DAIRY FARM MANAGEMENT

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BUSINESS SUMMARY

New York 1982

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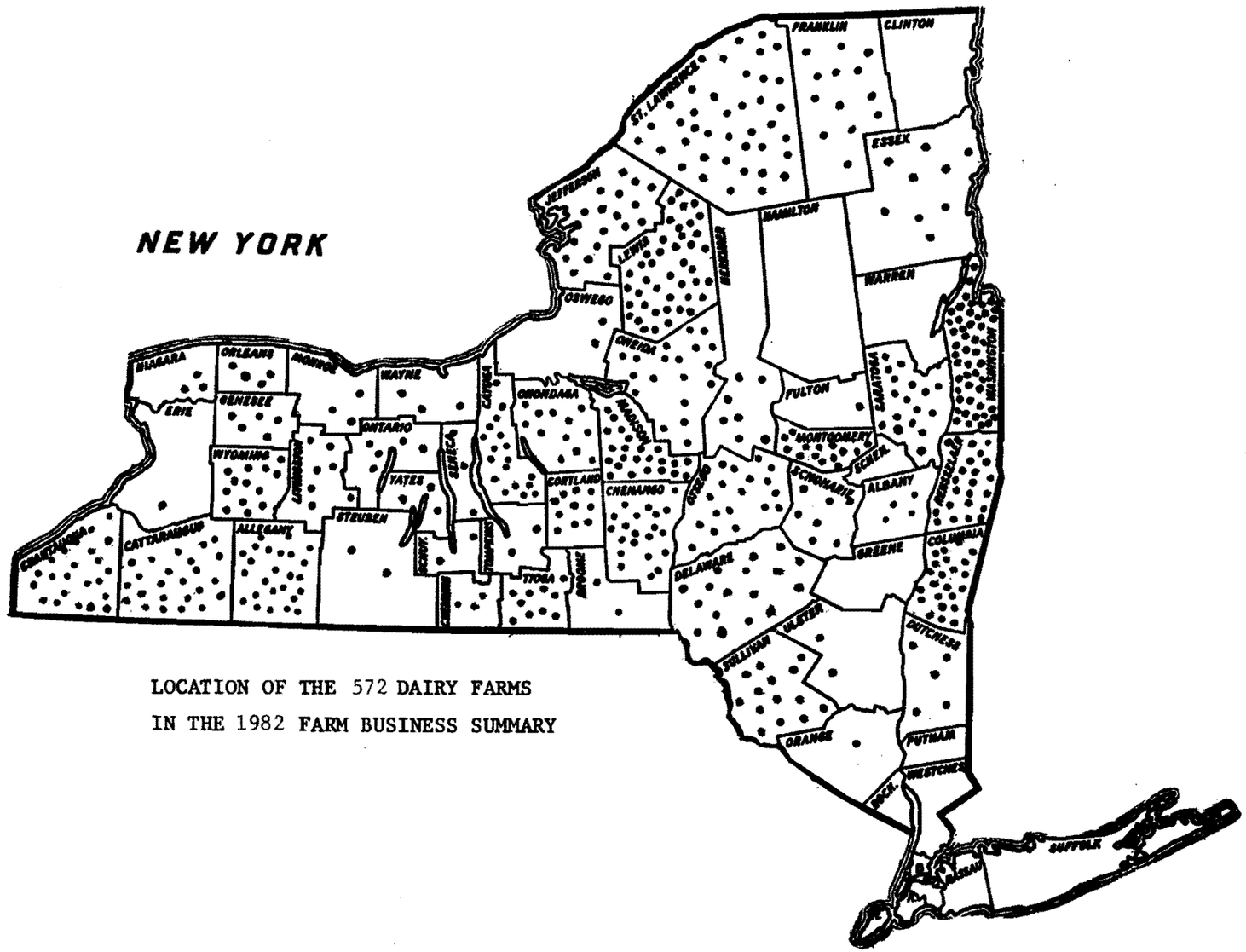


LOCATION OF THE 572 DAIRY FARMS
IN THE 1982 FARM BUSINESS SUMMARY

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 1982, more than 700 dairyfarmers participated in these management projects. The records submitted by dairyfarmers from 47 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 dairyfarmers, extension staff, teachers, and others concerned with the New York dairy industry.

A total of 572 farm business records have been included in the general dairy summary for 1982. 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 572 farms represent a cross section of better than average commercial dairy farm owner-operators in the state. Dairy farm renters, dairy-cash crop farmers, and part-time dairy operators have been excluded from the main body of this report and summarized separately in the back of the publication.

1982 Regional Summary Publications

Region	Publications	Author
Eastern Plateau Region and Southeastern New York	A.E. Ext. 83-7	Stuart F. Smith
Western Plateau Region	A.E. Ext. 83-8	Loren W. Tauer
Northern Hudson Region	A.E. Ext. 83-9	Stuart F. Smith
Eastern New York Dairy Farm Renters	A.E. Ext. 83-10	Stuart F. Smith and Linda D. Putnam
Oneida-Mohawk Region	A.E. Ext. 83-11	Eddy L. LaDue
Northern New York	A.E. Ext. 83-12	William F. Lazarus
Western Plain Region	A.E. Ext. 83-13	Wayne A. Knoblauch
Central New York	A.E. Ext. 83-14	Wayne A. Knoblauch
Central Plain Region	A.E. Ext. 83-15	Wayne A. Knoblauch
Columbia and Dutchess Counties	A.E. Ext. 83-16	Stuart F. Smith

Acknowledgement

The preparation of this report and the processing and organization of the data it contains has been successfully completed by the dedicated staff of The Farm Decision Network.

Inflation, appreciation, supply and demand all have a direct affect on the inventory values on New York dairy farms. Machinery and real estate prices have risen steadily during the past six years with machinery prices increasing more rapidly. Dairy cow prices have changed most dramatically as the demand for replacements jumped in 1978 and 1979 and weakened in 1981 and 1982.

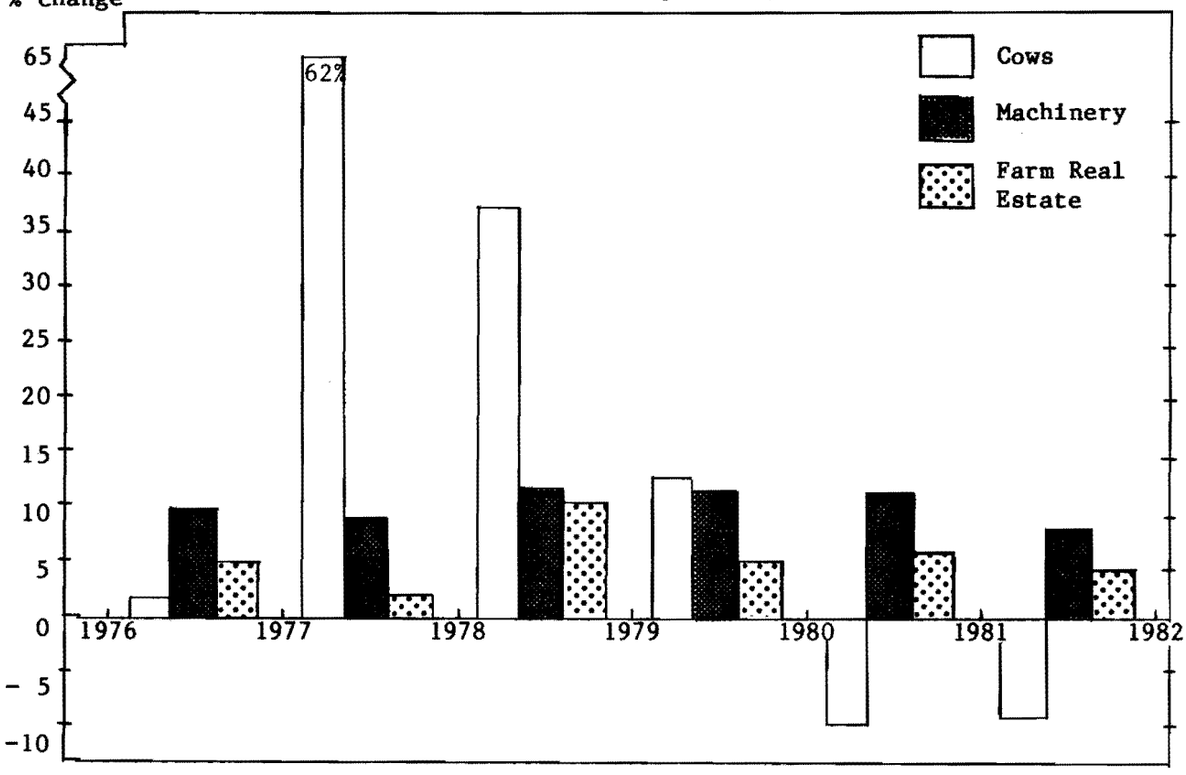
Table 1. UNIT VALUES OF NEW YORK DAIRY FARM INVENTORY ITEMS, 1976-1982

Year	New York Dairy Cows		Machinery*	N.Y. Farm Real Estate	
	Value/Head	1977=100	1977=100	Value/Acre	1977=100
1976	$ 485	98	91	$553	95
1977	495	100	100	587	100
1978	800	162	109	600	102
1979	1,105	223	122	670	113
1980	1,240	251	136	708	119
1981	1,120	226	152	749	126
1982	1,010	204	165	786	132

*Annual average for U.S.

