairy Cows		Machinery 1967=100	N.Y. Farm Real Estate	
	Value/Head	1967=100		Value/Acre	1967=100
1975	(Dec.) \$450	145	(Dec.) 222	(Nov.) \$543	294
1976	(Dec.) 485	156	(Dec.) 233	(Nov.) 562	304
1977	(Dec.) 495	160	(Dec.) 253	(Nov.) 593	320
1978	(Dec.) 800	258	(Dec.) 276	(Nov.) 629	339
1979	(Dec.) 1105	356	(Dec.) 305	(Nov.) 704	381
1980	(Dec.) 1240	400	(Dec.) 338	(Feb.) 752	406
Percent change:					
1975 to 1976	+ 8%		+ 5%	+ 3%	
1976 to 1977	+ 3%		+ 9%	+ 5%	
1977 to 1978	+62%		+ 9%	+ 6%	
1978 to 1979	+38%		+ 9%	+12%	
1979 to 1980	+12%		+11%	+ 6%	

*Latest figure reported for year, i.e., February for real estate.

PRICES RECEIVED AND PAID BY NEW YORK DAIRY FARMERS, 1972-1980

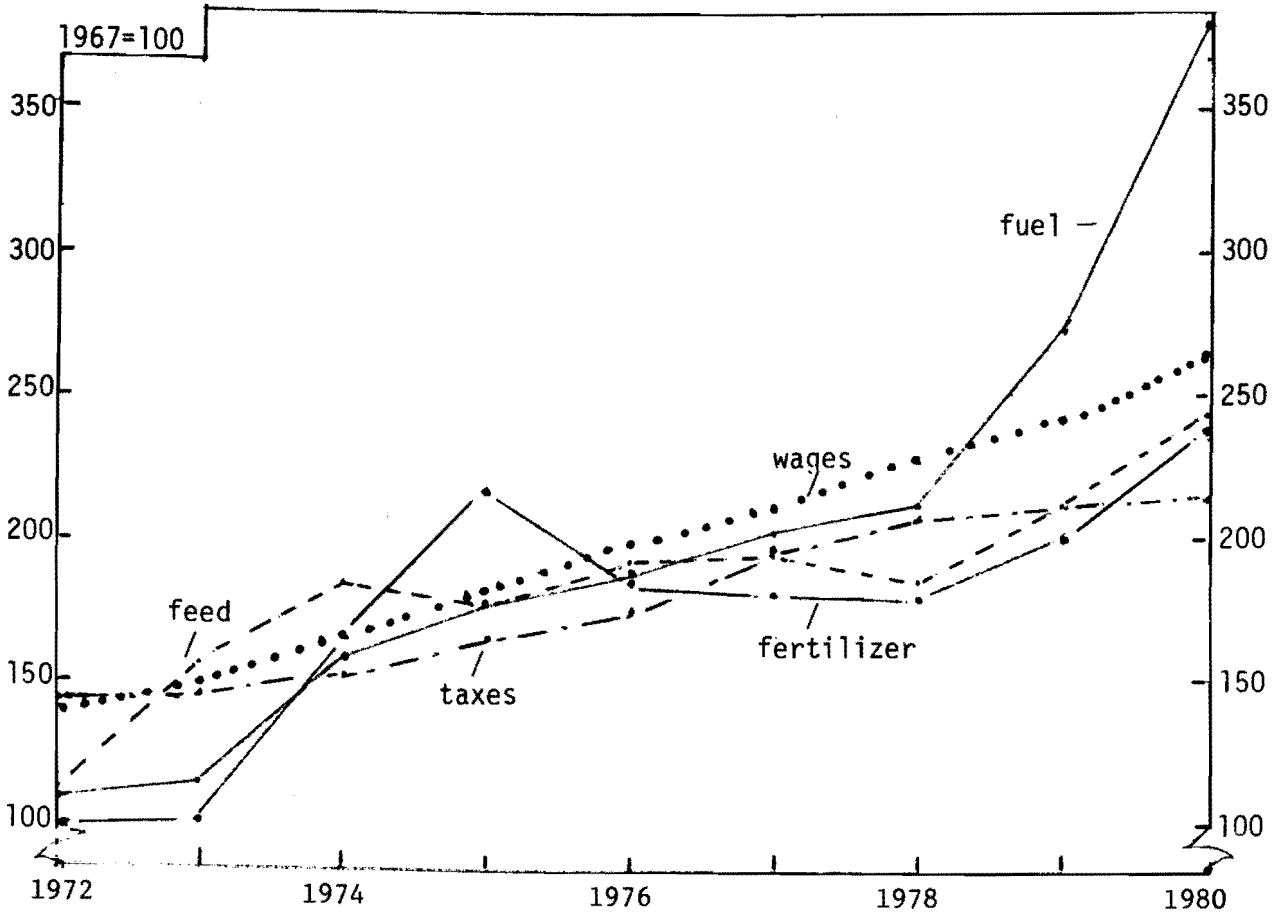


The relationship of prices received to prices paid is a major factor in determining farm income. The graph above shows the trend in prices since 1972 for milk, cull cows, and the index of prices paid by New York dairy farmers. Milk prices have lagged behind all prices paid since 1972 and the gap became greatest in 1980. Slaughter cow prices softened in 1980 after a dramatic rise of nearly 100 percent in two years.

Table 2. PRICES RECEIVED & PAID BY NEW YORK DAIRY FARMERS, 1970-1980

Year	Milk 3.5% B.F. (cwt.)	Slaughter Cows (cwt.)	Prices Paid by N.Y. Dairy Farmers (1967=100)	Monthly Farm Price Per 100 Lbs. of Milk, 1980
1970	\$ 5.89	\$20.70	112	January \$12.25
1971	6.02	21.20	120	February 12.24
1972	6.25	24.48	126	March 12.08
1973	7.30	32.80	146	April 11.96
1974	8.24	27.40	172	May 11.90
				June 11.92
1975	8.64	20.60	186	July 12.48
1976	9.71	25.57	200	August 13.01
1977	9.61	25.09	210	September 13.31
1978	10.38	35.58	221	October 13.57
1979	11.74	49.27	252	November 13.54
				December 13.44
1980	12.64	46.23	288	

PRICES PAID BY FARMERS FOR SELECTED ITEMS, 1972-1980



Prices of major farm inputs have all increased since 1972 but only wages paid by farmers have increased at a fairly constant rate. Feed prices rose 15 percent in 1980. Fertilizer prices increased 20 percent in 1980. Fuel prices jumped 29 percent in 1979 following four years of single digit increases and increased by 39 percent in 1980.

Table 3. PRICES PAID BY FARMERS FOR SELECTED ITEMS, 1972-1980

Year	Index 1967=100				
	Feed	Fertilizer	Fuel	Wages	Taxes
1972	112	94	108	140	142
1973	157	102	116	150	146
1974	185	167	159	160	154
1975	177	217	177	180	166
1976	192	185	187	199	176
1977	194	182	203	212	195
1978	186	180	212	229	210
1979	213	202	273	241	213
1980	245	242	380	264	216
Percent increase:					
1972 to 1979					
(average per year)	13%	16%	22%	10%	8%
1979 to 1980	15%	20%	39%	9%	1%

SOURCE: USDA Agricultural Prices

SUMMARY OF THE FARM BUSINESS

Business Characteristics and Resources Used

Recognition of important business characteristics and a knowledge of the farm resources used helps in evaluating management performance. The combining of resources and management practices is known as farm organization. Important farm business characteristics, the number of farms reporting these characteristics, and the average use of labor and land resources, are presented in Table 4.

Table 4. BUSINESS CHARACTERISTICS AND RESOURCES USED
600 New York Dairy Farms, 1980

<u>Type of Business</u>	<u>Number</u>	<u>Percent</u>	<u>Business Records</u>	<u>Number</u>	<u>Percent</u>
Individual	471	79	Account Book	263	44
Partnership	115	19	Agrifax	138	23
Corporation	14	2	CAMIS	93	15
			Agway	47	8
<u>Barn Type</u>			Farm Bureau	11	2
Stanchion	380	63	Other	48	8
Free Stall	199	33			
Other	21	4	<u>Dairy Records</u>		
			D.H.I.C.	424	71
<u>Milking System</u>			Owner Sampler	62	10
Bucket & Carry	12	2	Other	34	6
Dumping Station	133	22	None	80	13
Pipeline	270	45			
Herringbone	164	27			
Other Parlor	21	4			
<u>Labor Force</u>	<u>My Farm</u>	<u>Average</u>	<u>Land Used</u>	<u>My Farm</u>	<u>Average</u>
Operator	_____	15 mo.	Total acres:	_____	
Family paid	_____	4 mo.	Owned	_____	314
Family unpaid	_____	3 mo.	Rented (479)	_____	123
Hired	_____	10 mo.	Tillable acres:	_____	
Total months	_____	32 mo.	Rented (452)	_____	101
			Total	_____	246
<u>Operators (750)</u>		1.25			
Age	_____	41 yrs.	<u>Number of Cows</u>		
Education	_____	13 yrs.	Beg. of year	_____	74
Estimated value	_____		End of year	_____	77
labor & mgmt. \$	_____	\$14,400	Ave. for year	_____	75

The most typical dairy farm was managed by an individual owner using a stanchion barn, milk transfer system, farm account book and DHIC records. There were 750 operators on the 600 dairy farms for an average of 1.25 full-time operators per farm. The operators averaged 41 years of age and 13 years of formal education. Their estimated value of labor and management averaged \$14,400 per operator.

Four-hundred-fifty-two farms rented an average of 101 acres of tillable land. Twenty-seven additional farms rented pastureland. All 600 farms averaged 246 total tillable acres of which 76 acres were rented.

Farm Inventory Values

Table 5. CAPITAL INVESTMENT - FARM INVENTORY VALUES
600 New York Dairy Farms, 1980

Item	My Farm		Average 600 Farms	
	1/1/80	1/1/81	1/1/80	1/1/81
Livestock	\$ _____	\$ _____	\$102,879	\$117,709
Feed & supplies	_____	_____	25,702	30,311
Machinery & equipment	_____	_____	68,457	78,131
Land & buildings	_____	_____	183,852	200,319
TOTAL	\$ _____	\$ _____	\$380,890	\$426,470

The total farm inventory on the 600 dairy farms increased an average of \$45,580 per farm or 12 percent during 1980. The livestock inventory went up \$14,830 or 14 percent. Feed and supplies were up 18 percent, the machinery inventory increased 14 percent and the real estate inventory went up \$16,467 or nine percent.

Feed and supply inventories increased substantially for the second consecutive year. Hay and forage prices increased 14 percent in 1980 while corn prices jumped more than 20 percent. Nevertheless, 1980 was a good crop year and many dairy farmers reported more feed on hand at year's end.

The livestock inventory is based on current market values of dairy cattle. The increase in market value averaged \$14,830 per dairy herd in 1980. The increase in inventory caused by the change in prices accounted for \$8,912 per farm or 66 percent of the total inventory change. This part of the increase in livestock inventory is labeled livestock appreciation and was determined for each farm using the procedure illustrated in Table 6.

Table 6. CHANGES IN LIVESTOCK INVENTORY
600 New York Dairy Farms, 1980

Item	Value	Value
End of year market value inventory	\$117,709	
Beginning of year market value inventory	- 102,879	
Total Increase In Inventory		\$14,830
End of year market value inventory	\$117,709	
End of year inventory at beginning prices	- 108,797	
Increase Due To Price Change (Appreciation)		\$ 8,912
Increase Due To Physical Change In Inventory		\$ 5,918

The increase in livestock inventory caused by growth and maturity of the herd averaged \$5,918 per farm. Most of this increase can be attributed to the change in dairy cow numbers from 74 to 77 head per farm. The youngstock herd also increased in size during the year. It is estimated that there were 10 percent more heifers on these farms in 1980 than in 1979.

Machinery and Real Estate Inventory Calculations

Capital outlays for machinery and buildings usually occur in large uneven amounts, but depreciate gradually over a period of time. Machinery depreciation is a charge for use of the machinery complement in production and based on the farmer's income tax depreciation. Appreciation in the value of the machinery that comes from inflation in the value of used machinery. It is calculated as a residual in Table 7.

Table 7. CHANGES IN MACHINERY & EQUIPMENT INVENTORY
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms
End of year market value	\$ _____	\$78,131
Beginning of year market value	\$ _____	\$68,457
Plus machinery purchased	+ _____	+ 16,512
Less machinery sold	- _____	- 410
Less depreciation	- _____	- 10,938
Net End Investment	\$ _____	\$73,621
Appreciation	\$ _____	\$ 4,510

The end of year market value of real estate is verified in Table 8 by starting with the beginning of year value, making adjustments for purchased and sales, depreciation of buildings and appreciation of land. Lost capital is the difference between the cost of new buildings or land improvements and the amount these improvements added to the value of the farm. It is not included in farm expenses, since building depreciation is based on the full cost of new buildings and will account for lost capital over the live of the investments. Building depreciation is based on tax depreciation claimed and is included as a farm expense. Real estate appreciation was estimated by each farm operator. It is the increase in value of real estate caused by demand and inflation.

Table 8. CHANGES IN REAL ESTATE INVENTORY
600 New York Dairy Farms, 1980

Item	Average 600 Farms
End of year market value	\$200,319
Beginning of year market value	\$183,852
Plus cost of new real estate	+\$14,135
Less lost capital	- 3,023
Value Added	+ 11,112
Less depreciation	- 4,398
Less real estate sold	- 520
Value Deducted	- 4,918
Net End Investment	190,046
Appreciation	\$ 10,273

Receipts

All the cash received for products sold plus the increases in livestock and feed and supply inventories are included in total farm receipts. Farm receipts have also been computed by excluding inventory appreciation.

Table 9. FARM RECEIPTS
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms		Percent
		Per Farm	Per Cow	
Milk sales	\$ _____	\$137,829	\$1,838	89
Crop sales	_____	1,728	23	1
Dairy cattle sold	_____	11,144	149	7
Other livestock sales	_____	2,860	38	2
Gas tax refunds	_____	144	2	-
Government payments	_____	422	5	-
Custom machine work	_____	199	3	-
Miscellaneous	_____	1,422	19	1
Total Cash Receipts	\$ _____	\$155,748	\$2,077	100
Increase in livestock inventory*	_____	5,918	79	
Increase in feed & supply inventory	_____	4,609	61	
Livestock appreciation	_____	8,912	118	
Machinery appreciation	_____	4,510	60	
Real estate appreciation	_____	10,273	137	
Total Farm Receipts	\$ _____	\$189,970	\$2,532	
Total Farm Receipts Excluding Appreciation	\$ _____	\$166,275	\$2,217	

* Increase attributed to growth and maturity of herd (page 6).

The dairy herd generated 96 percent of the cash receipts on these dairy farms in 1980. Nearly 90 percent of all farm receipts can be attributed to the production, growth and increase in value of the dairy herd.

Table 10. INCOME ANALYSIS
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms	Top 10%*
Average price per cwt. milk sold	\$ _____	\$12.81	\$12.64
Milk sales per cow	\$ _____	\$1,838	\$1,887
Total cash receipts per worker	\$ _____	\$58,330	\$75,340

* Sixty farms with the highest labor and management income per operator.

The average price received for milk sold on all the farms was \$12.81 per hundredweight in 1980, \$.91 above the 1979 average. Milk sales per cow averaged \$1,800 for the 600 farms, while the top 10 percent based on labor and management income averaged \$1,887 per cow. Total cash receipts per worker averaged \$58,330 for all farms and \$75,340 or 29 percent more for the top 10 percent.

The average price per hundredweight of milk sold is calculated by dividing the gross milk receipts for the year by the total pounds of milk sold. The average price for the 600 farms was \$12.81 but there was considerable variation among the individual farms. The variation in average price received for different farms is shown below.

VARIATION IN AVERAGE MILK PRICE

<u>Average Price Received For Milk</u>	<u>Number of Farms</u>	<u>Percent of Farms</u>
Below \$12.00	23	4
\$12.00 - \$12.49	134	22
12.50 - 12.99	289	48
13.00 - 13.49	85	14
13.50 - 13.99	41	7
14.00 & over	28	5
Total	600	100

Nearly one-half of the farms received from \$12.00 to \$12.74 per hundredweight for milk sold. Twelve percent of the farms received \$13.50 per hundredweight or more but four percent got less than \$12.00 per hundredweight. Location and organization of markets are factors contributing to the variability of milk prices on these dairy farms. Management practices on farms as well as in milk companies also affect farm milk prices. Seasonality of production and butterfat test are two variables under the direct control of the farm manager.