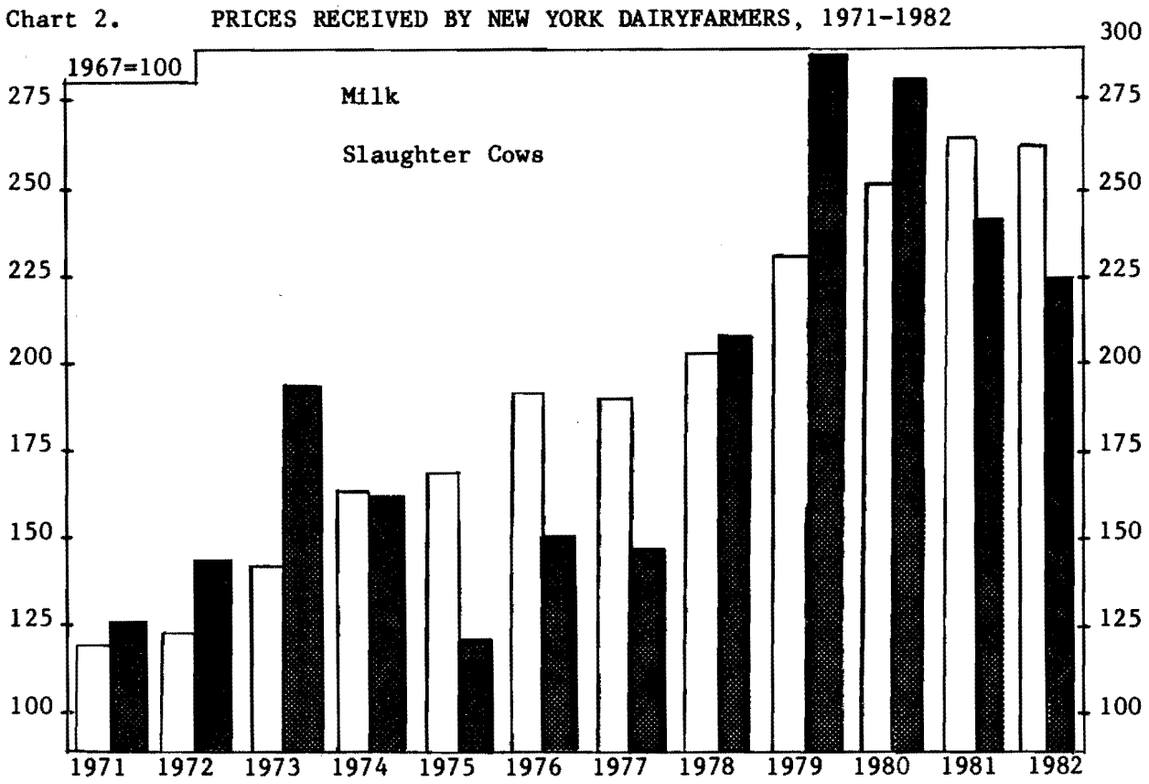
Table 1 shows New York year end (December) price received for dairy cows (replacements), an index of the same cow prices, an index of U.S. machinery prices, the average per acre value of New York farmland and buildings reported in April, and an index of the real estate prices.

Chart 1. ANNUAL CHANGES IN DAIRY COW, FARM MACHINERY, & FARM REAL ESTATE VALUES
New York Dairy Farms, 1976-1982



Source: USDA, Farm Real Estate Outlook & Situation Summary. USDA, Agricultural Prices.

Chart 2. PRICES RECEIVED BY NEW YORK DAIRYFARMERS, 1971-1982



The prices dairyfarmers receive for milk, cattle, and other commodities they sell have a major effect on dairy farm profits. Chart 2 shows what has happened to average milk and slaughter cow prices paid to New York farmers since 1971. Milk prices have increased at a more constant rate showing declines in 1977 and 1982. Slaughter cow prices have shown wide fluctuations over the period but have not moved in the same direction for more than four consecutive years; since 1979 prices have been declining.

Table 2. PRICES RECEIVED BY NEW YORK DAIRYFARMERS, 1970-1982

Year	All Milk (cwt.)	Slaughter Cows (cwt.)	Calves (cwt.)	Monthly Farm Price Per 100 Lbs. of Milk, 1982	
1970	$ 5.99	$20.70	$34.70	January	$13.80
1971	6.12	21.20	36.20	February	13.70
1972	6.33	24.50	44.80	March	13.50
1973	7.32	32.80	54.60	April	13.20
1974	8.35	27.10	40.80	May	12.90
				June	12.90
1975	8.71	20.60	26.20	July	13.30
1976	9.83	25.40	34.50	August	13.80
1977	9.75	25.00	37.50	September	14.00
1978	10.50	35.30	58.20	October	14.20
1979	11.90	49.80	88.80	November	14.20
				December	13.90
1980	13.00	46.30	78.00		
1981	13.80	41.30	66.20		
1982	13.70	38.60	58.80		

Source: USDA, Agricultural Prices Annual Summary.

Table 3. PRICES PAID BY FARMERS FOR SELECTED ITEMS, 1972-1982

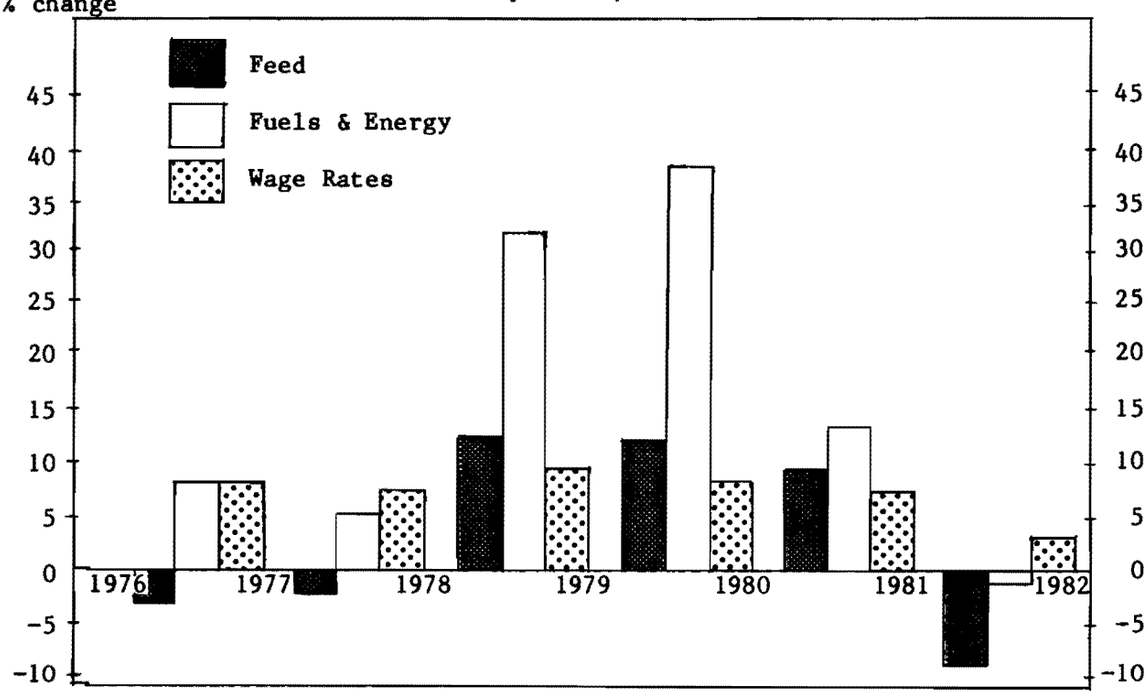
Year	Index 1977=100					
	Feed	Fert.	Fuel & Energy	Wage Rates	Taxes	Interest
1972	57	52	54	63	75	47
1973	86	56	57	69	77	55
1974	104	92	79	79	81	65
1975	100	120	88	85	87	77
1976	103	102	93	93	94	88
1977	100	100	100	100	100	100
1978	98	100	105	107	100	117
1979	110	108	137	117	107	143
1980	123	134	188	126	115	174
1981	134	144	213	137	123	211
1982	122	144	211	141	131	233

SOURCE: USDA Agricultural Prices

The prices dairyfarmers pay for a given quantity of goods and services has a major influence on farm production costs. The astute manager will keep close taps on unit costs and substitute the most economical goods and services for those that are too expensive.

Table 3 shows the unit cost indexes of selected goods and services used on New York dairy farms. The changes in feed prices, fuels and energy costs, and wage rates between years are illustrated in Chart 3.

Chart 3. ANNUAL CHANGES IN PRICES OF THREE MAJOR PRODUCTION ITEMS
U.S. Dairy Farms, 1976-1982



Fuel and energy costs have decreased for the first time in the last 10 years; feed costs decreased to below the 1980 level. Wage rates continue to increase.

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
572 New York Dairy Farms, 1982

Type of Business	Number	Percent
Sole Proprietorship	436	76
Partnership	123	22
Corporation	13	2
Barn Type		
Stanchion	352	62
Freestall	185	32
Other	35	6
Milking System		
Bucket & Carry	11	2
Dumping Station	96	17
Pipeline	274	48
Herringbone	172	30
Other Parlor	19	3

Business Records	Number	Percent
Account Book	231	40
Agrifax	140	24
CAMIS	81	14
Agway	37	6
Farm Bureau	14	3
On-Farm Computer	2	1
Other	67	12
Dairy Records		
D.H.I.C.	404	71
Owner Sampler	71	12
Other	37	7
None	60	10

Labor Force	My Farm	Average
Operator	_____	15 mo.
Family	_____	4 mo.
Family unpaid	_____	3 mo.
Hired	_____	12 mo.
Total months	_____	34 mo.
Operators (742)		1.30
Age	_____	42 yrs.
Education	_____	13 yrs.
Estimated value labor & mgmt.	$_____	$15,205

Land Used	My Farm	Average
Total acres:		
Owned	_____	321
Rented (445)	_____	129
Tillable acres:		
Rented (440)	_____	108
Total	_____	262
Number of Cows		
Beg. of year	_____	82
End of year	_____	86
Ave. for year	_____	82

The most typical dairy farm business was a sole proprietorship with stanchion barn, milk transfer system, computerized farm accounts, and DHIC records. There were 742 full-time operator equivalents on the 572 dairy farms for an average of 1.30 operators per farm. The operators averaged 42 years of age and 13 years of formal education.

All the 572 farm businesses summarized in the main body of this report own farm real estate. The dairy farm renters are summarized separately. However, 440 of the dairy farm owners rented an average of 108 acres of tillable land in 1982. The 572 farms averaged 262 total tillable acres per farm of which 83 acres were rented.

Farm Inventory Values

Table 5. CAPITAL INVESTMENT - FARM INVENTORY VALUES
572 New York Dairy Farms, 1982

Item	My Farm 1/1/82	My Farm 1/1/83	Average 572 Farms 1/1/82	Average 572 Farms 1/1/83
Livestock	$_____	$_____	$121,629	$122,296
Feed and supplies	_____	_____	32,561	32,969
Machinery and equipment	_____	_____	87,279	90,072
Land and buildings	_____	_____	219,444	229,101
TOTAL	$_____	$_____	$460,913	$474,438

The value of total farm inventories increased an average of $13,525 per farm or three percent during 1982. This is the smallest rate of growth that has occurred since 1962. From 1963 through 1981, farm inventory values increased at an average rate of nine percent.

The market value of livestock increased an average of only $667 per farm in 1982 for dairy cattle prices declined during the year. The change in inventory caused by the decline in cattle prices averaged $-5,681 per farm. If there had been no herd growth during the year, the livestock inventory would have dropped an average of $5,681 per farm. Herd growth is calculated in Table 6.

Table 6. CHANGES IN LIVESTOCK INVENTORY
572 New York Dairy Farms, 1982

Item	Average 572 Farms	
End of year market value inventory	$122,296	
Beginning of year market value inventory	-121,629	
Total Increase in Inventory		$ 667
End of year market value inventory	$122,296	
End of year inventory at beginning prices	-127,977	
Change Due To Price Decline (Appreciation)		5,681
Change Due To Physical Growth in Inventory		$6,348

The increase in livestock inventory caused by growth and maturity of the herd averaged $6,348 per farm. Approximately one-half of this amount can be attributed to the increase in dairy cow numbers owned from 82 to 85 head per farm. A 10 percent increase in the size of the youngstock herd accounts for a significant part of the inventory change.

Feed and supply inventories increased only one percent during 1982 after jumping at an annual rate of 19 percent over the period 1978-80. The increase was four percent in 1981.

Machinery and equipment and land and building inventory changes are examined on the following pages.

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 using the machinery complement in production and is based on the farmer's income tax depreciation. Appreciation is the change in machinery inventory caused by inflation. It is calculated as a residual in Table 7.

Table 7. CHANGES IN MACHINERY AND EQUIPMENT INVENTORY
572 New York Dairy Farms, 1982

Item	Average 572 Farms	
End of year market value		$90,072
Beginning of year market value	$87,279	
Plus machinery purchased	+13,001	
Less machinery sold	- 518	
Less depreciation	-13,534	
Net End Investment		$86,228
Appreciation		$ 3,844

The end of year market value of real estate is verified in Table 8 by starting with the beginning of year value, adjusting for purchases, sales, depreciation of buildings, and appreciation of land. Lost capital is the difference between the cost of new buildings and the amount these improvements added to the value of the farm. Lost capital is not included in farm expenses. Building depreciation is based on the full cost of new buildings and will account for lost capital over the life of the investments. Building depreciation is based on tax depreciation 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
572 New York Dairy Farms, 1982

Item		Average 572 Farms	
End of year market value			$229,101
Beginning of year market value		$219,444	
Plus cost of new real estate	$+13,204		
Less lost capital	- 2,629		
Value Added		+ 10,575	
Less depreciation	- 5,819		
Less real estate sold	- 185		
Value Deducted		- 6,004	
Net End Investment			224,015
Appreciation			$ 5,086

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
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms Per Farm	Average 572 Farms Per Cow	Percent
Milk sales	$_____	$164,196	$2,002	90
Crop sales	_____	1,709	21	1
Dairy cattle sold	_____	10,945	134	6
Other livestock sales	_____	2,331	28	2
Gas tax refunds	_____	144	2	-
Government payments	_____	515	6	-
Custom machine work	_____	221	3	-
Miscellaneous	_____	1,902	23	1
Total Cash Receipts	$_____	$181,963	$2,219	100
Increase in livestock inventory*	_____	6,348	77	
Increase in feed & supply inventory	_____	408	5	
Total Farm Receipts Excluding Appreciation	$_____	$188,719	$2,301	
Livestock appreciation	_____	- 5,681	- 69	
Machinery appreciation	_____	3,844	47	
Real estate appreciation	_____	5,086	62	
Total Farm Receipts	$_____	$191,968	$2,341	

*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 1982. 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
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms	Top 10%*
Average price per cwt. milk sold	$_____	$13.56	$13.69
Milk sales per cow	$_____	$2,002	$2,159
Milk and cattle sales per cow	$_____	$2,164	$2,328
Total cash receipts per worker	$_____	$64,298	$85,339

*Fifty-seven farms with the highest labor and management income per operator.

The average price received for milk sold on all the farms was $13.56 per hundredweight in 1982, $.10 below the 1981 average. This is the first year the average price received for milk has declined since 1977. From 1978 to 1981 the average price increased $3.90 per hundredweight. Milk sales averaged $2,002 per cow in 1982 compared to $1,975 in 1981.

The average or mean 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 572 farms was $13.56 but there was considerable variation among the individual farms. The variation in average price received and the distribution of farms around the mean is shown below.

VARIATION IN AVERAGE MILK PRICE

Average Price Received For Milk	Number of Farms	Percent of Farms
Below $12.50	21	4
$12.50 to 12.99	68	12
13.00 to 13.49	223	39
13.50 to 13.99	145	25
14.00 to 14.49	65	11
14.50 to 14.99	32	6
15.00 and over	18	3
Total	572	100

Sixty-four percent of the farms received from $13.00 to $13.99 per hundredweight of milk sold. Twenty percent of the farms received $14.00 or more per hundredweight while only 16 percent received less than $13.00 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 572 farms in 1982 is shown below.

DISTRIBUTION OF FARMS BY TOTAL FARM RECEIPTS

Total Farm Receipts	Farms	
	Number	Percent
Under $ 50,000	11	2
$ 50,000 to 99,999	120	21
100,000 to 149,999	143	25
150,000 to 199,999	117	20
200,000 to 249,999	67	12
250,000 to 299,999	27	5
300,000 to 349,999	25	4
350,000 to 399,999	19	3
400,000 and over	43	8
Total	572	100

Almost one-half of the 572 farms had total farm receipts of less than $150,000 but only two percent fell below $50,000. The remaining 298 farms had total receipts ranging from $150,000 to over $400,000 in 1982.

Expenses

Total cash farm expenses for the 572 farms averaged $400 per day or $4.87 per cow per day. Total farm expenses averaged more than $500 per day. The average expenses per farm and per cow for each item are shown below.

Table 11. FARM EXPENSES
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms Per Farm	Per Cow	Percent
Hired Labor	$_____	$ 15,660	$ 191	11
Feed				
Dairy grain & concentrate	_____	39,530	482	27
Hay & other feed	_____	1,653	20	1
Machinery				
Machine hire, rent, & lease	_____	1,430	17	1
Machinery repairs	_____	8,433	103	6
Auto expense (farm share)	_____	467	6	<1
Gas & oil	_____	7,085	86	5
Livestock				
Replacement livestock	_____	2,248	27	2
Breeding fees	_____	2,305	28	2
Veterinary & medicine	_____	3,486	43	2
Milk marketing	_____	6,066	74	4
Cattle lease	_____	139	2	<1
Other livestock expense	_____	6,176	75	4
Crops				
Fertilizer & lime	_____	8,588	105	6
Seeds & plants	_____	2,838	35	2
Spray & other crop expense	_____	2,187	27	1
Real Estate				
Land, building, fence repair	_____	2,560	31	2
Taxes	_____	4,154	51	3
Insurance	_____	2,734	33	2
Rent/lease	_____	2,881	35	2
Other				
Telephone (farm share)	_____	613	7	<1
Electricity (farm share)	_____	3,605	44	2
Interest paid	_____	18,650	227	13
Miscellaneous	_____	2,346	29	2
Total Cash Expenses	$_____	$145,834	$1,778	100
Expansion livestock	_____	2,079	26	
Machinery depreciation	_____	13,534	165	
Building depreciation	_____	5,819	71	
* Unpaid labor	_____	1,638	20	
TOTAL FARM EXPENSES EXCLUDING INTEREST ON EQUITY CAPITAL	$_____	$168,904	$2,060	
Interest on equity capital @ 5%	_____	15,329	187	
TOTAL FARM EXPENSES	$_____	$184,233	$2,247	

The farm expense categories used in Table 11 on page 10 are nearly identical to those used to summarize New York dairy farms for many years. Please note the following additions and revisions have been made in 1983 to improve the accuracy of data presented.

The lease and rental fees dairy farms pay for machinery, dairy cattle, and farm structures are included as cash operating expenses. Farm machinery lease and rental fees are included in Machinery hire, rent and lease. A new livestock expense category, Cattle lease, has been added. Lease payments for farm buildings and structures fall under real estate Rent/lease.

Interest on equity capital has been changed to five percent. This real rate of interest represents the long term average rate of return that a farmer could expect to earn on investments with comparable risks to farming, in an economy with little or no inflation. Since labor and management income is now computed by excluding the effects of inflation on farm assets, the real rate of interest has been used to determine the opportunity cost of using equity capital.

Following are explanations of other expense classifications that may differ from those used in other states and by other organizations summarizing farm records.