Total farm receipts are sometimes used as a measure of size of business. The Census of Agriculture uses this measure in classifying farms. The distribution of total farm receipts of the 600 farms in 1980 is shown below.

DISTRIBUTION OF FARMS BY TOTAL FARM RECEIPTS

<u>Total Farm Receipts</u>	<u>Farms</u>	
	<u>Number</u>	<u>Percent</u>
Under \$ 50,000	6	1
\$ 50,000 - 99,999	106	18
100,000 - 149,999	170	28
150,000 - 199,999	126	21
200,000 - 249,999	73	12
250,000 - 299,999	35	6
300,000 - 349,999	26	4
350,000 - 399,999	12	2
400,000 & over	46	8
Total	600	100

Only one percent of the 600 farms had total farm receipts under \$50,000, while eight percent had receipts of \$400,000 or more. Total farm receipts ranged from \$100,000 to \$200,000 on 49 percent of the farms.

Expenses

Total cash farm expenses for the 600 farms averaged about \$330 per day or \$4.40 per cow per day. Total farm expenses averaged \$450 per day. The average expenses per farm and per cow for each expense item are shown below.

Table 11. FARM EXPENSES
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms		Percent
		Per Farm	Per Cow	
<u>Hired Labor</u>	\$ _____	\$ 11,683	\$ 156	10
<u>Feed</u>				
Dairy concentrate	_____	37,293	497	31
Other feed	_____	1,489	20	1
<u>Machinery</u>				
Machine hire	_____	1,161	15	1
Machinery repairs	_____	6,892	92	6
Auto expense (farm share)	_____	413	6	--
Gas & oil	_____	5,856	78	5
<u>Livestock</u>				
Replacement livestock	_____	3,141	42	3
Breeding fees	_____	1,738	23	1
Veterinary & medicine	_____	2,606	35	2
Milk marketing	_____	3,740	50	3
Other livestock expense	_____	5,102	68	4
<u>Crops</u>				
Lime & fertilizer	_____	7,102	95	6
Seeds & plants	_____	2,167	29	2
Spray & other crop expense	_____	1,750	23	1
<u>Real Estate</u>				
Land, building, fence repair	_____	2,285	30	2
Taxes	_____	3,298	44	3
Insurance	_____	2,531	34	2
Rent	_____	2,074	28	2
<u>Other</u>				
Telephone (farm share)	_____	475	6	--
Electricity (farm share)	_____	2,548	34	2
Interest paid	_____	12,576	167	11
Miscellaneous	_____	1,888	25	2
Total Cash Expenses	\$ _____	\$119,808	\$1,597	100
Expansion Livestock	_____	1,753	23	
Machinery depreciation	_____	10,938	146	
Building depreciation	_____	4,398	59	
Unpaid labor	_____	1,500	20	
Interest on equity capital @ 9%	_____	25,922	346	
TOTAL FARM EXPENSES	\$ _____	\$164,319	\$2,191	
TOTAL FARM EXPENSES EXCLUDING INTEREST ON EQUITY CAPITAL	\$ _____	\$138,397	\$1,845	

The cash expense classifications used on page 10 are taken from the "Cornell Farm Account Book".

Interest paid on farm indebtedness is included as a cash expense in these summaries. Debt payments usually include both interest and principal but only the interest portion is included in the expenses. Principal payments are an investment not an operating expense of the business.

Machinery and real estate depreciation charges are shown on page 7. Expenditures for machinery and buildings are usually made in large amounts. To include all the expenses in the year of purchase would inflate the farm expenses for that year.

Unpaid family labor refers to work done by members of the family who are not paid cash wages. The operator's labor is not included. Unpaid family labor is charged to the business at \$500 per month.

Interest on equity capital at nine percent has been included as a non-cash expense item. This represents what the operator might have earned on his equity capital had he not had it invested in the farm business. This is often called an "opportunity cost". The end-of-year farm net worth (see page 15) is used as the equity capital for computing this interest charge.

Decrease in livestock and feed inventories is the amount that the beginning inventory for each of these two items exceeds the end inventory. Since this indicates a "using up" of inventory items, it is considered as a farm expense for the year. For the 600 farms, the net inventory change was an increase for feed and supplies and livestock.

Classifying farm expenses as fixed and variable costs is helpful in forward planning or budgeting. Fixed or overhead costs do not vary directly with changes in production and include some cash expenses, capital maintenance costs and opportunity costs. Variable costs change with variations in units of input and are all cash operating expenses.

<u>Fixed (overhead) Costs</u>		<u>Variable Costs</u>	
Land & building repairs	\$ 2,285	Labor	\$11,683
Real estate taxes	3,298	Feed	38,782
Insurance	2,531	Machinery repairs	6,892
Rent	2,074	Gas & oil	5,856
Interest paid	<u>12,576</u>	Machine hire	1,161
Fixed Cash Expenses	\$22,764	Auto	413
Depreciation	15,336	Livestock purchased	4,894
Unpaid labor	1,500	Livestock expenses	13,186
Interest on equity capital	<u>25,922</u>	Fertilizer & lime	7,102
Total Fixed Costs	\$65,522	Other crop expenses	3,917
		Electricity	2,548
		Telephone	475
		Miscellaneous	<u>1,888</u>
		Total Variable Costs	\$98,797

Several costs including repairs, rent, and utilities may be partly fixed and variable depending upon the size and nature of the business.

Financial Summary of Year's Business

The financial summary of the year's business reflects the quality of management. Researchers have developed a number of ways to measure the returns from a farm business. Four common measures are reported here. The measure selected at any one time will depend on the purpose for which it is used.

Table 12. NET CASH FARM INCOME
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms	
		Per Farm	Per Cow
Cash Farm Receipts	\$ _____	\$155,748	\$2,077
Cash Farm Expenses	_____	119,808	1,597
NET CASH FARM INCOME	\$ _____	\$ 35,940	\$ 480

Net cash farm income is a measure of the cash available from the year's farm operations for family living, principal payments and other uses. A family may have additional cash available if they have nonfarm income. Net cash income is not a good measure of farm business profits but it shows the cash flow situation, and is useful in planning debt repayment programs and family budgets.

Table 13. LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms	
		Per Farm	Per Cow
Total Farm Receipts Excluding Appreciation	\$ _____	\$166,275	\$2,217
Total Farm Expenses	_____	164,319	2,191
LABOR & MANAGEMENT INCOME	\$ _____	\$ 1,956	\$ 26
Number of operators per farm	_____	1.25	1.25
LABOR & MANAGEMENT INCOME PER OPERATOR	\$ _____	\$ 1,565	\$ 21

Labor and management income measures the return to the operator for his or her efforts in operating the business. A nine percent charge for the use of equity capital (see explanation on page 11) is included as a farm expense. Labor and management income per operator is the measure generally used for comparing farm businesses. There were 750 operators on the 600 farms in 1980, for an average of 1.25 operators per farm.

Total farm receipts used to compute labor and management income in Table 13, exclude the appreciation of livestock, machinery and real estate inventories that occurred during the year. The appreciation of these assets was caused by inflation which management had little control over. Therefore appreciation is not considered part of the return to labor and management. Appreciation is included as a return to ownership on page 13.

The increase in livestock inventory is divided into two parts by first determining how much of the increase was caused by change in price (page 6). The increase in livestock inventory attributed to herd growth and increase in feed and supply inventories is included in farm receipts when computing labor and management income.

Labor and management income per operator averaged \$1,565 on these 600 dairy farms in 1980 but the range was from less than -\$50,000 to more than \$40,000. Returns to labor and management ranged from \$0 to \$19,999 on 44 percent of the farms while only ten percent showed labor and management incomes of \$20,000 or more per operator.

DISTRIBUTION OF LABOR INCOMES PER OPERATOR

Labor Income Per Operator	Farms	
	Number	Percent
Less than -\$50,000	6	1
-\$50,000 to - 40,001	11	2
- 40,000 to - 30,001	12	2
- 30,000 to - 20,001	29	5
- 20,000 to - 10,001	80	13
- 10,000 to - 1	145	24
0 to 9,999	165	29
10,000 to 19,999	96	16
20,000 to 29,999	33	6
30,000 to 39,999	11	2
40,000 or more	12	2

Labor, management, and ownership income per operator reflects the combined return to the farmer for his triple role of worker-manager, financier, and owner. This measure includes appreciation and interest on equity capital, as returns to ownership. This measure of farm profit includes the operator's gain in net worth as well as net farm income. The average labor, management, and ownership income per operator was \$41,258.

Table 14. LABOR, MANAGEMENT, AND OWNERSHIP INCOME
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms	
		Per Farm	Per Cow
Total Farm Receipts	\$ _____	\$189,970	\$2,533
Total Farm Expenses Excluding Interest on Equity Capital	_____	138,397	1,845
LABOR, MANAGEMENT & OWNERSHIP INCOME	\$ _____	\$ 51,573	\$ 688
Number of Operators	_____	1.25	1.25
LABOR, MANAGEMENT & OWNERSHIP INCOME PER OPERATOR	\$ _____	\$ 41,258	\$ 550

Total farm receipts used to compute labor, management and ownership income includes all appreciation in inventories as well as the increases caused by physical growth in the business. Total farm expenses shown in Table 14 do not include the nine percent charge for using equity capital in the business.

Return on equity capital can be computed with or without real estate appreciation. To calculate return on equity capital (including real estate appreciation), the estimated value of operator's labor and management is deducted from labor, management and ownership income. This return to equity capital is divided by the farm net worth to get the rate of return on equity capital. To compute return on equity capital, excluding appreciation, appreciation must be deducted from ownership income.

Table 15. RETURN ON EQUITY CAPITAL
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms
	<u>Including Real Estate Appreciation</u>	
Labor, Management & Ownership Income (pg. 13)	\$ _____	\$ 51,573
Value of Operator's Labor & Management (pg.5)	_____	(1.25) 18,716
RETURN ON EQUITY CAPITAL	\$ _____	\$ 32,857
Amount of Equity Capital	\$ _____	\$288,022
RATE OF RETURN ON EQUITY CAPITAL*	_____ %	11.4%
	<u>Excluding Real Estate Appreciation</u>	
Return on Equity Capital (from above)	\$ _____	\$ 32,857
Appreciation	_____	14,783
RETURN ON EQUITY CAPITAL	\$ _____	\$ 18,074
Amount of Equity Capital	\$ _____	\$288,022
RATE OF RETURN ON EQUITY CAPITAL	_____ %	3.2%

* The rate of return on all capital was 10.7 percent.

The operators were asked to estimate the value of their labor and management on the basis of what they might be able to earn if they were to work in a similar position. The average estimate for the 750 operators was \$14,400. This is somewhat less than the value determined by using \$750 per month for the labor plus a management charge based on five percent of the cash receipts per operator (\$9,000 + \$7,787 = \$16,787). The value estimated by the farm operators is the one used in Table 15.

Returns Per Unit Of Input

Income from a business can also be calculated in relation to various input units. For example, the labor and management return can be allocated to the entire labor force and figured on a per worker basis.

<u>Returns To All Labor and Management</u>	
Labor & management income per farm	\$ 1,956
Cost of hired labor	11,683
Value of unpaid labor	<u>1,500</u>
Total Returns to Labor & Management	\$15,139
Average worker equivalent	2.7
Returns per worker equivalent	\$ 5,600
Returns per hour (3,000 hours/worker/year)	\$ 1.87

Farm and Farm Family Financial Situation

The financial situation is an important part of the farm business summary. It has a direct affect on current cash outflow and future capital investment decisions. A farmer may have a good labor income but a high debt payment schedule may seriously restrict management flexibility.

Table 16. FARM AND FARM FAMILY FINANCIAL SITUATION
600 New York Dairy Farms, January 1, 1981

Item	My Farm	Average 600 Farms	
		Amount	Percent
<u>Assets</u>			
Livestock	\$ _____	\$117,709	25
Feed & supplies	_____	30,311	6
Machinery & equipment	_____	78,131	17
Land & buildings	_____	200,319	43
Co-op investment	_____	4,906	1
Accounts receivable	_____	11,596	2
Cash & checking accounts	_____	2,740	1
Total Farm Assets	\$ _____	\$445,712	95
Savings accounts	\$ _____	\$ 3,756	1
Cash value life insurance	_____	3,263	1
Stocks & bonds	_____	3,307	1
Nonfarm real estate	_____	5,865	1
Auto (personal share)	_____	1,474	--
All other	_____	6,211	1
Total Nonfarm Assets	\$ _____	\$ 23,876	100
TOTAL ASSETS	\$ _____	\$469,588	
<u>Liabilities</u>			
Real estate mortgage	\$ _____	\$ 88,690	56
Liens on cattle & equipment	_____	50,890	32
Installment contracts	_____	5,106	3
Loans: More than 10 years	_____	2,189	1
1 to 10 years	_____	4,520	3
Less than 1 year	_____	2,326	2
Other	_____	3,969	3
Total Farm Liabilities	\$ _____	\$157,690	100
Nonfarm Liabilities	_____	1,357	
TOTAL LIABILITIES	\$ _____	\$159,047	
Farm Net Worth (equity capital)	\$ _____	\$288,022	
Family Net Worth	\$ _____	\$310,541	

Total farm assets accounted for 95 percent of the total assets. Real estate mortgages were the largest liability and accounted for 56 percent of all debts. Installment contracts, notes and other debt accounted for 12 percent of all liabilities. These are often problem debt areas. Equity capital for the 600 farms averaged \$288,000 and the total family net worth exceeded \$310,000.

The ability to service debt is the most important consideration in determining if and how proposed investments can be financed. Debt payment capacity based on 1980 income is compared with debt service planned for 1981 in Table 17.

Table 17. DEBT PAYMENT CAPACITY AND SCHEDULED COMMITMENTS
600 New York Dairy Farms, January 1, 1981

Item	My Farm	Average 600 Farms	
		Per Farm	Per Cow
Net cash farm income	\$ _____	\$35,940	\$479
Interest paid	_____	12,576	168
Off-farm income	_____	1,307	17
CASH AVAIL. FOR DEBT PYMT. & LIVING	\$ _____	\$49,823	\$664
Estimated family living expense*	_____	17,105	228
CASH AVAIL. FOR DEBT PYMT. & CAP. PURCH.	\$ _____	\$32,718	\$436
Debt payments planned	\$ _____	\$31,871	\$414
Debt pymts. planned as % of milk sales	_____ %	23%	
Cash flow coverage ratio	_____	1.03	

* Calculated at \$8,700 per family plus four percent of cash receipts.

Cash available for debt service and living is the net cash farm income plus interest paid, plus off-farm income contributed to family living. Average family living expenses have been estimated at \$8,700 per family plus four percent of cash receipts. Subtracting estimated or actual family living expenses from total cash available leaves cash available for debt payments and capital purchases made with cash.

Debt payments planned represent the outstanding commitments as of January 1, 1981. The reasonableness of the debt commitment can be more easily appraised by computing debt payments per cow and payments as a percent of milk sales.

The cash flow coverage ratio shows how well cash available for debt service covers the debt payment commitments. These dairy farmers have an average cash flow coverage ratio of 1.03 or cash available to cover planned 1981 debt payments 1.03 times.

Table 18. MEASURES OF DEBT STRUCTURE
600 New York Dairy Farms, January 1, 1981

Measure	My Farm	Average 600 Farms
Percent equity	_____	66%
Debt/asset ratio - long term	_____	0.45
Debt/asset ratio - intermediate and short term	_____	0.26
Debt per cow	_____	\$2,048

Percent equity is family net worth divided by total assets and indicates the general equity position of the family for credit purposes.

Debt asset ratios are computed by dividing debt by assets. The long term debt asset ratio shows the percentage of real estate assets covered by real estate debt. The intermediate and short term ratio is the percentage of all other farm assets covered with intermediate and short term debt excluding open accounts.

An analysis of the farm business financial situation can point up many things about the operator's management of finances. The checklist below is designed to help focus on financial management practices in use by New York farmers.

Table 19. A FARM FINANCE CHECKLIST
600 New York Dairy Farms, 1980

		1980	
My Farm		Ave. 600 New York Farms	Ave. Top 10% Farms
A. <u>How farm assets are being used:</u>			
1. Total inventory (capital) per cow	\$ _____	\$5,539	\$4,843
2. % assets in livestock	_____ %	26%	29%
3. % assets in farm real estate	_____ %	45%	43%
4. % assets in machinery	_____ %	18%	16%
5. % assets in cash & checking accts.	_____ %	1%	1%
B. <u>Characteristics of the debt structure:</u>			
1. % debt long-term	_____ %	56%	55%
2. % debt in chattel liens	_____ %	32%	31%
3. % debt installment contracts	_____ %	3%	4%
4. % debt in notes & open accounts	_____ %	9%	10%
C. <u>Have you borrowed to the limit?</u>			
1. % equity in business	_____ %	66%	65%
2. Real estate debt as % of inventory value	_____ %	44%	46%
3. Liens as % of livestock and machinery inventory	_____ %	26%	25%
D. <u>How is your debt repayment schedule?</u>			
1. Farm debt per cow	\$ _____	\$2,048	\$1,810
2. Scheduled debt payments per cow	\$ _____	\$414	\$389
3. Scheduled debt payments as % of milk check	_____ %	23%	21%
E. <u>What financial progress did you make last year?</u>			
1. Change in farm assets	\$ _____	+ \$50,186*	
2. Change in farm debts	\$ _____	+ \$15,916	
3. Change in net worth	\$ _____	+ \$34,270	

* Progress of 418 same farms included in the 1979 and 1980 summary.

The average of the 600 farms provides a general basis or benchmark for comparison purposes. Averages for the top ten percent of the farms on the basis of labor and management income per operator show the practices used by the best farm managers in the study.

ANALYSIS OF THE FARM BUSINESS

A systematic analysis of the operation helps to determine strengths and weaknesses in the business. In this section, five business factors are examined: size of business, rates of production, labor efficiency, capital efficiency, and cost control. The 1980 averages of selected measures for these factors for the 600 farms, and the average for the ten percent with the highest labor and management incomes per operator, are reported along with general relationships of factors to labor income. Since the measures examined are interrelated, all factors should be studied before arriving at major conclusions.

Size of Business

Size has an affect on other factors such as labor efficiency, cost control and capital efficiency. The prices received and paid are often affected by volume which is a function of size. Farm management studies shown that in general, larger farm businesses (when well managed) make larger labor incomes. Two basic reasons for this are that larger businesses make possible more efficient use of overhead inputs such as labor and machinery, and there are more units on which to make a profit.

Table 20. MEASURES OF SIZE OF BUSINESS
600 New York Dairy Farms, 1980

Measure	My Farm	Average 600 Farms	Average Top 10% Farms
Number of cows	_____	75	123
Number of heifers	_____	56	90
Worker equivalent	_____	2.7	3.5
Total tillable acres	_____	246	371
Pounds of milk sold	_____	1,076,100	1,836,000
Total work units	_____	826	1,338
Total cash receipts	\$ _____	\$155,748	\$263,677
Total investment (end inventory)	\$ _____	\$426,470	\$619,900

Number of cows is the average number in the herd for the year. Where available, the DHI annual average is used.

Total tillable acres includes all acres on which crops could have been grown during the 1980 year. It includes cropland pasture and idel cropland.

Worker equivalent is all of the labor used on the farm during the year in terms of full-time worker years. Work of part-time employees and family members is converted to full-time worker equivalent.

Total work units represents the number of productive worker days that would be required under average conditions to care for the acreage of crops grown and the number of livestock handled. One worker unit is the average amount of productive work accomplished in ten hours of work.

The relationship of business size to labor and management income can be observed in Tables 21 and 22. Farm size is measured by number of cows and by worker equivalent. In general, the larger the businesses, the higher the labor and management incomes per operator. This relationship is consistent with that of earlier studies. A well managed large farm will provide the operator a higher income than a well managed small farm, but a large, poorly managed farm can lose more than a small one.

Table 21. COWS PER FARM AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Number of Cows	Number of Farms	Percent of Farms	Labor & Management Income	
			Per Operator	Per Cow
Under 40	94	16	-\$ 2,404	-\$ 82
40 to 54	147	25	- 1,111	- 26
55 to 69	128	21	1,282	27
70 to 84	77	13	- 1,532	- 25
85 to 99	38	6	923	14
100 to 114	26	4	7,434	97
115 to 129	24	4	5,420	62
130 to 149	19	3	- 1,484	- 16
150 to 179	24	4	6,361	58
180 to 199	9	2	17,897	129
200 & over	14	2	24,291	149

Number of cows is a good measure of size on the dairy farm because it measures the variability in the key source of production, the dairy herd. As size of herd varied from less than 40 cows to 200 and more in 1980, labor and management income increased from -\$2,404 per operator to more than \$24,000. Note that the increase in labor and management income did not occur at each size interval or in even amounts. It should also be noted that 81 percent of the farms had less than 100 cows per farm.

Worker equivalent is another common measure of size as it measures the total labor force used during the year. In general, the size of herd and labor and management incomes increase as the labor force grows from 1.0 to 4.5 worker equivalent.

Table 22. WORKER EQUIVALENT PER FARM AND
LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Worker Equivalent	Number of Farms	Percent of Farms	Number of Cows	Labor & Management Income Per Operator
1.0 to 1.4	59	10	38	-\$1,025
1.5 to 1.9	92	15	46	- 308
2.0 to 2.4	171	28	55	- 19
2.5 to 2.9	81	14	67	1,401
3.0 to 3.4	72	12	89	924
3.5 to 3.9	47	8	104	1,302
4.0 to 4.4	34	6	123	5,631
4.5 & over	44	7	182	8,361

Rates of Production

Production per animal and per acre are major factors affecting farm profits. Milk sold per cow is the most reliable production measure used in dairy farm analysis.

Table 23. MEASURES OF RATES OF PRODUCTION
600 New York Dairy Farms, 1980

Item	My Farm		600 Farms		Av. Yield Top 10% Farms
	Acres	Yield	Farms Reporting	Average* Acres Yield	
Milk sold/cow (lbs.)	_____	_____	600	14,300	14,900
All hay crops (T. dry matter/acre)	_____	_____	598	131 2.5	2.7
Corn silage (tons/acre)	_____	_____	547	60 14.5	14.9
All forage crops (T. dry matter/acre)	_____	_____	600	188 3.2	3.6
Grain corn (bu. per acre)	_____	_____	313	61 92	89
Oats (bu. per acre)	_____	_____	162	28 58	72

* Average for farms reporting the crop.

Pounds of milk sold per cow is calculated by dividing the total pounds of milk sold for the year by the average number of cows. No adjustment is made for differences in the butterfat test of the milk.

Tons of hay crops per acre is calculated by adding the tons of dry matter from hay crop silage and green chop to dry hay and dividing by the total acres of cropland used for hay crops.

Tons of dry matter per acre of all forages is determined by adding tons of dry matter of corn silage and hay crops, and dividing by total acres used for growing forages.

Studies have shown repeatedly that farms with higher rates of production tend to have higher labor incomes. In 1980, the farms that sold more than 14,000 pounds of milk per cow had substantially higher profit margins with slightly higher than average herd sizes.

Table 24. MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Feed Bought Per Cow	Labor & Management Income Per Operator	Per Cow
Under 10,000	24	50	\$319	-\$8,433	-\$211
10,000 to 10,999	20	53	393	- 5,816	- 148
11,000 to 11,999	40	60	467	- 3,926	- 75
12,000 to 12,999	68	63	465	- 8,140	- 150
13,000 to 13,999	91	78	477	1,789	30
14,000 to 14,999	137	85	483	5,527	83
15,000 to 15,999	102	77	541	3,561	56
16,000 & over	118	77	572	4,584	76

Labor Efficiency

Labor inputs account for about one-sixth of the costs in producing milk. Therefore, it is important that labor be used efficiently. Output or productivity per worker is used to measure labor efficiency. This is an important factor affecting labor and management incomes.

Table 25. MEASURES OF LABOR EFFICIENCY
600 New York Dairy Farms, 1980

Measure	My Farm	Average 600 Farms	Average Top 10% Farms
Number of cows per worker	_____	28	35
Pounds of milk sold per worker	_____	403,000	524,500
Work units per worker	_____	309	382
Crop acres per worker	_____	91	106

Pounds of milk sold per worker is determined by dividing the total pounds of milk sold by the worker equivalent. This is the best measure of labor efficiency for dairy farms.

Labor productivity (efficiency) depends on a number of things. Among these are the amount of mechanization, the field and building layout, the work methods used, and the abilities of the workers. All of these are management items under the control of the operator.

The ten percent of the farms with the highest labor and management incomes per operator were considerably above the average of all 600 farms in the four measures of labor efficiency. The top ten percent sold 30 percent more milk per worker than the average of all farms.

The relationship of labor efficiency to labor income was very positive on the 600 farms. The higher output per worker was achieved by more and better cows.

Table 26. MILK SOLD PER WORKER AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Pounds of Milk Sold Per Worker	Number of Farms	Number of Cows	Lbs. Milk Per Cow	Labor & Management Income Per Operator	Income Per Cow
Under 250,000	76	41	11,800	-\$ 5,551	-\$171
250,000 to 299,999	66	51	12,900	- 4,514	- 108
300,000 to 349,999	86	59	14,000	- 132	- 3
350,000 to 399,999	108	67	14,300	- 790	- 15
400,000 to 449,999	87	76	14,800	2,645	41
450,000 to 499,999	57	86	14,800	1,936	26
500,000 to 599,999	79	103	15,100	8,868	112
600,000 & over	41	154	15,100	13,947	119

Capital Efficiency

Capital is a major farm resource and it is important to analyze how efficiently it is used in the business. The measure of total capital examined here is the end-of-year total farm inventory which averaged \$426,470 per farm on the 600 farms. This includes both owned and borrowed capital for all farms. The use of borrowed capital or credit is part of capital management.

Table 27. MEASURES OF CAPITAL EFFICIENCY
600 New York Dairy Farms, 1980

Measure	My Farm	Average 600 Farms	Average Top 10% Farms
Total capital per worker	\$ _____	\$159,730	\$177,120
Total capital per cow	\$ _____	\$5,500	\$4,840
Total capital per cwt. milk sold	\$ _____	\$40	\$34
Machinery & equipment per cow	\$ _____	\$1,015	\$825
Land & building inventory per cow	\$ _____	\$2,600	\$2,200
Land & building inventory per tillable acre owned	\$ _____	\$1,200	\$1,300
Capital turnover (capital ÷ receipts)	_____	2.2	2.0

The comparisons in Table 27 suggests that efficiency in the use of capital can be obtained by keeping more cows without increasing the capital investment. A high investment per worker equivalent does not necessarily mean strong capital efficiency. High investment per worker must be accompanied by high labor productivity to result in good farm profits.

Capital turnover is a good measure of capital efficiency as it shows the number of years of farm receipts required to equal or "turnover" capital investment. It is computed by dividing the year-end farm inventory by the year's total farm receipts. The relationship capital turnover has to labor and management income and other factors is shown in Table 28. As a general rule, dairy farmers should aim for a capital turnover of 2.5 years or less.

Table 28. CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Capital Turnover Rate - Years	Number of Farms	Number of Cows	Capital Investment		Labor & Mgmt. Income Per Operator
			Per Cow	Per Worker	
less than 1.5	15	112	\$3,280	\$113,230	\$14,481
1.5 to 1.99	122	95	4,550	139,340	6,163
2.0 to 2.49	246	75	5,530	161,630	5,129
2.5 to 2.99	146	63	6,270	177,660	- 4,572
3.0 to 3.49	42	58	7,440	187,630	- 8,598
3.5 & over	29	44	7,880	198,150	- 15,521

Cost Control

Successful dairy farm managers are able to keep costs under control. Feed, machinery, labor, and capital are major cost items and are examined in detail in this section. Profitable businesses usually maintain a "tight" control on all costs, both large and small. But, cost control should not be so tight that the efficient and economical use of important farm inputs is restricted.

Feed Costs

Feed is the largest single expense item on New York dairy farms. Purchased dairy concentrates accounted for 31 percent of all cash operating expenses on the 600 dairy farms in 1980.

Dairy feed costs must be analyzed by examining the entire feed and forage situation. The make-up of the dairy herd will also affect feed costs so several measures must be studied and compared to make the analysis complete.

Table 29. ITEMS RELATED TO FEED COSTS
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms	Average Top 10% Farms
Feed bought per cow	\$ _____	\$497	\$448
Crop expense per cow	\$ _____	\$147	\$160
Feed bought per cwt. milk	\$ _____	\$3.47	\$3.00
Feed & crop expense per cwt. milk	\$ _____	\$4.49	\$4.07
Percent feed is of milk sales	_____ %	27%	24%
Dry matter per cow	_____ T	8.1T	8.1T
Tillable acres per cow	_____	3.3	3.0
Fertilizer & lime per crop acre	\$ _____	\$29	\$35
Heifers as percent of cow numbers	_____ %	75%	73%

The average cost of feed bought per cow in 1980 was \$497 while in 1979 it was \$466. The percent that feed bought is of milk sales was 27 percent in 1980, unchanged from 1979.

The 1980 forage crop situation was good. Tons of dry matter produced per cow was 8.1 tons from 2.5 acres in 1980. It took 2.7 acres to produce 7.5 tons of dry matter in 1979.

Feed costs include all feed for cows and heifers. Per cow costs are influenced markedly by the number of replacements on hand. Heifers as percent of cow numbers must be considered when evaluating most of the per cow factors. For 1980, there were 75 percent as many heifers as cows.

The 60 farms with highest labor and management incomes spent more on crop production per cow than the 600 farm average, but the combined feed and crop expense was 42¢ less per hundredweight of milk sold than the average of all farms.

Feed cost is influenced by a number of factors. On the production side, it is affected by the amount of homegrown grains fed, quality and quantity of the roughage, and the number of youngstock. On the purchasing side, it is influenced by the farmer's ability to purchase concentrates at reasonable prices and to balance nutrients fed with energy and protein requirements.

Feed bought per cow is calculated by dividing the total expenses for dairy concentrate by the average number of cows. Because this also includes the amount spent for calf and heifer feed, it actually represents the feed cost per cow and the replacements being raised.

Crop expense per cow is the total spent for fertilizer and lime, seeds and plants, spray, and other crop expense divided by the average number of cows. It does not include a charge for land or machinery and fuel expenses.

Feed and crop expense per hundredweight of milk is one of the most useful feed cost measures because it accounts for variations in milk production between herds and it includes crop expenses that are associated with feed production.

Feed purchased as percent of milk receipts is calculated by dividing feed purchased by milk receipts. This is another useful measure of feed efficiency although variations in homegrown grains fed and milk prices can have an adverse affect.

Dry matter per cow is calculated by converting all hay crops and corn silage harvested to tons of dry matter, and dividing by the average number of cows.

Heifers as percent of cow numbers is figured by dividing the number of heifers by the number of cows and multiplying by 100.

Table 30. PERCENT PURCHASED FEED IS OF MILK RECEIPTS
AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

% Feed is of Milk	Number of Farms	Number of Cows	Dry Matter Per Cow	Lbs. Milk Per Cow	Labor & Management Income Per Operator
Over 40%	32	59	7.8	14,300	-\$9,135
35 to 39	87	65	7.4	14,200	- 4,932
30 to 34	151	70	8.3	14,300	362
25 to 29	140	79	8.0	14,300	4,089
20 to 24	97	83	8.5	14,400	2,855
Under 20%	93	81	8.5	14,700	5,802

Generally, the lower the percent of the milk check going for purchased feed, the higher the income (Table 30). The 1980 data shows a marked difference between farms spending less than 30 percent of milk receipts for purchased dairy feed and those spending 30 percent or more. Note that milk production per cow appears to have no relationship with this measure of cost control.

Machinery Costs

Machinery accounted for 18 percent of the farm inventory on these 600 farms, and the new purchases in 1980 averaged \$16,500 per farm. The cost of owning and operating machinery accounted for nearly one-fifth of the total farm expenses. An examination of the machinery costs is a key part of a systematic analysis of a dairy farm business.