Replacement livestock purchased are included as cash operating expenses which is consistent with including the costs of raising replacement cattle as cash operating expenses. The purchase of cattle that increase herd size are classified as expansion livestock and are included as capital expenses. The value added to the herd as a result of adding expansion livestock is included under increase in livestock inventory, Table 9, page 8.

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.

Changes in farm inventory values caused by fluctuations in market prices are categorized as livestock appreciation, machinery appreciation, and real estate appreciation in Table 9, Farm Receipts on page 8. A substantial drop in price will cause depreciation and is accounted for as a negative appreciation value in Table 9. Therefore, both inflationary and deflationary price changes that affect the value of farm inventories are reflected in farm receipts.

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
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms Per Farm	Average 572 Farms Per Cow
Cash Farm Receipts	$_____	$181,963	$2,219
Cash Farm Expenses	_____	145,834	1,778
NET CASH FARM INCOME	$_____	$ 36,129	$ 441

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, MANAGEMENT, AND OWNERSHIP INCOME
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms Per Farm	Average 572 Farms Per Cow
Total Farm Receipts	$_____	$191,968	$2,341
Total Farm Expenses Excluding Interest on Equity Capital	_____	168,904	2,060
LABOR, MANAGEMENT & OWNERSHIP INCOME PER FARM	$_____	$ 23,064*	$ 281
Number of Operators	_____	1.30	1.30
LABOR, MANAGEMENT & OWNERSHIP INCOME PER OPERATOR	$_____	$ 17,742	$ 216

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 $17,742 in 1982.

* plus unpaid family labor @ $1638 (p. 10) ⇒ 24702

Labor and management income measures the return the operator earns for his or her efforts in operating and managing the business. Return to ownership has been excluded by including a five percent charge for the use of equity capital in farm expenses, and excluding appreciation of farm inventories from farm receipts. Appreciation is included as a return to ownership in Table 13 on page 12.

Table 14. LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms	
		Per Farm	Per Cow
Total Farm Receipts Excluding Appreciation	$_____	$188,719	$2,301
Total Farm Expenses	_____	184,233	2,247
LABOR & MANGEMENT INCOME	$_____	$ 4,486	$ 54
Number of operators per farm	_____	1.30	1.30
LABOR & MANAGEMENT INCOME PER OPERATOR	$_____	$ 3,451	$ 42

Labor and management income per operator averaged $3,451 on these 572 dairy farms in 1982. There were 742 operators on the 572 farms for an average of 1.30 operators per farm.

The range in labor and management income per operator was from less than -$50,000 to more than $40,000. Returns to labor and management were negative on more than 40 percent of the farms. Labor and management income per operator ranged from $0 to $19,999 on 41 percent of the farms while only 15 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	11	2
-$50,000 to - 40,001	4	1
- 40,000 to - 30,001	8	1
- 30,000 to - 20,001	33	6
- 20,000 to - 10,001	62	11
- 10,000 to - 1	136	24
0 to 9,999	152	27
10,000 to 19,999	82	14
20,000 to 29,999	50	9
30,000 to 39,999	18	3
40,000 or more	16	3

Return on equity capital can be computed with or without appreciation. To calculate return on equity capital the estimated value of operator's labor and management is deducted from labor, management, and ownership income. The average estimate made by the 742 operators was $15,499 per operator. This is somewhat less than the value determined by using $750 per month for the labor plus a management fee based on five percent of the cash receipts per operator ($9,000 + $9,098 = $18,098). The value used in Table 15 is the operators' estimates times the number of operators per farm ($15,499 x 1.3 = $20,149).

Table 15. RETURN ON EQUITY CAPITAL
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms
	Including Appreciation	
Labor, Management, & Ownership Income (pg. 12)	$_____	$ 23,064
Value of Operator's Labor & Management (pg. 5)	_____	20,149
RETURN ON EQUITY CAPITAL	$_____	$ 2,915
Amount of Equity Capital	$_____	$306,589
RATE OF RETURN ON EQUITY CAPITAL	_____%	1.0%
	Excluding Appreciation	
Return on Equity Capital (from above)	$_____	$ 2,915
Less Appreciation	_____	3,249
RETURN ON EQUITY CAPITAL	$_____	$ -334
Amount of Equity Capital	$_____	$306,589
RATE OF RETURN ON EQUITY CAPITAL	_____%	-0.1%

The return to equity capital is divided by the farm net worth to determine the rate of return on equity capital. To compute return on equity capital excluding appreciation, appreciation is deducted from ownership income. The rate of return on all capital can be computed by adding interest paid to the return and dividing by total farm assets. It averaged 4.3 percent on these farms in 1982.

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.

Returns To All Labor and Management	
Labor & management income per farm	$ 4,486
Cost of hired labor	15,660
Value of unpaid labor	1,638
Total Returns to Labor & Management	$21,784
Average worker equivalent	2.83
Returns per worker equivalent	$ 7,698
Returns per hour (3,000 hours/worker/year)	$ 2.57

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
572 New York Dairy Farms, January 1, 1983

Item	My Farm	Average 572 Farms Amount	Average 572 Farms Percent
Assets			
Livestock	$_____	$122,416	23
(includes discounted lease payments)		(120)	
Feed & supplies	_____	32,969	6
Machinery & equipment	_____	90,428	17
(includes discounted lease payments)		(356)	
Land & buildings	_____	231,333	44
(includes discounted lease payments)		(2,232)	
Co-op investment	_____	6,937	1
Accounts receivable	_____	14,363	3
Cash & checking accounts	_____	2,570	1
Total Farm Assets	$_____	$501,016	95
Savings accounts	$_____	$ 2,817	1
Cash value life insurance	_____	2,519	1
Stocks & bonds	_____	2,574	1
Nonfarm real estate	_____	5,443	1
Auto (personal share)	_____	1,589	<1
All other	_____	6,409	1
Total Nonfarm Assets	$_____	$ 21,351	100
TOTAL ASSETS	$_____	$522,367	
Liabilities			
Long term	$_____	$109,998	56
Intermediate	_____	71,347	37
Financial lease	_____	2,708	1
Short term	_____	5,095	3
Other farm accounts	_____	5,279	3
Total Farm Liabilities	$_____	$194,427	100
Nonfarm Liabilities	_____	522	
TOTAL LIABILITIES	$_____	$194,949	
Farm Net Worth (equity capital)	$_____	$306,589	
Family Net Worth	$_____	$327,418	

Total farm assets accounted for 95 percent of the total assets. Long term loans were the largest liability and accounted for 56 percent of all debts. Intermediate debt accounted for 37 percent of all liabilities.

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 1982 income is compared with debt service planned for 1983 in Table 17.

Table 17. DEBT PAYMENT CAPACITY AND SCHEDULED COMMITMENTS
572 New York Dairy Farms, January 1, 1983

Item	My Farm	Average 572 Farms Per Farm	Average 572 Farms Per Cow[1]
Net cash farm income	$_____	$36,129	$420
Interest paid	_____	18,650	217
Off-farm income	_____	1,260	15
CASH AVAIL. FOR DEBT PYMT. & LIVING	$_____	$56,039	$652
Estimated family living expense[2]	_____	20,538	239
CASH AVAIL. FOR DEBT PYMT. & CAP. PURCH.	$_____	$35,501	$413
Debt payments planned	$_____	$40,810	$475
Debt pymts. planned as % of milk sales	_____%	25%	
Cash flow coverage ratio	_____	0.87	

[1]Based on 86 end of year cows per farm.
[2]Calculated at $10,200 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 as indicated. Subtracting 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, 1983. 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. A ratio of less than 1.0 indicates that on the average these farmers will not be able to meet their 1983 repayment schedules.

Table 18. MEASURES OF DEBT STRUCTURE
572 New York Dairy Farms, January 1, 1983

Measure	My Farm	Average 572 Farms
Percent equity	_____	63%
Debt/asset ratio - long term	_____	0.48
Debt/asset ratio - intermediate and short term	_____	0.29
Debt per cow	_____	$2,261

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 long term 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.

The Farm Finance Checklist is designed to help focus on financial management practices in use by all 572 New York dairyfarmers as compared to those used on the most profitable farms in 1982.

Table 19. A FARM FINANCE CHECKLIST
572 New York Dairy Farms, 1982

	My Farm	1982 Ave. 572 New York Farms	1982 Ave. Top 10% Farms[1]
A. How farm assets are being used:			
1. Total inventory (capital) per cow	$_____	$5,517	$5,076
2. Farm assets in livestock	_____%	24%	28%
3. Farm assets in farm real estate	_____%	46%	42%
4. Farm assets in machinery	_____%	18%	15%
5. Farm assets in cash & checking accts.	_____%	<1%	<1%
B. Characteristics of the debt structure:			
1. Long term debt as % of total	_____%	56%	53%
2. Intermediate term debt as % of total	_____%	37%	38%
3. Short term debt as % of total	_____%	3%	6%
C. Measures of debt capacity:			
1. Equity in the business	_____%	63%	63%
2. Farm debt per cow	$_____	$2,261	$2,047
3. Long term debt/asset ratio[2]	_____	0.48	0.48
4. Intermediate debt/asset ratio[2]	_____	0.29	0.29
D. Debt repayment ability:			
1. Cash flow coverage ratio[3]	$_____	0.87	1.30
2. Scheduled debt payments per cow	$_____	$471	$447
3. Scheduled debt payments as % of milk check	_____%	25%	22%
E. Indicators of annual financial progress:		Average of same 402 Farms 1981 and 1982	
		Amount	Percent
1. Annual change in farm assets	$_____	+ $15,647	+ 3%
2. Annual change in farm debts	$_____	+ $13,079	+ 7%
3. Annual change in farm net worth	$_____	+ $ 2,568	+ 1%

[1]Fifty-seven farms with highest returns to labor and management per operator.