Table 31. MACHINERY COSTS
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms		Average Top 10% Farms
		Amount	Percent	
Depreciation (from page 7)	\$ _____	\$10,938	34	\$15,678
Interest @ 9% on average inventory	_____	6,596	21	8,809
Machine hire	_____	1,161	4	1,305
Machinery repairs	_____	6,892	22	11,217
Auto expense (farm share)	_____	413	1	480
Gas & oil	_____	5,856	18	9,191
Total Machinery Costs	\$ _____	\$31,856	100	\$46,680

Machinery cost:				
per cow	\$ _____	\$425		\$380
per hundredweight of milk sold	\$ _____	\$2.96		\$2.54

Depreciation accounted for 34 percent of the total machinery costs and interest 21 percent. These two fixed cost items are often overlooked in a casual examination of machine operating costs. Repairs were the second largest cost item and one which must be kept in line if costs are to be kept under control. The cost of gasoline and oil jumped 28 percent per cow in 1980 following a 33 percent increase in 1979.

Machinery costs averaged \$425 per cow, compared to \$344 in 1979 for an increase of 24 percent in 1980. The farms with \$450 and more of machinery costs per cow realized negative returns to labor and management incomes in 1980.

Table 32. MACHINERY COST PER COW AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Machinery Cost Per Cow	Number of Farms	Percent of Farms	Labor & Management Income Per Operator
Under \$300	79	13%	\$5,326
\$300 to \$349	81	14	4,081
\$350 to \$399	107	18	2,778
\$400 to \$449	87	14	2,262
\$450 to \$499	98	16	- 397
\$500 & over	148	25	- 1,738

Labor Costs

Labor costs should not be overlooked in a farm business analysis even though the farm family provides a large part of the labor input. On these 600 farms, the family (including paid family labor) provided 69 percent of the months of labor inputs, while hired nonfamily labor provided 31 percent (page 5). The operator's and other unpaid family labor are assigned values and included in Tables 33 and 34.

Table 33. LABOR COSTS
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms		Average Top 10% Farms
		Amount	Percent	
Value operator's labor (@ \$750/month)	\$ _____	\$11,250	46	\$11,250
Hired labor expense (from page 10; includes paid family labor)	_____	11,683	48	24,751
Unpaid family labor (@ \$500 per month)	_____	1,500	6	1,500
Total Labor Costs	\$ _____	\$24,433	100	\$37,501

Labor cost per cow	\$ _____	\$326		\$305
Labor cost per cwt. milk	\$ _____	\$2.27		\$2.04
Cost per month hired labor	\$ _____	\$834		\$1,031
Cost per month all labor	\$ _____	\$724		\$893

Although the top ten percent farms paid \$197 per month more for hired labor and \$129 per month more for all labor than the average of the 600 farms, superior labor efficiency kept labor costs per cow and per hundredweight of milk sold well below average.

Labor and machinery operate as a "team" so the challenge is to get a combination that will give a reasonable cost per unit of milk sold. On these 600 farms the machinery costs were higher than labor costs. The labor and machinery costs for the top ten percent farms were 65¢ per hundredweight of milk, less than the average for all farms.

Table 34. LABOR AND MACHINERY COSTS
600 New York Dairy Farms, 1980

Item	My Farm	Average	Average Top
		600 Farms	10% Farms
Total labor costs	\$ _____	\$24,433	\$37,501
Total machinery costs	_____	31,856	46,680
Total Labor & Machinery Costs	\$ _____	\$56,289	\$84,181

Labor & machinery costs per cow	\$ _____	\$751	\$685
Labor & machinery costs per cwt. milk	\$ _____	\$5.23	\$4.58

Miscellaneous Costs

Costs in addition to feed, machinery and labor make up a sizeable amount on a dairy farm. The "cost conscious" manager checks on all cost items both large and small. A number of miscellaneous cost items are reported in Table 35 to help in a detailed checkup on all farm costs.

Table 35. MISCELLANEOUS COST CONTROL MEASURES
600 New York Dairy Farms, 1980

Item	My Farm	Average 600 Farms	Average Top 10% Farms
<u>Livestock</u>			
Breeding fees per cow	\$ _____	\$23	\$21
Veterinary & medicine per cow	\$ _____	\$35	\$34
Other livestock expense per cow	\$ _____	\$68	\$61
Milk marketing per cow	\$ _____	\$50	\$46
Milk marketing per cwt. milk	_____ ¢	35¢	31¢
<u>Real Estate</u>			
Taxes per cow	\$ _____	\$44	\$40
Taxes per \$1,000 year-end real estate value	\$ _____	\$16	\$18
Insurance paid per cow	\$ _____	\$34	\$30
Cash rent paid per cow	\$ _____	\$28	\$27
Cash rent paid per til. acre rented	\$ _____	\$21	\$23
Real estate expense per cow	\$ _____	\$136	\$127
<u>Capital Cost</u>			
Interest paid per cow	\$ _____	\$168	\$148
Interest on equity per cow	\$ _____	\$346	\$306
Interest paid as % of year-end debt	_____ %	8%	16%
Depreciation per cow	\$ _____	\$204	\$184
<u>Fixed & Variable Costs</u>			
Fixed costs per cow	\$ _____	\$304	\$275
Variable costs per cow	\$ _____	\$1,317	\$1,257
Variable costs per cwt. of milk sold	\$ _____	\$9.18	\$8.42

Miscellaneous cost measures on the top ten percent farms were consistently below the 600 farm average. Some livestock and real estate expense items were not significantly different. This is probably related to more intensive use of cows and cropland on the top farms. The capital cost items per cow were substantially less for the top farms which is related to efficient use of capital. Fixed costs per cow were ten percent lower on the top farms indicating some efficiency in size and scale. Variable costs were five percent lower per cow and eight percent lower per hundredweight of milk sold on the top farms.

Good cost management requires careful planning and priority spending on farm inputs that will pay dividends when the checkbook is balanced at the end of the month.

Combination of Factors

Individual factors have been examined in the analysis up to this point. It has been suggested that these factors are interrelated. In this section, the combination of four important factors is studied. The factors used here are size, rates of production, labor efficiency, and cost control as measured by number of cows, pounds of milk sold per cow, pounds of milk sold per worker, and percent purchased feed was of milk receipts.

For each factor, the farms were divided on the basis of whether they were above or below the average for the 600 farms. They were then grouped on the basis of the number of factors better than average. The combination of factors above or below average within the three middle groups varied.

Table 36. COMBINATION OF FACTORS ABOVE AVERAGE*
AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Number of Factors Above Average	Number of Farms	Percent of Farms	Labor Income Per Operator
4 factors better than average	60	10	\$13,800
3 factors better than average	105	18	4,900
2 factors better than average	174	29	- 300
1 factor better than average	169	28	- 3,400
0 factors better than average	92	15	- 4,600

* Factors were:

Size - number of cows - average 75.

Rates of production - pounds of milk sold per cow - average 14,300.

Labor efficiency - pounds of milk sold per worker - average 403,000.

Cost control - percent purchased feed was of milk receipts - average 27%.

The relationship between the number of factors better than average and labor and management income is shown in Table 36. As the number of factors better than average decreased, labor and management incomes decreased at a rapid rate.

It is important in managing a farm business to give attention to all major factors affecting the business. Concentrating on only one or two factors and neglecting the others will not give the kind of net return most farmers want.

Farm Business Chart

The Farm Business Chart is a tool which can be used in analyzing a business by drawing a line through the figure in each column which represents the current level of management performance. The figure at the top of each column is the average of the top ten percent of the 600 farms for that factor. The other figures in each column are the average for the second ten percent, third ten percent, etc. Each column of the chart is independent of the others. The farms which are in the top ten percent for one factor would not necessarily be the same farms which make up the top ten percent for any other factor.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
600 New York Dairy Farms, 1980

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds of Milk Sold	Pounds Milk Sold Per Cow	Tons D.M./Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
5.3	185	2,773,200	17,600	4.5	21	44	641,600
3.7	113	1,642,100	16,400	3.5	18	36	529,500
3.2	86	1,261,400	15,600	3.1	16	32	472,700
2.8	73	1,073,300	15,100	2.8	15	29	428,000
2.5	64	942,500	14,600	2.6	15	27	396,300

2.3	58	831,800	14,200	2.3	14	26	368,400
2.0	52	736,300	13,600	2.0	13	24	338,500
1.9	45	629,100	13,000	1.8	11	22	303,900
1.6	39	512,300	12,100	1.5	9	20	262,100
1.3	30	358,700	10,000	1.2	5	16	194,300

Feed Bought Per Cow	% Feed is of Milk Receipts	Machinery Cost Per Cow	Labor and Machinery Cost Per Cow	Feed and Crop Expense Per Cwt. Milk			
\$223	13	\$242	\$ 524	\$2.77			
333	19	308	611	3.48			
395	23	344	659	3.87			
443	25	374	703	4.17			
485	27	403	740	4.42			

528	29	438	777	4.64			
570	31	468	814	4.93			
611	33	503	870	5.20			
671	36	560	943	5.50			
792	41	686	1,112	6.26			

The cost control factors are ranked from low to high, but the lowest cost is not necessarily the most profitable. Many things affect the level of costs, and these items must be taken into account when analyzing the factors.

SUPPLEMENTAL INFORMATION

The farm business records include information in addition to that used in the summary and analysis sections. These data are useful in studies of dairy farming. Selected items are reported in the "supplemental information" section.

Age of Operators On Single Proprietorship Farms

Age of operator is a factor that affects management. Data on age of farm operators on 471 individually operated farms and related business factors are on page 31. Partnerships and corporate farms are excluded in this comparison.

Education of Operators

The 1980 records included data on years of formal education of the operators on 548 of the 600 farms. This data and related business factors are on pages 32 and 33.

Financial Situation

Information on percent equity and debt per cow and its relation to business factors is reported on pages 34 and 35.

Cost of Producing Milk

The average cost of producing milk in 1980, calculated from the farm business summaries for the 600 farms, and comparisons by herd size and rates of production, are on pages 36 and 37.

Comparison by Herd Size

The business summary, business factors, and financial situation for nine herd size groups, are shown on pages 38 to 43.

Farms With Free Stall Barns

The 1980 summary reported 199 farms with free stall barns. Comparisons of the farms with free stall and stanchion barn facilities are on page 44.

Milking Systems

Cooperators report the kind of milking system they use. The 600 farms were sorted by type of milking system and factors are reported on page 45.

Type of Business Organization

Summaries for the three business types; individual operators (single proprietorships), partnerships, and corporations, are on pages 46 and 47.

Same Farms For 1979 and 1980

Of the 600 farms in the 1980 summary, 418 were in the 1979 summary. A 1979 and 1980 comparison of these farms is on pages 48 and 49.

Trends

One way to observe trends is to compare similar business studies that have been made. On page 50, selected farm business summary factors are given for 1960, 1965, 1975 and 1980.

Operating Statements

Operating statements for several groups of farms are on pages 51 to 56. These include: farms with over 200 cows, dairy-cash-crop farms, dairy renters, top ten percent farms based on labor incomes, and the average of the 600 farms.

Age of Operators On Single Proprietorship Farms

Table 37. AGE OF OPERATORS AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Age of Operator	Number of		Lbs. Milk Sold Per		Labor and Management Income Per Operator
	Farms	Cows	Cow	Worker	
Under 30	48	55	14,300	364,000	\$4,187
30 to 34	61	61	14,200	400,500	4,064
35 to 39	101	64	14,300	422,200	208
40 to 44	80	79	14,400	428,500	- 23
45 to 49	70	73	14,300	391,800	- 1,441
50 to 54	61	75	14,500	385,700	- 7,717
55 to 59	24	68	13,900	356,500	- 3,348
60 & over	26	69	14,000	342,300	- 8,902

Table 38. AGE OF OPERATOR AND RELATED BUSINESS FACTORS
600 New York Dairy Farms, 1980

Age of Operator	Percent Free Stall Barns	Total Capital Per Cow	Feed Bought Per Cow	Machinery Cost Per Cow	Labor Cost Per Cow	Total Expense Per Cow
Under 30	15%	\$5,700	\$507	\$425	\$347	\$2,200
30 to 34	18	5,600	493	421	308	2,200
35 to 39	30	5,600	519	423	307	2,200
40 to 44	38	5,200	535	417	331	2,200
45 to 49	33	5,500	467	440	333	2,200
50 to 54	38	5,800	516	436	345	2,300
55 to 59	38	5,400	528	417	344	2,200
60 & over	31	5,500	538	420	398	2,300

Table 39. AGE OF OPERATOR AND FINANCIAL SITUATION
600 New York Dairy Farms, 1980

Age of Operator	Total Farm Inventory	Percent Equity	Debt Per Cow	% Milk For Debt Payment	Available For Debts & Living
Under 30	\$328,600	52%	\$2,900	30%	\$36,000
30 to 34	355,340	54	2,800	28	43,000
35 to 39	373,250	58	2,500	29	42,500
40 to 44	428,700	62	2,100	25	50,900
45 to 49	410,000	70	1,800	22	47,900
50 to 54	450,700	73	1,800	22	45,600
55 to 59	383,600	81	1,100	15	44,200
60 & over	394,400	89	700	11	37,400

Education of Operators

The years of operator's education was requested again for 1980. Operators on 548 of the 600 farms reported years of formal education. The average education of all operators reporting was 13 years. In the tables below, the years of education of the senior operator on farms with partnerships or corporations was used for sorting the farms.

Table 40. EDUCATION OF OPERATOR AND LABOR AND MANAGEMENT INCOME
548 New York Dairy Farms, 1980

Years Education of Operator	Farms		Estimated Value of Operator's Labor & Management*	Labor and Management Income/Operator
	Number	Percent		
Less than 12	53	10	\$13,500	-\$1,790
12	263	48	14,000	966
13 to 14	121	22	14,400	2,373
15 to 16	98	18	16,100	5,600
over 16	13	2	16,000	4,112

* Estimated by the farm operator.

Table 41. EDUCATION OF OPERATOR AND RELATED BUSINESS FACTORS
548 New York Dairy Farms, 1980

Years Education of Operator	Average Age of Operator*	Average Number		Pounds Milk Sold	
		Operators	Cows	Per Cow	Per Worker
Less than 12	49	1.17	64	14,200	375,900
12	44	1.25	68	14,200	386,900
13 to 14	42	1.33	79	14,100	419,200
15 to 16	40	1.25	94	15,000	445,200
over 16	36	1.25	52	14,700	341,100

* Senior partner if more than one operator.

Table 42. EDUCATION OF OPERATOR AND FINANCIAL SITUATION
548 New York Dairy Farms, 1980

Years Education of Operator	Total Farm Inventory 1/81	Percent Equity	Farm Debt Per Cow	Debt Payment As Percent of Milk Receipts
Less than 12	\$376,840	70%	\$1,800	24%
12	394,500	69	1,900	22
13 to 14	441,360	64	2,100	25
15 to 16	538,600	61	2,300	25
over 16	330,800	58	2,800	24

In general, the more years of education of the farm operator the higher the labor and management income.

Table 43. OPERATOR'S AGE AND EDUCATION AND RELATED FACTORS
694 New York Dairy Farm Operators, 1980

Operator's Age and Years of Education	Operators		Cows Per Farm	Lbs. Milk Sold		Labor & Mgt. Income Per Operator
	Number	Percent		Per Cow	Per Worker	
<u>Under 40</u>						
Less than 12	12	2	69	14,200	394,300	-\$ 337
12	106	15	53	14,000	388,000	334
13 or more	157	23	75	14,600	439,300	4,721
<u>40 to 49</u>						
Less than 12	17	2	60	13,800	357,400	- 2,045
12	106	15	73	14,400	407,400	4,541
13 or more	75	11	94	14,600	458,400	1,305
<u>50 & over</u>						
Less than 12	34	5	64	14,400	359,300	- 2,629
12	118	17	79	14,400	389,800	- 1,017
13 or more	69	10	96	14,200	399,000	4,652

The amount of formal education has increased over the years, therefore the younger farmers have more years of education. Fifty-seven percent of the 275 operators under 40 years of age have some college education, but, only 31 percent of the farmers 50 years of age and older have some college. In the 40 to 49 year age group, 41 percent of the operators reported 13 or more years of formal education.

Operators with some college education have larger farms, sold more milk per worker, have more money available for debts and family living, and have higher labor incomes than the high school graduates in 1980. Operators with some college education appear to be more willing to increase debt although their planned debt service schedule is not more difficult than those of other farmers.

Table 44. OPERATOR'S AGE AND EDUCATION AND FINANCIAL SITUATION
694 New York Dairy Farm Operators, 1980

Operator's Age and Years of Education	Total Farm Inventory	Percent Equity	Farm Debt Per Cow	Percent Debt Payment is of Milk	Available For Debt & Living
<u>Under 40</u>					
Less than 12	\$433,700	64%	\$2,300	27%	\$41,200
12	317,500	57	2,600	29	36,700
13 or more	430,000	56	2,600	27	50,500
<u>40 to 49</u>					
Less than 12	355,600	66	2,100	32	38,400
12	409,800	68	1,900	22	53,300
13 or more	528,000	67	2,000	23	60,100
<u>50 & over</u>					
Less than 12	368,300	76	1,500	20	42,500
12	468,600	79	1,300	17	51,200
13 or more	536,000	70	1,800	22	66,200

Financial Situation

Each cooperator submits a financial statement as a part of the business record. A general summary is on pages 15 and 16. A simple comparison of the relationship debt per cow and percent equity have to other business factors is tabulated here.

Table 45. FARM DEBT PER COW AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Farm Debt Per Cow	Number of		Lbs. Milk Sold		Labor & Management Income Per Operator
	Farms	Cows	Per Cow	Per Worker	
None	19	45	13,800	310,500	-\$6,350
\$1 to \$599	67	67	14,200	370,700	2,219
\$600 to \$1,199	80	91	14,700	447,300	8,535
\$1,200 to \$1,799	100	79	14,500	406,100	33
\$1,800 to \$2,399	101	80	14,100	411,600	- 549
\$2,400 to \$2,999	85	76	13,900	412,200	62
\$3,000 to \$3,599	66	71	14,800	421,000	3,148
\$3,600 & over	82	61	14,600	369,100	- 1,057

In Tables 45 and 46, the farms are sorted on the basis of debt per cow. Three percent of the farms reported no debt, while 14 percent reported debt per cow of \$3,600 or more. There appears to be little relationship between debt per cow and labor and management income. Size and production have a stronger influence. Farms with no debt had the lowest returns to labor and management because of low production per cow and per worker. The most productive groups produced the highest income regardless of debt per cow.

Table 46. FARM DEBT PER COW AND RELATED BUSINESS FACTORS
600 New York Dairy Farms, 1980

Farm Debt Per Cow	Age of Operator	Percent Equity	Debt Payment		Available For Living & Invest.
			Per Cow	% Milk	
None	50	100%	\$ 0	0%	\$29,315
\$1 to \$599	50	95	124	7	36,900
\$600 to \$1,199	48	84	259	14	40,000
\$1,200 to \$1,799	46	75	347	19	21,254
\$1,800 to \$2,399	42	63	436	25	13,900
\$2,400 to \$2,999	41	53	526	31	8,200
\$3,000 to \$3,599	39	47	597	33	5,600
\$3,600 & over	36	41	707	38	- 600

Debt per cow shows a close relationship to operator's age, percent equity, debt payment and cash available for family living and investment, in Table 46. The farms with the highest debt loads are owned by young operators with relatively low equities and high debt payment commitments. Although this data does not identify a specific recommended debt load it is apparent that the 233 dairy farmers with \$2,400 or more debt per cow will have difficulty meeting planned payment schedules and family living expenses during 1981.

The relationship of farm family equity (percent equity) to production, farm income, debt payments and cash available for family living, is shown in Tables 47 and 48. Percent equity is determined by dividing the family net worth by total farm family assets.

Table 47. PERCENT EQUITY AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Percent Equity*	Number of		Lbs. Milk Sold		Labor & Management Income Per Operator
	Farms	Cows	Per Cow	Per Worker	
Less than 40%	53	68	14,100	372,600	\$2,530
40 to 49	85	75	14,100	424,000	1,930
50 to 59	116	76	14,300	434,800	1,040
60 to 69	83	78	14,300	418,100	- 1,430
70 to 79	87	81	14,800	423,700	4,370
80 to 89	88	77	14,800	415,200	2,550
90 to 99	68	68	14,400	379,800	1,170
100	20	51	14,000	330,900	- 6,920

* Based on family net worth.

Fifty-three or nine percent of the 600 farms had less than 40 percent equity and 23 percent reported less than 50 percent equity. Only the farms in the lowest and highest equity groups were below average size and production. Equity appears to have little direct affect on labor and management income. One reason is the opportunity cost (nine percent) charged for using equity capital in the business.

Table 48. PERCENT EQUITY AND RELATED BUSINESS FACTORS
600 New York Dairy Farms, 1980

Percent Equity*	Age of Operator	Debt Per Cow	Debt Payments		Available For Living & Invest.
			Per Cow	% Milk	
Less than 40%	36	\$3,870	\$660	39%	-\$ 5,700
40 to 49	39	3,200	580	33	5,800
50 to 59	40	2,720	510	29	8,906
60 to 69	43	2,080	450	25	11,768
70 to 79	46	1,500	340	18	25,900
80 to 89	47	980	280	15	35,112
90 to 99	50	360	140	8	38,100
100	51	0	0	0	31,700

* Based on family net worth.

Percent equity has a strong relationship with debt payments and cash available for family living.

Farm operators with less than 60 percent equity have heavy debt commitments. Those with less than 50 percent equity are in a cash flow bind with too little cash available for family living. Although the operators on the 100 percent equity farms showed negative returns to labor and management, they enjoyed a healthy cash flow situation.

Cost of Producing Milk

The "farm unit" method is used here to compute cost of producing milk. Farm expenses include all costs except the operator's labor and management. Non-milk receipts are deducted on the assumption they were produced at cost.

Table 49. FARM COST OF PRODUCING MILK
600 New York Dairy Farms, 1980

Item	Average 600 Farms	My Farm
Total cash farm expenses (p. 10)	\$119,808	\$ _____
Expansion livestock	1,753	_____
Machinery depreciation	10,938	_____
Building depreciation	4,398	_____
Unpaid labor	1,500	_____
Interest on equity capital @ 9%	25,922	_____
TOTAL FARM EXPENSES	\$164,319	\$ _____
Value Operator's Labor @ \$750/mo.	11,250	_____
TOTAL COST OF PRODUCTION (1)	\$175,569	\$ _____
Total cash farm receipts (p.8)	\$155,748	\$ _____
Less: Milk sales	137,829	_____
Non-milk cash receipts	\$ 17,919	\$ _____
Increase in feed & supplies	4,609	_____
Increase due to herd growth	5,918	_____
TOTAL OTHER INCOME (2)	28,446	_____
COST OF PRODUCING MILK (1 minus 2)	\$147,123	\$ _____
Hundredweights of milk sold (p. 18)	10,761	_____
COST OF PRODUCING CWT. MILK	\$ 13.67	\$ _____
Management charge @ 5% cash receipts	\$ 7,787	\$ _____
Management charge cwt. milk	72¢	_____¢
COST OF PRODUCING MILK WITH MGT. CHARGE	\$ 14.39	\$ _____

* The change in dairy cattle inventory attributed to herd expansion and improved quality (page 6) is classified as a non-milk receipt.

The cost of producing milk is shown in Table 49 with and without a charge for management included. The rationale for including a management charge is presented at the top of page 37. The cost of producing milk, including the management fee, exceeded the price received by \$1.58 or seven percent in 1980.

Table 50. COST OF PRODUCING MILK AND PRICES RECEIVED, 1974 - 1980

Year	Value Operator's		Cost/Cwt. With Management		Average Price Received
	Labor	Management*	Excluded	Included	
1975	\$6,000	\$4,474	\$ 9.07	\$ 9.55	\$ 8.65
1976	6,000	5,162	9.87	10.42	9.90
1977	7,200	5,212	10.55	11.09	9.76
1978	7,800	5,862	10.74	11.34	10.51
1979	7,800	7,317	12.10	12.78	11.90
1980	9,000	7,787	13.67	14.39	12.81

* Estimated at five percent of cash receipts.

Farm expenses do not include any charge for management. The farm operator's labor is valued at hired worker rates. The management input is an important part of any business operation and is traditionally a part of the costs in business accounting. In this analysis, a management charge was computed on the basis of five percent of the cash receipts. In some areas, management services are provided for absentee owners on the basis of five to eight percent of the receipts. The management charge amounted to an average of 72 cents per hundredweight of milk.

Table 51. FARM COST OF PRODUCING MILK BY HERD SIZE
600 New York Dairy Farms, 1980

Number of Cows	Cost/Cwt. With Management		Average Price Received
	Excluded	Included	
Under 40	\$15.68	\$16.30	\$12.70
40 to 54	14.40	15.13	12.76
55 to 69	13.96	14.78	12.82
70 to 84	13.67	14.39	12.78
85 to 99	13.76	14.49	12.91
100 to 114	13.20	13.93	13.03
115 to 129	13.04	13.76	12.78
130 to 149	13.78	14.51	12.98
150 & over	12.49	13.21	12.75

Size is an important factor in the analysis of farm businesses. The costs of producing milk were computed for nine herd size groups (Table 51). In general, the larger herds had lower costs. The average cost excluding management was \$15.68 for herds with under 40 cows, while it was \$12.49 for those with 150 and more cows, or a difference of \$3.19 per hundredweight.

Rate of milk production is also a major business factor so costs were computed by levels of production (Table 52). The spread here was much greater than for size indicating a strong relationship between rates of production and costs. Farms selling less than 10,000 pounds of milk per cow had an average cost of production of \$18.60, while those selling 14,000 pounds and over averaged approximately \$13.20 for a difference of \$5.40 per hundredweight.

Table 52. FARM COST OF PRODUCING MILK BY MILK SOLD PER COW
600 New York Dairy Farms, 1980

Pounds of Milk Sold Per Cow	Cost/Cwt. With Management		Average Price Received
	Excluded	Included	
Under 10,000	\$18.60	\$19.37	\$13.67
10,000 to 10,999	16.15	16.90	13.10
11,000 to 11,999	15.32	16.06	13.18
12,000 to 12,999	15.54	16.27	13.00
13,000 to 13,999	13.75	14.47	12.83
14,000 to 14,999	13.05	13.77	12.71
15,000 to 15,999	13.33	14.05	12.75
16,000 & over	13.15	13.88	12.73

Table 53.

FARM BUSINESS SUMMARY BY HERD SIZE
600 New York Dairy Farms, 1980

Item	Farms with:			
	Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows
Capital Investment (end of year)				
Livestock	\$ 54,339	\$ 78,545	\$101,619	\$121,590
Feed & supplies	9,559	16,998	24,639	32,756
Machinery & equipment	38,191	56,972	70,913	83,426
Land & buildings	104,763	141,412	181,640	218,856
TOTAL INVESTMENT	\$206,852	\$293,927	\$378,811	\$456,628
Receipts				
Milk sales	\$ 54,745	\$ 85,404	\$116,064	\$141,913
Dairy cattle sold	4,961	7,471	8,960	11,901
Other livestock sales	1,515	2,000	2,417	3,144
Crop sales	279	833	1,162	1,464
Miscellaneous receipts	685	1,508	1,809	2,399
Total Cash Receipts	\$ 62,185	\$ 97,216	\$130,412	\$160,821
Increase in livestock	2,453	3,562	5,183	5,991
Increase in feed & supplies	953	2,523	3,754	5,009
Appreciation	13,219	15,782	20,285	23,790
TOTAL FARM RECEIPTS	\$ 78,810	\$119,083	\$159,634	\$195,611
TOTAL FARM REC. EXCL. APPREC.	\$ 65,591	\$103,301	\$139,349	\$171,821
Expenses				
Hired labor	\$ 1,521	\$ 4,397	\$ 6,489	\$ 12,538
Dairy feed	16,643	24,351	31,706	36,913
Other feed	961	1,242	823	1,444
Machine hire	419	798	1,074	1,199
Machinery repair	2,387	3,913	5,906	7,274
Auto expense (farm share)	383	367	433	380
Gas & oil	2,433	3,399	4,983	6,110
Replacement animals	1,475	2,821	2,749	1,779
Breeding fees	702	1,125	1,547	1,930
Veterinary & medicine	1,046	1,710	2,189	2,639
Milk marketing	1,342	2,154	3,271	4,151
Other livestock expense	2,059	3,459	4,545	5,359
Fertilizer & lime	1,902	3,739	5,912	7,882
Seeds & plants	582	1,285	1,712	2,398
Spray & other crop expense	546	873	1,443	1,838
Land, bldg., fence repair	1,274	1,387	2,004	2,789
Taxes & insurance	2,703	3,910	4,953	7,017
Electricity & phone (farm share)	1,520	2,147	2,653	3,316
Interest paid	4,913	8,653	10,440	12,504
Miscellaneous expenses	1,526	2,193	3,466	4,141
Total Cash Expenses	\$ 46,337	\$ 73,923	\$ 98,298	\$123,601
Expansion livestock	1,209	761	1,371	3,627
Machinery depreciation	4,770	7,491	9,539	11,862
Building depreciation	1,688	2,624	3,297	4,541
Unpaid family labor	1,500	2,000	2,000	2,000
Interest on equity @ 9%	12,779	17,735	23,178	28,090
TOTAL FARM EXPENSES	\$ 68,283	\$104,534	\$137,683	\$173,721
Financial Summary				
NET CASH FARM INCOME	\$ 15,848	\$ 23,293	\$ 32,114	\$ 37,220
Labor & Management Income	-\$ 2,692	-\$ 1,233	\$ 1,666	-\$ 1,900
Number of Operators	1.1	1.1	1.3	1.2
LABOR & MGMT. INCOME/OPER.	-\$ 2,404	-\$ 1,111	\$ 1,282	-\$ 1,532
LABOR, MGMT. & OWNSHP. INC./OPER.	\$ 20,809	\$ 29,085	\$ 34,715	\$ 40,306

Table 53
continued

FARM BUSINESS SUMMARY BY HERD SIZE
600 New York Dairy Farms, 1980

Item	Farms with:				
	85 to 99 cows	100 to 114 cows	115 to 129 cows	130 to 149 cows	150 or more cows
Capital Investment (end of year)					
Livestock	\$140,537	\$163,684	\$178,490	\$211,769	\$291,447
Feed & supplies	35,689	46,833	56,236	64,004	84,542
Machinery & equipment	90,559	105,440	112,871	129,847	171,375
Land & buildings	218,883	257,788	277,605	306,443	467,004
TOTAL INVESTMENT	\$485,668	\$573,745	\$625,202	\$712,063	\$1,014,368
Receipts					
Milk sales	\$162,772	\$204,439	\$220,211	\$255,592	\$373,858
Dairy cattle sold	13,068	15,801	15,741	23,150	28,378
Other livestock sales	3,223	3,914	4,608	4,048	6,738
Crop sales	1,602	3,056	4,640	2,946	6,789
Miscellaneous receipts	2,337	3,207	3,195	3,328	6,341
Total Cash Receipts	\$183,002	\$230,417	\$248,395	\$289,064	\$422,104
Increase in livestock	4,407	9,435	8,385	8,284	19,153
Increase in feed & supplies	6,316	7,987	8,356	10,223	12,677
Appreciation	25,912	35,349	36,672	44,532	55,233
TOTAL FARM RECEIPTS	\$219,637	\$283,188	\$301,808	\$352,103	\$509,167
TOTAL FARM REC. EXCL. APPREC.	\$193,725	\$247,839	\$265,136	\$307,571	\$453,934
Expenses					
Hired labor	\$ 14,518	\$ 18,271	\$ 23,093	\$ 28,845	\$ 48,842
Dairy feed	45,420	54,403	62,330	71,320	92,339
Other feed	3,143	952	2,034	1,500	3,882
Machine hire	1,381	1,606	1,283	1,653	3,272
Machinery repair	8,371	10,817	11,088	15,192	18,418
Auto expense (farm share)	549	487	445	395	455
Gas & oil	7,642	8,932	9,906	10,570	15,233
Replacement animals	2,562	3,414	1,579	7,116	10,283
Breeding fees	1,731	2,453	2,224	3,354	4,645
Veterinary & medicine	2,786	3,437	4,165	4,803	7,328
Milk marketing	3,916	6,073	6,293	7,985	9,647
Other livestock expense	5,605	6,965	7,652	11,088	12,260
Fertilizer & lime	8,694	11,640	12,865	14,227	20,369
Seeds & plants	2,375	3,432	4,022	4,700	6,111
Spray & other crop expense	1,927	2,945	2,917	3,797	5,370
Land, bldg., fence repair	3,103	2,791	3,343	2,720	5,399
Taxes & insurance	6,613	8,213	9,186	9,178	13,501
Electricity & phone (farm share)	3,486	4,581	4,688	5,590	6,182
Interest paid	16,952	19,752	17,825	22,182	32,036
Miscellaneous expenses	5,055	4,951	6,739	8,806	10,615
Total Cash Expenses	\$145,829	\$176,115	\$193,677	\$235,021	\$326,187
Expansion livestock	1,026	4,792	419	0	4,210
Machinery depreciation	11,984	14,373	17,077	19,468	27,020
Building depreciation	5,335	6,702	6,729	8,986	13,058
Unpaid family labor	2,000	1,000	500	1,000	500
Interest on equity @ 9%	26,296	34,598	39,308	45,322	61,958
TOTAL FARM EXPENSES	\$192,470	\$237,580	\$257,710	\$309,797	\$432,933
Financial Summary					
NET CASH FARM INCOME	\$ 37,173	\$ 54,302	\$ 54,718	\$ 54,043	\$ 95,917
Labor & Management Income	\$ 1,255	\$ 10,259	\$ 7,426	-\$ 2,226	\$ 21,001
Number of operators	1.4	1.4	1.4	1.5	1.5
LABOR & MGMT. INCOME/OPER.	\$ 923	\$ 7,434	\$ 5,420	-\$ 1,484	\$ 14,001
LABOR, MGMT. & OWNSHP. INC./OP.	\$ 39,311	\$ 58,120	\$ 60,880	\$ 58,419	\$ 92,128

Table 54.