[2]Long or intermediate debt divided by long or intermediate assets.

[3]Estimated amount available for debt service divided by planned debt payments.

The most profitable farms carried $214 less debt per cow and a greater ability to make 1983 debt payments although their equity in their business was equal to that of the average.

Farm debt grew faster than farm assets between 1981 and 1982 and net worth increased less than the annual rate of inflation.

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 1982 averages of selected measures for these factors for the 572 farms, and the average for the 10 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 show 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
572 New York Dairy Farms, 1982

Measure	My Farm	Average 572 Farms	Average Top 10% Farms
Number of cows	_____	82	140
Number of heifers	_____	67	117
Worker equivalent	_____	2.83	3.92
Total tillable acres	_____	262	384
Pounds of milk sold	_____	1,210,500	2,207,500
Total work units	_____	917	1,537
Total cash receipts	$_____	$181,963	$334,527
Total investment (end inventory)	$_____	$474,438	$746,176

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 1982 year. It includes cropland pasture and idle 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 10 hours of work.

The relationship of business size to farm business profits can be observed in Tables 21 and 22. Farm size is measured by number of cows. In general, the larger the businesses, the higher the level of farm incomes. 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
572 New York Dairy Farms, 1982

Number of Cows	Ave. Number of Cows	Number of Farms	Percent of Farms	Labor & Mgmt. Income Per Operator
Under 40	34	76	13	$ 812
40 to 54	47	128	22	-19
55 to 69	61	107	19	3,225
70 to 84	76	82	14	3,064
85 to 99	90	52	9	2,152
100 to 149	120	69	12	4,073
150 to 199	169	33	6	-3,577
200 to 249	230	15	3	27,218
250 & over	363	10	2	45,479

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 250 and more in 1982, labor and management income increased from $812 per operator to more than $45,470.

There is a strong relationship between size and farm income when net cash farm income and labor, management, and ownership income are compared with cows per farm. Net cash farm income increased 1,000 percent while labor, management, and ownership income per operator jumped $104,000 as herd size increased from less than 40 to over 250 cows per farm.

Table 22. FARM SIZE AND FARM INCOME MEASURES
572 New York Dairy Farms, 1982

Number of Cows	Number of Farms	Worker Equivalent	Net Cash Farm Income	Labor, Management & Ownership Income Per Operator
Under 40	76	1.67	$14,161	$ 7,761
40 to 54	128	2.00	19,161	8,473
55 to 69	107	2.42	30,158	16,812
70 to 84	82	2.75	34,175	17,113
85 to 99	52	3.08	40,094	13,551
100 to 149	69	3.67	52,107	20,218
150 to 199	33	4.83	67,533	18,652
200 to 249	15	6.25	108,428	58,346
250 & over	10	8.75	157,116	112,201

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
572 New York Dairy Farms, 1982

Item	My Farm Acres	My Farm Yield	572 Farms Farms Reporting	572 Farms Average* Acres	572 Farms Average* Yield	Ave. Yield Top 10% Farms
Milk sold per cow (lbs.)	_____	_____	572		14,762	15,768
All hay crops (tons dry matter/acre)	_____	_____	571	135	2.6	2.9
Corn silage (tons/acre)	_____	_____	526	70	14.0	15.5
All forage crops (tons dry matter/acre)	_____	_____	572	202	3.2	3.8
Grain corn (bu./acre)	_____	_____	287	68	94	100
Oats (bu. per acre)	_____	_____	120	27	56	60
Wheat (bu. per acre)	_____	_____	24	29	39	49

*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, hay crops, and other forage and dividing by total forage crop acres.

Farms with higher rates of production tend to have higher profits. In 1982, the farms that sold more than 15,000 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
572 New York Dairy Farms, 1982

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Labor & Mgmt. Income/Oper.	Labor, Mgmt., & Ownership Income/Operator
Under 11,000	52	53	$-6,028	$-1,924
11,000 to 11,999	27	55	-3,637	5,492
12,000 to 12,999	50	74	-4,893	7,908
13,000 to 13,999	88	88	348	15,624
14,000 to 14,999	109	86	2,475	15,311
15,000 to 15,999	117	87	6,453	22,074
16,000 to 16,999	64	88	10,715	26,851
17,000 to 17,999	43	97	7,024	26,668
18,000 & over	22	91	22,966	49,864

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
572 New York Dairy Farms, 1982

Measure	My Farm	Average 572 Farms	Average Top 10% Farms
Number of cows per worker	_____	29	36
Pounds of milk sold per worker	_____	427,739	563,138
Work units per worker	_____	324	392
Tillable acres per worker	_____	93	98

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 decile of farms with the highest labor and management income per operator were considerably above the average of all 572 farms in the four measures of labor efficiency. The top 10 percent sold 32 percent more milk per worker than the average of all farms.

The relationship of labor efficiency to labor, management, and ownership income was very positive on the 572 farms. The higher output per worker was achieved by more and better cows.

Table 26. MILK SOLD PER WORKER AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

Pounds of Milk Sold Per Worker	Number of Farms	Number of Cows	Lbs. Milk Per Cow	Labor & Mgmt. Income Per Operator	Labor, Mgmt., & Ownership Income Per Operator
Under 250,000	73	43	11,553	$-3,985	$ 2,967
250,000 to 299,999	55	54	13,296	-4,001	3,414
300,000 to 349,999	60	59	13,854	-957	10,220
350,000 to 399,999	92	73	14,625	2,010	13,878
400,000 to 449,000	101	77	15,090	3,319	18,200
450,000 to 499,999	68	98	14,979	2,949	21,393
500,000 to 599,999	86	111	15,317	7,271	23,823
600,000 & over	37	180	15,917	31,180	65,277

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 $474,438 per farm on the 572 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
572 New York Dairy Farms, 1982

Measure	My Farm	Average 572 Farms	Average Top 10% Farms
Total capital per worker	$_____	$167,646	$190,351
Total capital per cow	$_____	$5,517	$5,076
Total capital per cwt. milk sold	$_____	$39	$34
Machinery & equipment per cow	$_____	$1,047	$831
Land & building inventory per cow	$_____	$2,664	$2,280
Land & building inventory per tillable acre owned	$_____	$1,280	$1,414
Capital turnover, years	_____	2.5	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, dairyfarmers should aim for a capital turnover of 2.5 years or less.

Table 28. CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

Capital Turnover Rate - Years	Number of Farms	Number of Cows	Capital Investment Per Cow	Capital Investment Per Worker	Labor & Mgmt. Income Per Operator
less than 1.5	11	112	$3,293	$ 97,431	$ 23,365
1.5 to 1.99	74	124	4,513	152,003	20,036
2.0 to 2.49	173	90	5,126	165,015	3,603
2.5 to 2.99	157	71	5,993	171,893	-662
3.0 to 3.49	90	70	6,602	184,237	-1,843
3.5 & over	67	54	7,551	181,486	-4,766

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 grain and concentrates accounted for 27 percent of all cash operating expenses on the 572 dairy farms in 1982.

Dairy feed costs must be analyzed by examining the entire feed and forage program. 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
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms	Average Top 10% Farms
Dairy grain & conc. bought per cow	$_____	$482	$511
Crop expense per cow	$_____	$166	$168
Grain & conc. bought per cwt. milk	$_____	$3.27	$3.24
Feed & crop expense per cwt. milk	$_____	$4.53	$4.43
Grain & concentrate purchased as percent of milk sales	_____%	24%	24%
Forage dry matter harvested per cow	_____T	7.9T	8.4T
Tillable acres per cow	_____	3.2	2.7
Fertilizer & lime per crop acre	$_____	$33	$39
Heifers as percent of cow numbers	_____%	82%	84%

The average cost of grain and concentrate bought per cow in 1982 was $482 while in 1981 it was $508. The percent that grain and concentrate is of milk sales was 24 percent in 1982, down two percent from 1981.

Feed and crop expenses per hundredweight of milk sold include grains and concentrates purchased, hay, silage, and all other feeds purchased; fertilizer, lime, seeds, and all other crop supplies.

The 1982 forage crop supply was up one percent from 1981. Dry matter produced per cow was 7.9 tons from 2.5 acres in 1982. In 1981, 7.8 tons of forage dry matter were produced from 2.4 acres. The ratio of heifers to cows has increased substantially on these farms. There were 82 percent as many heifers as cows in 1982 and only 75 percent in 1981. The variability of this ratio between years and farms has an important affect on feed cost analysis.

The 57 farms with highest labor and management incomes spent more on dairy feed per cow, but combined feed and crop expense were 10¢ 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 grains and concentrates at reasonable prices and to balance nutrients fed with energy and protein requirements.

Dairy grain and concentrate bought per cow is calculated by dividing the total expenses for dairy grains and concentrates purchased 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, it includes all feeds purchased on the farm, and it includes crop expenses that are associated with feed production.

Grain and concentrate purchased as percent of milk sales 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.

Forage dry matter harvested 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. It is a measure of the forage supply available for a 12 month feeding season.

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
572 New York Dairy Farms, 1982

% Feed is of Milk	Number of Farms	Number of Cows	Forage Dry Matter Harvested Per Cow	Lbs. Milk Per Cow	Labor & Management Income Per Operator
Over 40%	19	55	7.3	14,411	$-1,591
35 to 39	48	69	7.2	13,875	-4,541
30 to 34	110	77	7.7	14,470	2,700
25 to 29	129	83	7.7	15,069	5,530
20 to 24	109	93	8.2	14,878	6,489
Under 20%	157	85	8.2	14,738	3,031

Generally, the lower the percent of the milk check going for purchased feed, the higher the income. The 1982 data shows that it is possible to spend too little as well as too much on purchased dairy feed. Farmers spending between 20 and 30 percent of their milk receipts for purchased feed in 1982 appear to be practicing effective feed cost control.