SELECTED BUSINESS FACTORS BY HERD SIZE
600 New York Dairy Farms, 1980

Item	Farms with:			
	Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows
Number of farms	94	147	128	77
<u>Size of Business</u>				
Number of cows	33	47	62	76
Number of heifers	26	35	46	59
Pounds of milk sold	431,000	669,300	905,600	1,110,600
Worker equivalent	1.6	2.0	2.4	2.9
Total work units	368	525	687	853
Total tillable acres	122	169	218	255
(Tillable acres rented)	(34)	(41)	(64)	(80)
<u>Rates of Production</u>				
Milk sold per cow	13,000	14,200	14,600	14,600
Tons hay crops per acre	1.9	2.2	2.4	2.5
Tons corn silage per acre	13.0	13.9	13.3	14.0
Bushels of oats per acre	47	51	59	55
<u>Labor Efficiency</u>				
Cows per worker	21	24	26	26
Pounds milk sold per worker	272,700	334,600	374,200	380,300
Work units per worker	233	263	284	292
<u>Feed Costs</u>				
Feed purchased per cow	\$504	\$518	\$511	\$486
Crop expense per cow	\$92	\$125	\$146	\$159
Feed cost per cwt. milk	\$3.86	\$3.64	\$3.50	\$3.32
Feed & crop exp. per cwt. milk	\$4.56	\$4.52	\$4.50	\$4.41
% feed is of milk receipts	30%	29%	27%	26%
Hay equivalent per cow	7.0T	8.2T	8.4T	8.4T
Tillable acres per cow	3.7	3.6	3.5	3.4
Fertilizer & lime/crop acre	\$16	\$22	\$27	\$31
<u>Machinery and Labor Costs</u>				
Total machinery costs	\$13,556	\$20,786	\$27,915	\$33,936
Machinery cost per cow	\$411	\$442	\$450	\$447
Machinery cost/cwt. milk	\$3.15	\$3.11	\$3.08	\$3.06
Labor cost per cow	\$387	\$344	\$330	\$339
Labor cost per cwt. milk	\$2.96	\$2.41	\$2.26	\$2.32
<u>Capital Efficiency</u>				
Investment per worker	\$130,919	\$146,964	\$156,533	\$156,379
Investment per cow	\$5,910	\$6,123	\$5,919	\$5,700
Investment per cwt. milk	\$48	\$44	\$42	\$41
Land & buildings per cow	\$2,993	\$2,946	\$2,838	\$2,736
Machinery investment per cow	\$1,091	\$1,187	\$1,108	\$1,043
Capital turnover	2.6	2.5	2.4	2.3
<u>Other</u>				
Price per cwt. milk sold	\$12.70	\$12.76	\$12.82	\$12.78
Acres hay crops	81	101	123	135
Acres corn silage	22	35	45	62

Table 54
continued

SELECTED BUSINESS FACTORS BY HERD SIZE
600 New York Dairy Farms, 1980

Item	Farms with:				
	85 to 99 cows	100 to 114 cows	115 to 129 cows	130 to 149 cows	150 or more cows
Number of farms	38	26	24	19	47
<u>Size of Business</u>					
Number of cows	90	106	120	139	198
Number of heifers	73	75	103	105	138
Pounds of milk sold	1,260,700	1,568,400	1,723,500	1,969,700	2,932,800
Worker equivalent	3.0	3.5	3.6	4.1	5.1
Total work units	1,024	1,145	1,361	1,514	2,126
Total tillable acres	319	321	386	403	560
(Tillable acres rented)	(122)	(122)	(133)	(171)	(167)
<u>Rates of Production</u>					
Milk sold per cow	14,000	14,700	14,300	14,100	14,800
Tons hay crops per acre	2.6	2.6	2.5	2.6	2.9
Tons corn silage per acre	14.6	14.8	16.4	15.7	16.0
Bushels of oats per acre	60	60	59	77	70
<u>Labor Efficiency</u>					
Cows per worker	30	30	34	34	39
Pounds milk sold per worker	420,200	448,100	481,400	482,700	577,300
Work units per worker	341	327	380	371	419
<u>Feed Costs</u>					
Feed purchased per cow	\$505	\$513	\$519	\$513	\$466
Crop expense per cow	\$144	\$170	\$165	\$163	\$161
Feed cost per cwt. milk	\$3.60	\$3.47	\$3.62	\$3.62	\$3.15
Feed & crop exp. per cwt. milk	\$4.63	\$4.62	\$4.77	\$4.77	\$4.23
% feed is of milk receipts	28%	27%	28%	28%	25%
Hay equivalent per cow	8.8T	7.5T	8.3T	8.1T	8.1T
Tillable acres per cow	3.5	3.0	3.2	2.9	2.8
Fertilizer & lime/crop acre	\$27	\$36	\$33	\$35	\$36
<u>Machinery and Labor Costs</u>					
Total machinery costs	\$37,490	\$45,157	\$49,370	\$58,135	\$78,939
Machinery cost per cow	\$417	\$426	\$411	\$418	\$399
Machinery cost/cwt. milk	\$2.97	\$2.88	\$2.86	\$2.95	\$2.69
Labor cost per cow	\$317	\$302	\$297	\$312	\$317
Labor cost per cwt. milk	\$2.26	\$2.04	\$2.07	\$2.20	\$2.14
<u>Capital Efficiency</u>					
Investment per worker	\$161,889	\$163,927	\$174,637	\$174,525	\$199,679
Investment per cow	\$5,222	\$5,312	\$5,002	\$5,015	\$4,948
Investment per cwt. milk	\$39	\$37	\$36	\$36	\$35
Land & buildings per cow	\$2,354	\$2,387	\$2,221	\$2,158	\$2,278
Machinery investment per cow	\$974	\$976	\$903	\$914	\$836
Capital turnover	2.2	2.0	2.1	2.0	2.0
<u>Other</u>					
Price per cwt. milk sold	\$12.91	\$13.03	\$12.78	\$12.98	\$12.75
Acres hay crops	174	159	185	186	240
Acres corn silage	64	74	92	120	161

Table 55. FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
600 New York Dairy Farms, January 1, 1981

Item	Farms with:				
	Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows	85 to 99 cows
Number of farms	94	147	128	77	38
Assets					
Livestock	\$ 54,339	\$ 78,545	\$101,619	\$121,590	\$140,537
Feed & supplies	9,559	16,998	24,639	32,756	35,689
Machinery & equipment	38,191	56,972	70,913	83,426	90,559
Land & buildings	104,763	141,412	181,640	218,856	218,883
Co-op investment	672	2,611	3,168	5,927	5,770
Accounts receivable	4,134	7,184	9,495	12,226	13,955
Cash & checking accounts	1,934	2,066	2,929	2,645	3,179
Total Farm Assets	\$213,592	\$305,788	\$394,403	\$477,426	\$508,572
Savings accounts	3,555	2,822	3,926	5,183	2,027
Cash value life insurance	3,287	3,315	2,574	2,995	2,861
Stocks & bonds	3,071	2,288	2,396	3,707	1,434
Nonfarm real estate	3,505	2,271	4,079	13,965	4,724
Auto (personal share)	1,061	1,230	1,392	1,541	1,591
All other	5,484	5,921	5,553	6,114	4,788
Total Nonfarm Assets	\$ 19,963	\$ 17,847	\$ 19,920	\$ 33,505	\$ 17,425
TOTAL ASSETS	\$233,555	\$323,635	\$414,323	\$510,931	\$525,997
Liabilities					
Real estate mortgage	\$ 40,301	\$ 64,598	\$ 80,059	\$100,920	\$115,538
Liens on cattle & equipment	21,792	34,044	42,995	47,991	80,831
Installment contracts	2,170	3,347	3,901	6,712	3,835
Other loans over 10 years	461	574	1,400	1,007	3,183
Other loans 1 to 10 years	3,110	2,208	2,772	2,703	4,628
Other loans less than 1 year	1,698	827	2,112	1,927	2,953
Feed store & other accounts	2,076	3,140	3,635	4,055	5,423
Total Farm Liabilities	\$ 71,608	\$108,738	\$136,874	\$165,315	\$216,391
Total Nonfarm Liabilities	815	917	1,563	873	1,335
TOTAL LIABILITIES	\$ 72,423	\$109,655	\$138,437	\$166,188	\$217,726
Farm Net Worth (Equity Cap.)	\$141,984	\$197,050	\$257,529	\$312,111	\$292,181
FAMILY NET WORTH	\$161,132	\$213,980	\$275,886	\$344,743	\$308,271
Financial Measures					
Percent equity	69%	66%	67%	67%	59%
Farm debt per cow	\$2,046	\$2,265	\$2,139	\$2,066	\$2,327
Available for debt service & living	\$23,008	\$33,182	\$43,169	\$50,873	\$54,751
Scheduled annual debt payment	\$13,305	\$20,758	\$27,433	\$32,891	\$43,150
Scheduled debt payment/cow	\$380	\$432	\$429	\$411	\$464
Payment as % of milk check	24%	24%	24%	23%	27%
Debt/Asset ratio - long term	0.39	0.46	0.45	0.47	0.54
Debt/Asset ratio - intermediate	0.28	0.26	0.25	0.24	0.33
Cash flow coverage ratio	0.79	0.93	0.96	1.02	0.82

Table 55 FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
continued 600 New York Dairy Farms, January 1, 1981

Item	Farms with:			
	100 to 114 cows	115 to 129 cows	130 to 149 cows	150 or more cows
Number of farms	26	24	19	47
<u>Assets</u>				
Livestock	\$163,684	\$178,490	\$211,769	\$291,447
Feed & supplies	46,833	56,236	64,004	84,542
Machinery & equipment	105,440	112,871	129,847	171,375
Land & buildings	257,788	277,605	306,443	467,004
Co-op investment	10,227	6,690	14,429	15,212
Accounts receivable	18,853	16,996	21,478	32,337
Cash & checking accounts	2,019	4,480	3,346	5,007
Total Farm Assets	<u>\$604,844</u>	<u>\$653,368</u>	<u>\$751,316</u>	<u>\$1,066,924</u>
Savings accounts	3,331	4,504	4,549	5,215
Cash value life insurance	2,119	4,549	6,421	4,400
Stocks & bonds	8,554	4,399	1,168	7,715
Nonfarm real estate	6,654	4,250	11,053	12,632
Auto (personal share)	1,069	1,344	1,026	3,548
All other	4,959	10,237	12,361	7,820
Total Nonfarm Assets	<u>\$ 26,686</u>	<u>\$ 29,283</u>	<u>\$ 36,578</u>	<u>\$ 41,330</u>
TOTAL ASSETS	\$631,530	\$682,651	\$787,894	\$1,108,254
<u>Liabilities</u>				
Real estate mortgage	\$132,513	\$102,080	\$130,731	\$194,505
Liens on cattle & equipment	63,676	66,522	91,724	132,256
Installment contracts	8,492	17,581	5,378	9,800
Other loans over 10 years	1,225	8,198	1,311	11,792
Other loans 1 to 10 years	7,160	15,473	5,527	14,764
Other loans less than 1 year	3,455	1,329	3,207	8,524
Feed store & other accounts	3,898	5,425	9,862	6,862
Total Farm Liabilities	<u>\$220,419</u>	<u>\$216,608</u>	<u>\$247,740</u>	<u>\$378,503</u>
Nonfarm Liabilities	<u>2,148</u>	<u>792</u>	<u>3,262</u>	<u>3,144</u>
TOTAL LIABILITIES	\$222,567	\$217,400	\$251,002	\$381,647
Farm Net Worth (Equity Cap.)	\$384,425	\$436,760	\$503,576	\$688,421
FAMILY NET WORTH	\$408,963	\$465,251	\$536,892	\$726,607
<u>Financial Measures</u>				
Percent equity	65%	68%	68%	66%
Farm debt per cow	\$2,041	\$1,733	\$1,745	\$1,846
Available for debt service & living	\$74,698	\$73,585	\$80,326	\$129,667
Scheduled annual debt payment	\$45,416	\$44,330	\$50,171	\$83,799
Scheduled debt payment/cow	\$421	\$355	\$353	\$409
Payment as % of milk check	22%	20%	20%	22%
Debt/Asset ratio - long term	0.52	0.40	0.43	0.44
Debt/Asset ratio - intermediate	0.25	0.27	0.25	0.28
Cash flow coverage ratio	1.15	1.16	1.10	1.18

Table 56. COMPARISON OF FARMS BY TYPE OF BARN & HERD SIZE
600 New York Dairy Farms, 1980

Item	Herd Size (Number Cows)				
	Under 55	55-69	70-99	100-149	150 & Over
Number of farms					
Free stall	15	29	56	55	44
Other	226	99	59	14	3
Number of workers					
Free stall	1.9	2.3	2.9	3.6	5.2
Other	1.8	2.3	3.2	4.1	3.8
Land & bldgs. per cow					
Free stall	\$2,853	\$2,718	\$2,539	\$2,253	\$2,311
Other	\$2,941	\$2,881	\$2,643	\$2,314	\$1,733
Tons hay crops per acre					
Free stall	2.2	2.5	2.6	2.6	2.9
Other	2.1	2.4	2.5	2.5	2.4
Lbs. milk sold per cow					
Free stall	13,200	14,500	14,500	14,500	14,800
Other	13,900	14,700	14,000	14,100	14,100
Lbs. milk sold/worker					
Free stall	325,500	399,400	414,300	490,200	577,500
Other	313,100	385,400	351,000	403,200	561,900
Labor cost per cow					
Free stall	\$352	\$306	\$325	\$299	\$323
Other	\$363	\$329	\$338	\$333	\$241
Machinery cost per cow					
Free stall	\$415	\$440	\$443	\$429	\$397
Other	\$436	\$456	\$425	\$376	\$442
Veterinary cost per cow					
Free stall	\$29	\$34	\$36	\$35	\$37
Other	\$36	\$36	\$30	\$29	\$32
Feed & crop expense/cow					
Free stall	\$564	\$712	\$656	\$690	\$629
Other	\$637	\$646	\$632	\$647	\$595
Debt per cow					
Free stall	\$2,078	\$2,038	\$2,176	\$1,826	\$1,846
Other	\$2,183	\$2,174	\$2,139	\$1,925	\$1,945
Labor & management income per operator					
Free stall	-\$1,601	\$3,623	\$1,089	\$2,982	\$14,362
Other	-\$1,774	\$603	-\$2,265	\$7,179	\$9,936

A total of 199 of the 600 farms in this study reported having free stall barns. A comparison has been made by size of herd and type of barn for selected business factors.