Machinery Costs

Machinery accounted for 19 percent of the year-end farm inventory on these 572 farms and the new purchases averaged $13,001 per farm in 1982. The cost of owning and operating machinery accounted for one-fifth of the total farm expenses.

Table 31. MACHINERY COSTS
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms Amount	Average 572 Farms Percent	Average Top 10% Farms
Depreciation (from page 7)	$_____	$13,534	38	$19,531
Interest @ 5% on average inventory	_____	4,434	13	5,888
Machine hire	_____	1,430	4	3,285
Machinery repairs	_____	8,433	24	14,686
Auto expense (farm share)	_____	467	1	451
Gas & oil	_____	7,085	20	11,466
Total Machinery Costs	$_____	$35,383	100	$55,307
Machinery cost:				
per cow	$_____	$432		$395
per hundredweight of milk sold	$_____	$2.92		$2.51

Depreciation accounted for 38 percent of the total machinery costs and interest 13 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 decreased four percent per cow in 1982 following increases of 15, 28, and 33 percent in 1981, 1980, and 1979. In 1982 machinery costs averaged $432 per cow, compared to $465 in 1981 and $425 in 1980.

There is a negative relationship between machinery costs and returns to labor and management when machinery costs per cow exceed $500. As machinery cost per cow increased, labor costs per cow also increased. This indicates that if substitution of machinery for labor is occurring on these farms, major cost savings are not apparent.

Table 32. MACHINERY COST PER COW AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

Machinery Cost Per Cow	Number of Farms	Number of Cows	Labor Cost Per Cow	Labor & Management Income Per Operator
Under $300	80	70	$316	$ 5,764
$300 to 349	80	90	342	8,291
350 to 399	84	91	341	3,681
400 to 449	87	93	363	7,332
450 to 499	82	87	365	3,849
500 & over	159	72	359	-2,702

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 supply. On these 572 farms, the family (including paid family labor) provided 65 percent of the months of labor inputs, while hired nonfamily labor provided 35 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
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms	Average Top 10% Farms
Value operator's labor (@$750/month)	$_____	$11,539	$11,487
Hired labor expense (from page 10; includes paid family labor)	_____	15,660	32,539
Unpaid family labor (@ $500/month)	_____	1,638	1,395
Total Labor Costs	$_____	$28,837	$45,421
Labor cost per cow	$_____	$352	$324
Labor cost per cwt. milk	$_____	$2.38	$2.06
Cost per month hired labor	$_____	$979	$1,122
Cost per month all labor	$_____	$848	$966

Although the top decile farms paid $143 per month more for hired labor and $118 per month more for all labor than the average of the 572 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 572 farms the machinery costs were higher than labor costs. The labor and machinery costs per hundredweight of milk for the top 10 percent farms were 73¢ less than the average for all farms.

Table 34. LABOR AND MACHINERY COSTS
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms	Average Top 10% Farms
Total labor costs	$_____	$28,837	$ 45,421
Total machinery costs	_____	35,383	55,307
Total Labor & Machinery Costs	$_____	$64,220	$100,728
Labor & machinery costs per cow	$_____	$784	$719
Labor & machinery costs per cwt. milk	$_____	$5.30	$4.57

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. 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. 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
572 New York Dairy Farms, 1982

Item	My Farm	Average 572 Farms	Average Top 10% Farms
Livestock			
Breeding fees per cow	$_____	$28	$31
Veterinary & medicine per cow	$_____	$43	$47
Other livestock expense per cow	$_____	$75	$77
Milk marketing per cow	$_____	$74	$74
Milk marketing per cwt. milk	_____¢	50¢	47¢
Cattle lease	$_____	$2	$0
Real Estate			
Taxes per cow	$_____	$51	$40
Taxes per $1,000 year-end real estate value	$_____	$18	$17
Insurance paid per cow	$_____	$33	$27
Cash rent paid per cow	$_____	$35	$43
Cash rent paid per acre rented	$_____	$22	$30
Real estate expense per cow	$_____	$150	$139
Capital Cost			
Interest paid per cow	$_____	$227	$197
Interest on equity per cow	$_____	$187	$177
Interest paid as percent of year-end debt	_____%	9.6%	9.0%
Depreciation per cow	$_____	$236	$210
Fixed & Variable Costs*			
Total fixed costs per cow	$_____	$821	$733
Total variable costs per cow	$_____	$1,426	$1,510
Variable costs per cwt. of milk sold	$_____	$9.66	$9.58

*Fixed costs include real estate repairs, taxes, insurance, rent, interest paid, depreciation, unpaid family labor, and interest on equity capital. All other costs were classified as variable.

Nearly all capital and overhead costs on the top decile farms were below the 572 farm average. Most of the livestock costs and rent paid were higher on the most profitable farms. This is related to more intensive use of cows and cropland on the top farms. Fixed costs per cow were 12 percent lower on the top farms indicating some efficiency in size and scale. Variable costs were only one percent lower per hundredweight of milk sold on the top farms.

Combination of Factors

Individual factors representing size of business, rates of production, labor and capital efficiency, and cost control, have been examined in the analysis up to this point. It has been suggested that these factors are interrelated. On this page, the combination of four important factors is studied. The factors combined are the number of cows per farm, 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 572 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.

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 income decreased at a rapid rate.

Table 36. COMBINATION OF FACTORS ABOVE AVERAGE* AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

Number of Factors Above Average	Number of Farms	Percent of Farms	Labor & Management Income Per Operator
4 factors better than average	55	10	$13,000
3 factors better than average	121	21	10,200
2 factors better than average	156	27	500
1 factor better than average	150	26	-1,300
0 factors better than average	90	16	-2,100

*Factors were:

Size - number of cows - average 82.

Rates of production - pounds of milk sold per cow - average 14,762.

Labor efficiency - pounds of milk sold per worker - average 427,739.

Cost control - percent purchased feed was of milk receipts - average 24%.

The top decile farms averaged 140 cows, 15,768 pounds of milk sold per cow, 563,138 pounds of milk sold per worker, and purchased feed was 24 percent of milk sales. Labor and management income averaged $43,395 per operator on these farms. Obviously, other business factors excluded from the combination in Table 36 have a strong affect on business profits. These include labor, machinery and crop expenses, capital efficiency, financial or debt management, crop yields, and the receipts from milk and cattle sales.

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 10 percent of the 572 farms for that factor. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. Each column of the chart is independent of the others. The farms which are in the top 10 percent for one factor would not necessarily be the same farms which make up the top 10 percent for any other factor.

Table 37. FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
572 New York Dairy Farms, 1982

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons D.M./ Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
6.2	219	3,391,200	18,100	4.6	20	44	659,100
4.0	125	1,844,000	16,600	3.6	18	36	537,600
3.3	94	1,415,700	15,900	3.2	16	33	484,700
3.0	80	1,188,900	15,400	2.8	15	30	445,100
2.7	70	1,020,000	14,900	2.6	15	28	416,100
2.4	61	902,800	14,400	2.3	14	26	388,600
2.1	54	784,800	13,900	2.1	12	25	357,100
2.0	48	662,200	13,200	1.9	12	23	315,200
1.7	41	545,500	12,100	1.7	10	20	266,200
1.3	33	379,400	9,700	1.3	7	16	192,800

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
$197	10%	$231	$ 517	$2.79
290	15	304	613	3.39
357	19	341	666	3.83
407	22	372	719	4.15
456	24	407	755	4.44
501	26	439	792	4.67
544	29	469	840	4.93
593	31	512	883	5.21
651	33	564	962	5.60
791	39	696	1,158	6.53

The cost control factors are ranked from low to high, but the lowest cost is not necessarily the most profitable. In some cases, the "best" management position is somewhere near the middle or average. Many things affect the level of costs, and must be taken into account when analyzing the factors.

Financial Analysis Chart

The farm financial analysis chart is designed just like the Farm Business Chart in Table 37 on page 29 and may be used to measure the financial health of the farm business. Most of the financial measures used are defined on pages 14 through 17 and 22 in this publication.

Table 38. FINANCIAL ANALYSIS CHART
572 New York Dairy Farms, 1982

Liquidity (Repayment)				
Debt Payments Per Cow	Available for Debt Service Per Cow	Cash Flow Coverage Ratio	Debt Payments as Percent of Milk Sales	Debt Per Cow
$ 53	$828	8.55	3	$ 160
207	647	2.02	11	774
296	557	1.40	16	1,237
367	486	1.10	19	1,683
436	425	.91	23	2,035
493	371	.75	26	2,364
557	307	.61	30	2,772
635	244	.46	35	3,177
768	145	.29	42	3,751
1,010	-82	-.66	60	4,849

Solvency				Efficiency & Profitability		
		Debt/Asset Ratio		Capital	Rate of Return on	
Leverage Ratio[1]	Percent Equity	Current & Intermediate	Long Term	Turnover (years)	Equity	Investment[2]
.03	97	.00	.00	1.36	14%	12%
.15	87	.05	.06	1.95	6	8
.27	78	.11	.19	2.16	4	6
.41	71	.18	.34	2.36	1	5
.56	64	.23	.44	2.55	- 1	3
.72	58	.30	.54	2.70	- 3	2
.95	51	.37	.63	2.90	- 5	1
1.25	44	.45	.73	3.23	- 9	- 1
1.81	36	.56	.87	3.69	-17	- 3
8.50	20	.79	1.25	5.68	-81	- 8

[1]Dollars of debt per dollar of equity, computed by dividing total liabilities by total equity.

[2]Return on all farm capital (no deduction for interest paid) divided by total farm assets.

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 this "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 436 individually operated farms and related business factors are included in Tables 39 and 40. Partnerships and corporate farms are excluded in this comparison.