Table 57. SELECTED BUSINESS FACTORS BY MILKING SYSTEMS
600 New York Dairy Farms, 1980

Item	Bucket and Carry	Dumping Station	Pipe- line	Herring- bone Parlor	Other Parlors
Number of farms	12	133	270	164	21
Percent of farms	2%	22%	45%	27%	4%
<u>Capital Investment (end of year)</u>					
Livestock	\$ 46,314	\$ 71,590	\$104,655	\$183,290	\$106,273
Feed & supplies	10,154	15,116	25,540	52,116	29,111
Machinery & equipment	32,161	47,298	72,553	115,676	78,192
Land & buildings	107,563	131,428	178,912	300,463	182,785
TOTAL INVESTMENT	\$196,192	\$265,432	\$381,660	\$651,545	\$396,361
<u>Financial Summary</u>					
Total farm receipts	\$ 65,078	\$ 92,055	\$142,455	\$273,398	\$163,815
Total farm expenses	66,677	93,795	142,327	266,499	158,383
Labor & Management Income	-\$ 1,599	-\$ 1,740	\$ 128	\$ 6,899	\$ 5,432
Number of operators	1.1	1.3	1.2	1.4	1.1
LABOR & MANAGEMENT INCOME PER OPERATOR	-\$ 1,494	-\$ 1,392	\$ 106	\$ 5,110	\$ 5,077
<u>Size of Business</u>					
Number of cows	36	46	62	121	74
Number of heifers	23	34	47	91	56
Pounds of milk sold	419,800	602,900	913,600	1,776,100	1,070,000
Worker equivalent	1.8	2.1	2.5	3.6	2.7
Crop acres	117	170	218	367	215
<u>Rates of Production</u>					
Milk sold per cow (lbs.)	11,600	13,100	14,700	14,600	14,400
Tons hay crops per acre	1.9	2.1	2.4	2.6	3.1
Tons corn silage per acre	11.5	13.0	13.9	15.4	13.3
<u>Labor Efficiency</u>					
Cows per worker	21	22	25	34	28
Lbs. milk sold per worker	239,800	289,800	365,400	496,100	400,700
<u>Costs</u>					
Feed purchased per cow	\$376	\$476	\$508	\$503	\$516
% feed is of milk receipts	26%	28%	27%	27%	28%
Machinery cost per cow	\$379	\$394	\$454	\$418	\$408
Labor cost per cow	\$380	\$373	\$347	\$310	\$305
<u>Capital Efficiency</u>					
Investment per worker	\$112,100	\$127,612	\$152,664	\$181,996	\$148,450
Investment per cow	\$5,302	\$5,530	\$5,963	\$5,171	\$5,215
Land & buildings per cow	\$2,907	\$2,738	\$2,796	\$2,385	\$2,405
Machinery investment per cow	\$869	\$985	\$1,134	\$918	\$1,029
<u>Other</u>					
Price per cwt. milk sold	\$12.65	\$12.84	\$12.79	\$12.81	\$12.91

Table 58. FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
600 New York Dairy Farms, 1980

Item	Averages for:					
	47 Individuals		115 Partnerships		14 Corporations	
	1/1/80	1/1/81	1/1/80	1/1/81	1/1/80	1/1/81
CAPITAL INVESTMENT						
Livestock	\$ 94,546	\$108,472	\$127,363	\$144,681	\$182,128	\$206,930
Feed & supplies	23,003	26,750	31,622	38,476	67,895	83,050
Machinery & equipment	62,961	72,018	84,037	95,336	125,359	142,491
Land & buildings	171,372	185,755	213,368	238,084	361,268	380,067
TOTAL INVESTMENT	\$351,882	\$392,995	\$456,390	\$516,577	\$736,650	\$812,538
EXPENSES						
<u>Labor</u>						
Hired	\$ 11,295		\$ 11,012		\$ 30,253	
<u>Feed</u>						
Dairy concentrate	34,991		44,856		52,633	
Hay & other	1,408		1,863		1,138	
<u>Machinery</u>						
Machine hire	1,111		1,429		653	
Machinery repair	6,210		8,966		12,813	
Auto expense	405		430		533	
Gas & oil	5,259		7,657		11,171	
<u>Livestock</u>						
Replacement livestock	2,991		3,947		1,583	
Breeding fees	1,543		2,427		2,655	
Veterinary & medicine	2,415		3,211		4,086	
Milk marketing	3,442		4,705		5,837	
Other livestock expense	4,619		6,735		7,923	
<u>Crops</u>						
Fertilizer & lime	6,310		9,053		17,740	
Seeds & plants	1,912		2,820		5,375	
Spray & other	1,478		2,621		3,765	
<u>Real Estate</u>						
Land, bldg., fence repair	2,133		2,652		4,385	
Taxes	2,982		4,016		8,035	
Insurance	2,331		2,832		6,815	
Rent	1,818		2,921		3,702	
<u>Other</u>						
Telephone (farm share)	452		546		673	
Electricity (farm share)	2,372		2,991		4,842	
Interest paid	11,962		14,319		18,921	
Miscellaneous	1,759		2,068		4,753	
Total Cash Expenses	\$111,198		\$144,077		\$210,284	
Expansion livestock	1,942		1,090		860	
Machinery depreciation	10,096		13,649		16,973	
Building depreciation	4,032		5,029		11,555	
Unpaid labor (\$500/mo.)	2,000		1,000		500	
Interest on farm equity at 9 percent	23,409		32,761		54,283	
TOTAL FARM EXPENSES	\$152,677		\$197,606		\$294,455	

Table 58 FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
continued 600 New York Dairy Farms, 1980

Item	Averages for:		
	47 Individuals	115 Partnerships	14 Corporations
RECEIPTS			
Milk sales	\$125,991	\$170,911	\$264,341
Crop sales	1,510	2,297	4,379
Dairy cattle sold	10,233	13,842	19,638
Livestock sales	2,541	3,958	4,610
Gas tax refund	139	154	253
Government payments	422	431	372
Custom machine work	188	236	251
Miscellaneous	1,266	1,805	3,513
Total Cash Receipts	\$142,290	\$193,634	\$297,357
Increase in livestock	5,607	6,577	10,944
Increase in feed & supplies	3,747	6,854	15,155
Appreciation	21,652	30,140	39,488
TOTAL FARM RECEIPTS	\$173,296	\$237,205	\$362,944
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	\$151,644	\$207,065	\$323,456
FINANCIAL SUMMARY			
Total Cash Receipts	\$142,290	\$193,634	\$297,357
Total Cash Expenses	111,198	144,077	210,284
NET CASH FARM INCOME	\$ 31,092	\$ 49,557	\$ 87,073
Total Farm Receipts Excluding Appreciation	\$151,644	\$207,065	\$323,456
Total Farm Expenses	152,677	197,606	294,455
LABOR & MGMT. INCOME/FARM	-\$ 1,033	\$ 9,459	\$ 29,001
Number of Operators	(493) 1.05	(233) 2.03	(30) 2.14
LABOR & MGMT. INCOME/OPER	-\$ 993	\$ 4,706	\$ 14,010
BUSINESS FACTORS			
Worker equivalent	2.6	3.1	4.3
Number of cows	69	92	140
Number of heifers	51	71	104
Acres of hay crops	122	158	188
Acres of corn silage	55	71	106
Total tillable acres	226	305	431
Pounds of milk sold	982,800	1,334,200	2,094,400
Pounds of milk sold per cow	14,200	14,500	14,900
Tons hay crops per acre	2.4	2.5	3.0
Tons corn silage per acre	14.3	15.3	15.5
Cows per worker	27	30	32
Lbs. of milk sold per worker	380,900	433,100	483,600
% feed is of milk receipts	28%	26%	20%
Feed & crop expense/cwt. milk	\$4.55	\$4.45	\$3.80
Fertilizer & lime/crop acre	\$28	\$30	\$41
Machinery cost per cow	\$423	\$437	\$387
Average price/cwt. milk	\$12.82	\$12.81	\$12.62

Table 59. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1979 & 1980
Same 418 New York Dairy Farms

Item	Averages 1979		Averages 1980	
	1/1/79	1/1/80	1/1/79	1/1/80
<u>CAPITAL INVESTMENT</u>				
Livestock	\$ 79,441	\$102,301	\$101,964	\$117,134
Feed & supplies	22,233	26,396	26,370	30,615
Machinery & equipment	60,008	69,051	69,380	79,176
Land & buildings	164,923	183,009	185,788	201,312
TOTAL INVESTMENT	\$326,605	\$380,757 ^{1/}	\$383,502 ^{1/}	\$428,237
<u>EXPENSES</u>				
Hired Labor	\$ 9,996		\$ 11,873	
<u>Feed</u>				
Dairy concentrate	34,584		38,827	
Hay & other	1,070		1,186	
<u>Machinery</u>				
Machine hire	982		1,125	
Machinery repair	6,389		7,012	
Auto expense	416		392	
Gas & oil	4,378		5,845	
<u>Livestock</u>				
Purchased animals ^{2/}	4,872		2,886	
Breeding fees	1,559		1,758	
Veterinary & medicine	2,298		2,638	
Milk marketing	3,230		3,750	
Other livestock expense	4,458		4,955	
<u>Crops</u>				
Fertilizer & lime	6,345		6,986	
Seeds & plants	2,021		2,191	
Spray & other	1,662		1,836	
<u>Real Estate</u>				
Land, building, fence repair	2,199		2,341	
Taxes	2,906		3,353	
Insurance	2,089		2,450	
Rent	1,457		1,917	
<u>Other</u>				
Telephone (farm share)	473		481	
Electricity (farm share)	2,160		2,525	
Interest paid	10,205		12,703	
Miscellaneous	1,466		1,827	
Total Cash Expenses	\$107,215		\$120,857	
Expansion livestock ^{2/}			1,613	
Machinery depreciation	6,723		11,033	
Building depreciation	3,776		4,395	
Unpaid labor ^{3/}	1,350		1,500	
Interest on farm equity @ 9%	23,189		26,273	
TOTAL FARM EXPENSES	\$142,253		\$165,671	

1/ Operators often make adjustments in values "between" years.

2/ Purchased animals divided into two categories in 1980. Replacements as operating expense, expansion cattle as capital expense.

3/ Unpaid labor \$450 per month in 1979 and \$500 per month in 1980.

Table 59 COMPARISON OF FARM BUSINESS SUMMARIES FOR 1979 & 1980
continued Same 418 New York Dairy Farms

Item	Averages 1979	Averages 1980
<u>RECEIPTS</u>		
Milk sales	\$124,522	\$140,364
Crop sales	910	1,557
Dairy cattle sold	11,692	11,128
Livestock sales	3,206	2,959
Gas tax refund	135	144
Government payments	495	419
Work off farm	199	0
Custom machine work	119	149
Miscellaneous	1,188	1,410
Total Cash Receipts	\$142,466	\$158,130
Increase in livestock	4,290	5,502
Increase in feed & supplies	4,163	4,245
Appreciation	28,053	24,615
TOTAL FARM RECEIPTS	\$178,972	\$192,492
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	\$150,919	\$167,877
<u>FINANCIAL SUMMARY</u>		
Total Cash Receipts	\$142,466	\$158,130
Total Cash Expenses	107,215	120,857
NET CASH FARM INCOME	\$ 35,251	\$ 37,273
Total Farm Receipts Excluding Appreciation	\$150,919	\$167,877
Total Farm Expenses	142,253	165,671
LABOR & MGMT. INCOME PER FARM	\$ 8,666	\$ 2,206
Number of Operators	(516) 1.2	(516) 1.2
LABOR & MGMT. INCOME PER OPERATOR	\$ 7,222	\$ 1,793
<u>BUSINESS FACTORS</u>		
Worker equivalent	2.6	2.7
Number of cows	73	76
Number of heifers	52	57
Acres of hay crops	125	128
Acres of corn silage	62	61
Total tillable acres	217	243
Pounds of milk sold	1,046,900	1,097,100
Pounds of milk sold per cow	14,300	14,400
Tons hay crops per acre	2.7	2.5
Tons corn silage per acre	13.7	14.6
Cows per worker	28	28
Pounds of milk sold per worker	406,000	410,800
% feed is of milk receipts	28%	28%
Feed & crop expense per cwt. milk	\$4.26	\$4.54
Fertilizer & lime per tillable acre	\$29	\$29
Machinery cost per cow	\$338	\$422
Average price per cwt. milk	\$11.89	\$12.79

Table 60. SELECTED FARM BUSINESS SUMMARY FACTORS
New York Dairy Farms, Selected Years 1960-1980

Item	Year			
	1960	1965	1975	1980
Number of farms	467	673	605	600
<u>Financial Summary</u>				
Average capital invested	\$47,426	\$66,908	\$240,633	\$403,680
Total farm receipts	\$20,075	\$30,488	\$94,508	\$166,275
Total farm expenses*	\$14,768	\$21,995	\$90,016	\$164,319
Labor & mgmt. income/operator	\$3,317	\$4,680	\$3,703	\$1,565
<u>Size of Business</u>				
Number of cows	35	44	72	75
Pounds of milk sold	333,900	523,900	938,600	1,076,100
Tillable acres	96	123	217	246
Worker equivalent	1.7	1.8	2.4	2.7
Total work units	480	568	803	826
<u>Rates of Production</u>				
Milk sold per cow, lbs.	9,540	11,900	13,000	14,300
Tons hay crops per acre	2.3	2.1	2.6	2.5
Tons corn silage per acre	10	13	14	14.5
<u>Labor Efficiency</u>				
Cows per worker	21	24	30	28
Pounds milk sold per worker	196,400	291,100	387,900	403,000
Work units per worker	282	316	332	309
<u>Cost Control Factors</u>				
Machinery cost per cow	\$107	\$116	\$221	\$425
Machinery cost per cwt. milk	\$1.12	\$0.97	\$1.69	\$2.96
Feed bought per cow	\$124	\$154	\$312	\$497
Feed bought per cwt. milk	\$1.30	\$1.29	\$2.39	\$3.47
Feed & crop expense per cwt. milk	\$1.63	\$1.60	\$3.18	\$4.49
% feed is of milk receipts	28%	29%	28%	27%
<u>Capital Efficiency</u>				
Total investment per worker	\$28,674	\$38,250	\$102,566	\$159,730
Total investment per cow	\$1,393	\$1,560	\$3,447	\$5,540
Machinery investment per cow	\$287	\$335	\$617	\$1,015
Total investment per cwt. milk	\$15	\$13	\$26	\$40
<u>Other</u>				
Price per cwt. milk sold	\$4.64	\$4.41	\$8.65	\$12.81
Acres hay crops	64	81	120	131
Acres corn silage	15	20	59	60
Total tillable acres per cow	2.7	2.8	3.0	3.3
Fertilizer & lime exp./tillable acre	\$7	\$9	\$21	\$29
Net cash farm income per cow	\$170	\$117	\$276	\$479
Labor & mgmt. income per cow	\$102	\$106	\$62	\$342

* Includes interest paid, interest on equity capital, and building depreciation in 1975. Machinery depreciation was added to expenses in 1980. In earlier years, interest was charged on all capital and deducted from the net farm income and depreciation was included with inventory changes.

Table 61. BUSINESS SUMMARY OF FARMS WITH OVER 200 COWS
14 New York Dairy Farms, 1980

<u>CAPITAL INVESTMENT</u>		<u>RECEIPTS</u>	
	1/1/80	1/1/81	
Livestock	\$ 372,018	\$ 416,197	Milk sales \$498,398
Feed & supplies	97,936	116,604	Crop sales 10,742
Machinery & equip.	172,931	201,998	Dairy cattle sold 41,214
Land & buildings	585,968	637,930	Other livestock sales 10,342
			Gas tax refund 213
			Government payments 1,618
TOTAL INVESTMENT	\$1,228,853	\$1,372,729	Custom machine work 472
			Miscellaneous 7,638
			Total Cash Receipts \$570,637
<u>EXPENSES</u>			Increase in livestock 28,769
<u>Hired Labor</u>		\$ 69,281	Increase in feed & supplies 18,668
<u>Feed</u>			Appreciation 49,878
Dairy concentrate		116,113	TOTAL FARM RECEIPTS \$667,952
Hay & other		6,593	TOTAL FARM RECEIPTS
<u>Machinery</u>			EXCLUDING APPRECIATION \$618,074
Machine hire		3,784	
Machinery repair		23,219	<u>FINANCIAL SUMMARY</u>
Auto expense		654	Total Cash Receipts \$570,637
Gas & oil		19,639	Total Cash Expenses 422,257
<u>Livestock</u>			NET CASH FARM INCOME \$148,380
Replacement livestock		7,936	Total Farm Receipts
Breeding fees		6,709	Excluding Appreciation \$618,074
Veterinary & medicine		10,009	Total Farm Expenses 578,722
Milk marketing		10,579	LABOR & MGT. INCOME/FARM \$ 39,352
Other livestock expense		18,149	Number of operators (23) 1.64
<u>Crops</u>			LABOR & MGT. INCOME/OPER. \$ 24,291
Lime & fertilizer		26,545	
Seeds & plants		8,929	<u>BUSINESS FACTORS</u>
Spray & other		8,280	Worker equivalent 6.5
<u>Real Estate</u>			Number of cows 264
Land, building, fence repair		8,617	Number of heifers 198
Taxes		10,331	Acres of hay crops 249
Insurance		7,155	Acres of corn silage 215
Rent		7,315	Total tillable acres 681
<u>Other</u>			Lbs. of milk sold 3,951,700
Telephone (farm share)		1,110	Lbs. of milk sold per cow 14,900
Electricity (farm share)		7,131	Tons hay crops per acre 3.3
Interest paid		39,372	Tons corn silage per acre 16.0
Miscellaneous		4,807	Lbs. of milk sold/worker 607,900
Total Cash Expenses		\$422,257	Cows per worker 41
Expansion livestock		11,041	% feed is of milk receipts 23%
Machinery depreciation		35,159	Feed & crop exp./cwt. of milk \$4.05
Building depreciation		21,837	Fertilizer & lime/til. acre \$39
Unpaid labor		0	Machinery cost per cow \$376
Interest on farm equity @ 9%		88,428	Average price per cwt. milk \$12.61
TOTAL FARM EXPENSES		\$578,722	

Table 62.