Table 39. AGE OF OPERATORS AND LABOR, MANAGEMENT, AND OWNERSHIP INCOME
436 New York Dairy Farms, 1982

Age of Operator	Number of Farms	Number of Cows	Lbs. Milk Sold Per Cow	Lbs. Milk Sold Per Worker	Labor, Management & Ownership Income Per Operator
Under 30	52	60	14,110	376,267	$18,904
30 to 34	55	63	14,813	414,756	8,426
35 to 39	88	70	14,536	407,000	9,583
40 to 44	72	71	14,413	396,628	14,901
45 to 49	70	73	14,481	384,400	20,492
50 to 54	55	88	14,515	425,767	20,029
55 to 59	23	86	14,643	387,477	14,803
60 & over	21	74	14,277	352,167	7,252

The pattern of the relationship between age of operator and labor, management, and ownership income per operator is difficult to explain. Although lower than average returns are expected for operators 50 years of age and older, it is unusual to see higher than average returns to the youngest group of operators.

Table 40. AGE OF OPERATOR AND RELATED BUSINESS AND FINANCIAL FACTORS
436 New York Dairy Farms, 1982

Age of Operator	Total Capital Per Cow	Total Expense Per Cow	Percent Equity	Debt Per Cow	% Milk For Debt Payment
Under 30	$5,667	$2,239	54%	$2,787	29%
30 to 34	5,870	2,249	50	3,183	30
35 to 39	5,514	2,228	52	2,875	29
40 to 44	5,595	2,238	61	2,417	28
45 to 49	5,470	2,185	63	2,234	27
50 to 54	5,439	2,230	74	1,551	17
55 to 59	5,756	2,338	76	1,683	22
60 & over	5,661	2,232	83	1,056	15

Age of operator appears to have little affect on capital investment per cow and cost control but, age, the farmer's equity position and debt load are strongly related.

Education of Operators

Operators on 534 of the 572 farms reported years of formal education. The average education of all operators reporting was 13 years. The years of education of the senior operator on farms with partnerships or corporations was used for sorting the farms.

Table 41. EDUCATION OF OPERATOR AND LABOR, MANAGEMENT AND OWNERSHIP INCOME
534 New York Dairy Farms, 1982

Operator's Years of Education	Number		Pounds of Milk Sold Per Cow	Farm Debt Per Cow	Labor, Management & Ownership Income Per Operator
	Farms	Cows			
Less than 12	49	68	14,413	$2,225	$14,076
12	249	76	14,330	2,140	14,712
13 to 14	121	88	14,631	2,253	18,174
15 to 16	94	107	15,450	2,477	26,468
over 16	21	59	15,100	2,835	12,255

There is not a strong correlation between years of education and labor, management, and ownership income per operator although there is an upward trend in returns as education increases from less than 12 years to 16 years. The relatively small group of operators with more than 16 years of education showed the lowest returns, owned the smallest herds, and had the highest average farm debt load.

Table 42. OPERATOR'S AGE AND EDUCATION AND RELATED FACTORS
534 New York Dairy Farms, 1982

Operator's Age & Years of Education	Number of		Pounds of Milk Sold Per Cow	Farm Debt Per Cow	Labor, Management & Ownership Income per Operator
	Farms	Cows			
Under 40					
Less than 12	10	89	14,282	$2,641	$18,448
12	79	59	14,225	2,803	9,213
13 or more	128	89	14,993	2,755	19,047
40 to 49					
Less than 12	18	60	14,660	2,553	11,173
12	88	75	14,480	2,408	15,840
13 or more	56	94	15,131	2,273	25,980
50 & over					
Less than 12	21	65	14,272	1,666	14,542
12	82	93	14,334	1,495	18,102
13 or more	52	103	14,832	1,755	20,847

The amount of formal education has increased over the years, therefore, the younger farmers have more years of education. Fifty-nine percent of the 217 operators under 40 years of age have some college education, but, only 34 percent of the 155 farmers 50 years of age and older have had some college training. In the 40 to 49 year age group, 35 percent of the operators reported 13 or more years of formal education.

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 has to other business factors is reported here.

Table 43. FARM DEBT PER COW AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

Farm Debt Per Cow	Number of Farms	Number of Cows	Lbs. Milk Sold Per Cow	Lbs. Milk Sold Per Worker	Labor & Management Income Per Operator
None	16	53	15,915	362,017	$ 6,324
$ 1 to $ 599	51	80	14,476	386,033	4,368
600 to 1,199	71	89	15,001	433,474	8,012
1,200 to 1,799	76	87	14,636	424,433	5,617
1,800 to 2,399	107	86	14,550	428,527	3,038
2,400 to 2,999	84	82	15,006	434,806	2,226
3,000 to 3,599	74	89	14,747	463,781	4,276
3,600 to 4,199	30	73	14,245	429,711	-344
4,200 to 4,799	39	75	14,553	436,600	-4,725
4,800 & over	24	56	15,002	360,558	-1,999

Three percent of the farms reported no debt, and four percent reported debt per cow of $4,800 or more. There appears to be little relationship between debt per cow and farm size, production, labor efficiency, or labor and management income. Farms with less than $1,200 debt per cow had the best returns to labor and management and above average levels of milk output per cow.

Table 44. FARM DEBT PER COW AND RELATED BUSINESS FACTORS
572 New York Dairy Farms, 1982

Farm Debt Per Cow	Age of Operator	Percent Equity	Debt Payment Per Cow	Debt Payment % Milk	Available For Debts & Living
None	49	100%	$ 0	0%	$39,054
$ 1 to $ 599	46	95	124	6	49,855
600 to 1,199	43	84	270	14	59,629
1,200 to 1,799	44	75	357	18	56,297
1,800 to 2,399	42	64	472	25	57,663
2,400 to 2,999	42	53	591	31	56,789
3,000 to 3,599	38	43	632	34	61,173
3,600 to 4,199	37	40	724	39	54,500
4,200 to 4,799	35	32	757	40	53,384
4,800 & over	37	33	938	46	49,539

Debt per cow has a close relationship to percent equity, debt payment, and cash available for family living and debt service. The farms with the highest debt loads are owned by young operators with relatively low equities and high debt payment commitments.

On the average, the 167 dairyfarmers with $3,000 or more debt per cow cannot meet their 1983 planned payment schedules and family living expenses unless cash flow improves.

The relationship of farm family equity (percent equity) to production, farm income, debt payments, and cash available for family living, is shown in Tables 45 and 46. Percent equity is determined by dividing the family net worth by total farm family assets.

Table 45. PERCENT EQUITY AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

Percent Equity*	Number of Farms	Number of Cows	Lbs. Milk Sold Per Cow	Lbs. Milk Sold Per Worker	Labor & Management Income Per Operator
Less than 40%	98	83	14,316	432,073	$ -295
40 to 49	83	80	14,704	440,562	3,195
50 to 59	81	82	14,770	414,760	2,533
60 to 69	94	88	14,780	433,533	3,977
70 to 79	71	84	14,692	411,367	2,467
80 to 89	77	85	15,141	429,000	9,050
90 to 99	48	79	14,444	370,487	2,170
100	20	52	15,862	366,578	7,262

*Based on family net worth.

Ninety-eight or 17 percent of the 572 farms had less than 40 percent equity and 32 percent reported less than 50 percent equity. The variation in milk output per cow and per worker was much greater within equity groups than it was between the average of each group. Equity appears to have little direct affect on labor and management income. One reason is the opportunity cost (five percent) charged for using equity capital in the business.

Table 46. PERCENT EQUITY AND RELATED BUSINESS FACTORS
572 New York Dairy Farms, 1982

Percent Equity*	Age of Operator	Debt Per Cow	Debt Payments Per Cow	Debt Payments % Milk	Available For Debt & Living
Less than 40%	36	$3,904	$702	38%	$55,001
40 to 49	39	3,260	662	35	56,213
50 to 59	40	2,752	569	30	56,569
60 to 69	43	2,123	473	24	60,809
70 to 79	43	1,568	346	18	53,717
80 to 89	45	998	281	14	61,345
90 to 99	46	354	137	7	49,450
100	48	4	2	0	39,409

*Based on family net worth.

Percent equity has a strong relationship with debt payments and the cash left for family living after debt payments are made.

Farm operators with less than 60 percent equity have heavy debt commitments and on the average, will not be able to meet their 1983 debt commitments. The farmers with 70 percent or more equity appear to be in a relatively strong cash flow position.

The Cash Flow Coverage Ratio measures the amount available for debt service per dollar of scheduled annual debt payment. It is computed by dividing the net cash flow available for debt service in the current year by the payments planned for the coming year. To determine net cash available for debt service, farm family living expenses have been estimated at $10,200 per operator plus four percent of cash receipts and deducted from cash available for debt payments and family living.

Table 47. CASH FLOW COVERAGE RATIO AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

Cash Flow Coverage Ratio		Number of		Pounds of Milk Sold		Labor & Management
Range	Average	Farms	Cows	Per Cow	Per Worker	Income per Oper.
Less than 0	-0.41	29	52	11,517	247,479	$-12,260
0 - 0.49	0.35	144	65	13,948	362,640	-4,696
0.5 - 0.99	0.72	189	85	14,701	416,533	2,333
1.0 - 1.49	1.23	101	97	15,212	479,091	11,824
1.5 - 1.99	1.71	41	83	15,886	451,541	9,090
2.0 or more	3.17	68	101	15,322	476,154	15,301

A high positive cash flow ratio shows a strong capacity to repay debt. A ratio of less than 1.0 indicates inability to meet the planned debt schedule with the net cash flow currently generated. Sixty-three percent of the farms had a cash flow coverage ratio of less than 1.0.

There appears to be a direct correlation between cash flow coverage ratios, labor and management income, and the farm business factors that measure size, production, and labor efficiency on the dairy farm.