FARM BUSINESS SUMMARY
36 New York Dairy-Cash Crop Farms,* 1980

<u>CAPITAL INVESTMENT</u>		<u>RECEIPTS</u>	
	<u>1/1/80</u>	<u>1/1/81</u>	
Livestock	\$134,356	\$145,693	Milk sales \$184,911
Feed & supplies	54,570	68,607	Crop sales 38,780
Machinery & equipment	115,845	132,031	Dairy cattle sold 19,160
Land & buildings	317,248	342,948	Other livestock sales 4,978
			Gas tax refund 401
			Government payments 486
TOTAL INVESTMENT	\$622,019	\$689,279	Custom machine work 2,978
			Miscellaneous 3,690
			Total Cash Receipts \$255,384
<u>EXPENSES</u>			Increase in livestock 5,580
Hired Labor		\$ 22,503	Increase in feed & supplies 14,037
Feed			Appreciation 27,024
Dairy concentrate		35,167	TOTAL FARM RECEIPTS \$302,025
Hay & other		794	TOTAL FARM RECEIPTS
Machinery			EXCLUDING APPRECIATION \$275,001
Machine hire		5,717	
Machinery repair		13,330	<u>FINANCIAL SUMMARY</u>
Auto expense		517	Total Cash Receipts \$255,384
Gas & oil		11,843	Total Cash Expenses 193,869
Livestock			NET CASH FARM INCOME \$ 61,515
Replacement livestock		7,978	Total Farm Receipts
Breeding fees		2,231	Excluding Appreciation \$275,001
Veterinary & medicine		4,080	Total Farm Expenses 265,823
Milk marketing		4,991	LABOR & MGT. INCOME/FARM \$ 9,178
Other livestock expense		6,473	Number of operators (54) 1.52
Crops			LABOR & MGT. INCOME/OPER. \$ 6,038
Fertilizer & lime		19,642	
Seeds & plants		6,668	<u>BUSINESS FACTORS</u>
Spray & other		5,237	Worker equivalent 3.5
Real Estate			Number of cows 100
Land, building, fence repair		4,204	Number of heifers 77
Taxes		5,689	Acres of hay crops 146
Insurance		4,282	Acres of corn silage 54
Rent		5,036	Total tillable acres 481
Other			Lbs. of milk sold 1,438,800
Telephone (farm share)		504	Lbs. of milk sold per cow 14,300
Electricity (farm share)		3,615	Tons hay crops per acre 3.3
Interest paid		20,605	Tons corn silage per acre 15.5
Miscellaneous		2,763	Cows per worker 29
Total Cash Expenses		\$193,869	Lbs. of milk sold/worker 411,000
Expansion livestock		1,502	% feed is of milk receipts 24%
Machinery depreciation		18,224	Feed & crop exp./cwt. of milk \$4.64
Building depreciation		7,475	Fertilizer & lime/til. acre \$41
Unpaid labor		500	Machinery cost per cow \$608
Interest on farm equity @ 9%		44,253	Average price per cwt. milk \$12.85
TOTAL FARM EXPENSES		\$265,823	

* Farms where crop sales amounted to ten percent or more of milk sales.

58 New York Dairy-Renter Farms,* 1980

<u>CAPITAL INVESTMENT</u>		<u>RECEIPTS</u>	
	<u>1/1/80</u>	<u>1/1/81</u>	
Livestock	\$ 85,378	\$101,936	Milk sales \$130,252
Feed & supplies	20,999	24,908	Crop sales 1,617
Machinery & equipment	51,166	62,383	Dairy cattle sold 10,243
Land & buildings	9,684	11,163	Other livestock sales 2,214
TOTAL INVESTMENT	\$167,227	\$200,390	Gas tax refund 116
			Government payments 213
			Custom machine work 265
			Miscellaneous 837
			Total Cash Receipts \$145,757
<u>EXPENSES</u>			Increase in livestock 10,366
Hired Labor	\$ 9,700		Increase in feed & supplies 3,909
Feed			Appreciation 10,205
Dairy concentrate		36,264	TOTAL FARM RECEIPTS \$170,237
Hay & other		2,838	TOTAL FARM RECEIPTS EXCLUDING APPRECIATION \$160,032
Machinery			
Machine hire		1,186	<u>FINANCIAL SUMMARY</u>
Machinery repair		5,206	Total Cash Receipts \$145,757
Auto expense		209	Total Cash Expenses 114,556
Gas & oil		5,597	NET CASH FARM INCOME \$ 31,201
Livestock			Total Farm Receipts
Replacement livestock		3,559	Excluding Appreciation \$160,032
Breeding fees		1,718	Total Farm Expenses 144,614
Veterinary & medicine		2,679	LABOR & MGT. INCOME/FARM \$ 15,418
Milk marketing		5,493	Number of operators (77) 1.32
Other livestock expense		5,653	LABOR & MGT. INCOME/OPER. \$ 11,680
Crops			<u>BUSINESS FACTORS</u>
Fertilizer & lime		6,060	Worker equivalent 2.4
Seeds & plants		1,791	Number of cows 68
Spray & other		1,808	Number of heifers 48
Real Estate			Acres of hay crops 110
Land, building, fence repair		1,591	Acres of corn silage 56
Taxes		924	Total tillable acres 193
Insurance		1,914	Lbs. of milk sold 1,000,900
Rent		9,536	Lbs. of milk sold per cow 14,700
Other			Tons hay crops per acre 2.6
Telephone (farm share)		377	Tons corn silage per acre 13.9
Electricity (farm share)		2,194	Cows per worker 28
Interest paid		6,444	Lbs. of milk sold/worker 413,500
Miscellaneous		1,815	% feed is of milk receipts 28%
Total Cash Expenses		\$114,556	Feed & crop exp./cwt. of milk \$4.59
Expansion livestock		6,311	Fertilizer & lime/til. acre \$31
Machinery depreciation		8,997	Machinery cost per cow \$387
Building depreciation		657	Average price per cwt. milk \$13.01
Unpaid labor		1,000	
Interest on farm equity @ 9%		13,093	
TOTAL FARM EXPENSES		\$144,614	

* A farm was classified as a renter if no real estate was owned or if all tillable land was rented.

Table 64. FARM BUSINESS SUMMARY
 Top Ten Percent Of The Farms By Labor & Management Income Per Operator
 60 New York Dairy Farms, 1980

<u>CAPITAL INVESTMENT</u>		<u>RECEIPTS</u>	
	<u>1/1/80</u>	<u>1/1/81</u>	
Livestock	\$162,831	\$188,066	Milk sales \$232,104
Feed & supplies	39,370	48,268	Crop sales 3,496
Machinery & equipment	90,101	105,656	Dairy cattle sold 20,267
Land & buildings	255,664	277,925	Other livestock sales 3,842
TOTAL INVESTMENT	\$547,966	\$619,915	Gas tax refund 231
			Government payments 665
			Custom machine work 387
			Miscellaneous 2,685
<u>EXPENSES</u>			Total Cash Receipts \$263,677
Hired Labor		\$ 24,751	Increase in livestock 15,543
Feed			Increase in feed & supplies 8,898
Dairy concentrate		55,097	Appreciation 29,046
Hay & other		1,979	TOTAL FARM RECEIPTS \$317,164
Machinery			TOTAL FARM RECEIPTS
Machine hire		1,305	EXCLUDING APPRECIATION \$288,118
Machinery repair		11,217	
Auto expense		480	<u>FINANCIAL SUMMARY</u>
Gas & oil		9,191	Total Cash Receipts \$263,677
Livestock			Total Cash Expenses 187,643
Replacement livestock		3,287	NET CASH FARM INCOME \$ 76,034
Breeding fees		2,549	Total Farm Receipts
Veterinary & medicine		4,233	Excluding Appreciation \$288,118
Milk marketing		5,709	Total Farm Expenses 250,030
Other livestock expense		7,459	LABOR & MGT. INCOME/FARM \$ 38,088
Crops			Number of operators (73) 1.22
Fertilizer & lime		12,932	LABOR & MGT. INCOME/OPER. \$ 31,220
Seeds & plants		3,892	
Spray & other		2,859	<u>BUSINESS FACTORS</u>
Real Estate			Worker equivalent 3.5
Land, building, fence repair		3,678	Number of cows 123
Taxes		4,930	Number of heifers 90
Insurance		3,638	Acres of hay crops 175
Rent		3,358	Acres of corn silage 99
Other			Total tillable acres 371
Telephone (farm share)		643	Lbs. of milk sold 1,836,000
Electricity (farm share)		3,646	Lbs. of milk sold per cow 14,900
Interest paid		18,203	Tons hay crops per acre 2.7
Miscellaneous		2,607	Tons corn silage per acre 14.9
Total Cash Expenses		\$187,643	Cows per worker 35
Expansion livestock		715	Lbs. of milk sold/worker 524,500
Machinery depreciation		15,678	% feed is of milk receipts 24%
Building depreciation		6,913	Feed & crop exp./cwt. of milk \$4.07
Unpaid labor		1,500	Fertilizer & lime/til. acre \$35
Interest on farm equity @ 9%		37,581	Machinery cost per cow \$380
TOTAL FARM EXPENSES		\$250,030	Average price per cwt. milk \$12.64

Table 65.

FARM BUSINESS SUMMARY
Average of 600 New York Dairy Farms, 1980

<u>CAPITAL INVESTMENT</u>			<u>RECEIPTS</u>	
	<u>1/1/80</u>	<u>1/1/81</u>		
Livestock	\$102,879	\$117,709	Milk sales	\$137,829
Feed & supplies	25,702	30,311	Crop sales	1,728
Machinery & equipment	68,457	78,131	Dairy cattle sold	11,144
Land & buildings	183,852	200,319	Livestock sales	2,860
			Gas tax refund	144
TOTAL INVESTMENT	\$380,890	\$426,470	Government payments	422
			Custom machine work	199
			Miscellaneous	1,422
			Total Cash Receipts	\$155,748
<u>EXPENSES</u>			Increase in livestock	5,918
Hired Labor		\$ 11,683	Increase in feed & supplies	4,609
Feed			Appreciation	23,695
Dairy concentrate		37,293	TOTAL FARM RECEIPTS	\$189,970
Hay & other		1,489	TOTAL FARM RECEIPTS	
Machinery			EXCLUDING APPRECIATION	\$166,275
Machine hire		1,161		
Machinery repair		6,892	<u>FINANCIAL SUMMARY</u>	
Auto expense		413	Total Cash Receipts	\$155,748
Gas & oil		5,856	Total Cash Expenses	119,808
Livestock			NET CASH FARM INCOME	\$ 35,940
Replacement livestock		3,141	Total Farm Receipts	
Breeding fees		1,738	Excluding Appreciation	\$166,275
Veterinary & medicine		2,606	Total Farm Expenses	164,319
Milk marketing		3,740	LABOR & MGT. INCOME/FARM	\$ 1,956
Other livestock expense		5,102	Number of operators (750)	1.25
Crops			LABOR & MGT. INCOME/OPER.	\$ 1,565
Lime & fertilizer		7,102		
Seeds & plants		2,167	<u>BUSINESS FACTORS</u>	
Spray & other		1,750	Worker equivalent	2.7
Real Estate			Number of cows	75
Land, building, fence repair		2,285	Number of heifers	56
Taxes		3,298	Acres of hay crops	131
Insurance		2,531	Acres of corn silage	60
Rent		2,074	Total tillable acres	246
Other			Lbs. of milk sold	1,076,100
Telephone (farm share)		475	Lbs. of milk sold per cow	14,300
Electricity (farm share)		2,548	Tons hay crops per acre	2.5
Interest paid		12,576	Tons corn silage per acre	14.5
Miscellaneous		1,888	Lbs. of milk sold/worker	403,000
Total Cash Expenses		\$119,808	Cows per worker	28
Expansion livestock		1,753	% feed is of milk receipts	27%
Machinery depreciation		10,938	Feed & crop exp./cwt. of milk	\$4.49
Building depreciation		4,398	Fertilizer & lime/til. acre	\$29
Unpaid labor		1,500	Machinery cost per cow	\$425
Interest on farm equity @ 9%		25,922	Average price per cwt. milk	\$12.81
TOTAL FARM EXPENSES		\$164,319		

Table 66.

FARM BUSINESS SUMMARY
Average Per Cow, 600 New York Dairy Farms, 1980

<u>CAPITAL INVESTMENT</u>		<u>RECEIPTS</u>		
	1/1/80	1/1/81		
Livestock	\$1,372	\$1,569	Milk sales	\$1,838
Feed & supplies	343	404	Crop sales	23
Machinery & equipment	913	1,042	Dairy cattle sold	149
Land & buildings	2,451	2,671	Livestock sales	37
			Gas tax refund	2
TOTAL INVESTMENT	\$5,079	\$5,686	Government payments	6
			Custom machine work	3
			Miscellaneous	19
			Total Cash Receipts	\$2,077
<u>EXPENSES</u>			Increase in livestock	79
Hired Labor		\$ 156	Increase in feed & supplies	61
Feed			Appreciation	316
Dairy concentrate		497	TOTAL FARM RECEIPTS	\$2,533
Hay & other		20	TOTAL FARM RECEIPTS	
Machinery			EXCLUDING APPRECIATION	\$2,217
Machine hire		15		
Machinery repair		92	<u>FINANCIAL SUMMARY</u>	
Auto expense		5	Total Cash Receipts	\$2,077
Gas & oil		78	Total Cash Expenses	1,597
Livestock			NET CASH FARM INCOME	\$ 480
Replacement livestock		42	Total Farm Receipts	
Breeding fees		23	Excluding Appreciation	\$2,217
Veterinary & medicine		35	Total Farm Expenses	2,191
Milk marketing		50	LABOR & MGT. INCOME/FARM	\$ 26
Other livestock expense		68	Number of operators (750)	1.25
Crops			LABOR & MGT. INCOME/OPER.	\$ 21
Lime & fertilizer		95		
Seeds & plants		29	<u>BUSINESS FACTORS</u>	
Spray & other		23	Worker equivalent	.036
Real Estate			Number of cows	(75)
Land, building, fence repair		30	Number of heifers	.7
Taxes		44	Acres of hay crops	1.7
Insurance		34	Acres of corn silage	.8
Rent		28	Total tillable acres	3.3
Other				
Telephone (farm share)		6	Lbs. milk sold	14,300
Electricity (farm share)		34	Tons hay crops	4.4
Interest paid		168	Tons corn silage	11.6
Miscellaneous		25	Feed & crop expense	\$664
			Lime & fertilizer	\$95
Total Cash Expenses		\$1,597	Machinery cost	\$337
Expansion livestock		23		
Machinery depreciation		146	Total debt	\$2,048
Building depreciation		59	Debt payment	\$414
Unpaid labor		20		
Interest on farm equity @ 9%		346		
TOTAL FARM EXPENSES		\$2,191		