Table 48. CASH FLOW COVERAGE RATIO AND RELATED FACTORS
572 New York Dairy Farms, 1982

Cash Flow Coverage Ratio	Age of Operator	Percent Equity	Debt Per Cow	Payments Per Cow	Cash Expenses Per Cow
Less than 0	42	69%	$1,974	$387	$1,692
0 - 0.49	41	57	2,589	594	1,836
0.5 - 0.99	40	52	2,872	590	1,820
1.0 - 1.49	41	63	2,185	430	1,746
1.5 - 1.99	43	77	1,552	317	1,756
2.0 or more	46	86	889	176	1,655

Age of operator appears to have little affect on the ability to meet debt commitments. The cash flow coverage ratio is influenced by percent equity, debt per cow, and cost control as the ratio moves above 1.0. The ratios of less than zero were primarily caused by limitations in cash income as indicated by the low levels of milk output per cow and per worker.

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. Nonmilk receipts are deducted on the assumption they were produced at cost.

Table 49. FARM COST OF PRODUCING MILK
572 New York Dairy Farms, 1982

Item	Average 600 Farms		My Farm	
Total cash farm expenses (p.10)	$145,834		$_____	
Expansion livestock	2,079		_____	
Machinery depreciation	13,534		_____	
Building depreciation	5,819		_____	
Unpaid labor @ $500 per month	1,638		_____	
Interest on equity capital @ 5%	15,329		_____	
TOTAL FARM EXPENSES	$184,233		$_____	
Value operator's labor @ $750/mo.	11,250		_____	
TOTAL COST OF PRODUCTION (1)		$195,483		$_____
Total cash farm receipts (p.8)	$181,963		$_____	
Less: Milk sales	164,196		_____	
Nonmilk cash receipts	$ 17,767		$_____	
Increase in feed & supplies	408		_____	
Increase due to herd growth*	6,348		_____	
TOTAL OTHER INCOME (2)		24,523		
COST OF PRODUCING MILK (1 minus 2)		$170,960		$_____
Hundredweights of milk sold (p.18)	12,105		_____	
COST OF PRODUCING CWT. MILK		$14.12		$_____
Management charge @ 5% cash receipts	$9,098		$_____	
Management charge per cwt. milk	75¢		_____¢	
COST OF PRODUCING MILK WITH MANAGEMENT CHARGE		$14.87		$_____

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

The cost of producing milk is computed with and without a charge for management included. The rational 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 $1.31 or 10 percent in 1982.

Table 50. COST OF PRODUCING MILK AND PRICES RECEIVED, 1976-1982
New York State Dairy Farms

Year	Value Operator's Labor	Value Operator's Management*	Cost/Cwt. With Management Excluded	Cost/Cwt. With Management Included	Average Price Received
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
1981	9,000	8,706	15.12	15.88	13.66
1982	9,000	9,098	14.12	14.87	13.56

*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 75 cents per hundredweight of milk.

Table 51. FARM COST OF PRODUCING MILK BY HERD SIZE
572 New York Dairy Farms, 1982

Number of Cows	Number of Farms	Cost/Cwt. With Management		Average Price Received
		Excluded	Included	
Under 40	76	$15.48	$16.22	$13.46
40 to 54	128	15.01	15.76	13.42
55 to 69	107	14.12	14.86	13.36
70 to 84	82	14.19	14.94	13.55
85 to 99	52	14.51	15.28	13.77
100 to 149	69	14.00	14.75	13.64
150 to 199	33	14.40	15.15	13.60
200 to 249	15	12.86	13.62	13.67
250 & over	10	14.76	15.52	13.64

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 farms in this study were able to control costs somewhat more effectively than the smaller ones. The average cost excluding management was $14.66 for herds with less than 100 cows, while it was $14.00 for those with 100 cows or more, for a difference of $0.66 per hundredweight.

The level of milk production is more closely related to the cost of producing milk as indicated by the data in Table 52. Farms selling less than 11,000 pounds of milk per cow had an average cost of production (excluding management) of $17.73, while those selling 16,000 pounds and over averaged approximately $13.80 for a difference of $3.93 per hundredweight.

Table 52. FARM COST OF PRODUCING MILK BY MILK SOLD PER COW
572 New York Dairy Farms, 1982

Pounds of Milk Sold Per Cow	Cost Per Cwt. With Management		Average Price Received
	Excluded	Included	
Under 11,000	$17.73	$18.52	$14.02
11,000 to 11,999	16.23	17.00	13.90
12,000 to 12,999	15.68	16.44	13.71
13,000 to 13,999	14.52	15.28	13.61
14,000 to 14,999	14.17	14.91	13.52
15,000 to 15,999	13.68	14.43	13.43
16,000 to 16,999	13.33	14.07	13.50
17,000 to 17,999	13.81	14.57	13.65
18,000 & over	14.28	15.03	13.51

Table 53. FARM BUSINESS SUMMARY BY HERD SIZE
572 New York Dairy Farms, 1982

Item / Farm Size:	Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows
Capital Investment (end of year)				
Livestock	$ 49,013	$ 72,347	$ 94,025	$115,565
Feed & supplies	9,858	16,105	24,793	32,663
Machinery & equipment	41,258	57,949	78,186	92,761
Land & buildings	111,530	149,346	187,417	217,564
TOTAL INVESTMENT	$211,659	$295,747	$384,421	$458,553
Receipts				
Milk sales	$ 59,250	$ 88,659	$124,138	$152,408
Dairy cattle sold	3,693	5,845	7,377	9,537
Other livestock sales	1,363	1,619	1,655	1,731
Crop sales	293	767	1,408	1,134
Miscellaneous receipts	792	1,623	1,934	1,898
Total Cash Receipts	$ 65,391	$ 98,513	$136,512	$166,708
Increase in livestock	1,622	3,541	4,838	5,835
Increase in feed & supplies	1,158	325	559	2,030
Appreciation	571	470	4,956	3,656
TOTAL FARM RECEIPTS	$ 68,742	$102,849	$146,865	$178,229
TOTAL FARM REC. EXCL. APPREC.	$ 68,171	$102,379	$141,909	$174,573
Expenses				
Hired labor	$ 2,352	$ 4,584	$ 8,441	$ 12,087
Dairy grain & concentrate	16,910	23,255	29,338	36,011
Other feed	761	1,164	1,285	1,075
Machine hire	479	795	1,417	1,235
Machinery repair	2,476	4,454	5,916	8,277
Auto expense (farm share)	393	432	479	407
Gas & oil	2,422	3,760	5,408	6,489
Replacement animals	1,136	1,318	1,542	1,638
Breeding fees	881	1,350	1,975	2,184
Veterinary & medicine	1,087	1,837	2,545	2,873
Milk marketing	2,272	3,550	4,399	5,690
Cattle lease	25	154	93	106
Other livestock expense	2,158	4,103	4,825	5,690
Fertilizer & lime	2,008	4,061	6,619	8,097
Seeds & plants	699	1,318	2,107	2,745
Spray & other crop expense	442	948	1,774	1,980
Land, bldg., fence repair	927	1,375	1,940	2,882
Taxes & insurance	3,218	4,268	5,457	6,685
Electricity & phone (farm share)	1,956	2,694	3,472	4,124
Interest paid	7,234	11,166	13,687	17,070
Miscellaneous expenses	1,394	2,766	3,635	5,188
Total Cash Expenses	$ 51,230	$ 79,352	$106,354	$132,533
Expansion livestock	275	688	1,154	1,101
Machinery depreciation	5,530	8,072	11,158	14,286
Building depreciation	1,600	2,794	4,638	5,699
Unpaid family labor	1,647	2,199	1,537	2,021
Interest on equity @ 5%	7,004	9,296	12,843	14,888
TOTAL FARM EXPENSES	$ 67,286	$102,401	$137,684	$170,528
Financial Summary				
NET CASH FARM INCOME	$ 14,161	$ 19,161	$ 30,158	$ 34,175
Labor & Management Income	$ 885	$ -22	$ 4,225	$ 4,045
Number of Operators	1.09	1.15	1.31	1.32
LABOR & MGT. INCOME/OPER.	$ 812	$ -19	$ 3,225	$ 3,064
LABOR, MGT. & OWNSHP. INC./OPER.	$ 7,761	$ 8,473	$ 16,812	$ 17,113

Table 53 continued — FARM BUSINESS SUMMARY BY HERD SIZE
572 New York Dairy Farms, 1982

Item	Farms with: 85 to 99 cows	100 to 149 cows	150 to 199 cows	200 to 249 cows	250 or more cows
Capital Investment (end of year)					
Livestock	$128,477	$174,890	$239,287	$ $353,216	$ 548,827
Feed & supplies	35,862	48,670	69,777	102,643	165,130
Machinery & equipment	98,966	128,766	170,864	178,901	264,266
Land & buildings	244,040	302,448	410,347	592,648	956,913
TOTAL INVESTMENT	$507,345	$654,774	$890,275	$1,227,408	$1,935,136
Receipts					
Milk sales	$179,475	$239,089	$343,973	$473,489	$ 800,529
Dairy cattle sold	13,825	15,795	23,513	36,501	52,819
Other livestock sales	1,450	4,291	4,666	5,689	9,295
Crop sales	2,030	2,066	4,882	4,958	12,984
Miscellaneous receipts	3,004	4,075	6,258	10,459	16,016
Total Cash Receipts	$199,784	$265,316	$383,292	$531,096	$ 891,643
Increase in livestock	2,783	9,854	8,400	26,065	56,563
Increase in feed & supplies	(717)	(1,868)	(3,636)	3,561	11,030
Appreciation	544	1,486	4,746	8,263	51,414
TOTAL FARM RECEIPTS	$202,394	$274,788	$392,802	$568,985	$1,010,650
TOT. FARM REC. EXCL. APPREC.	$201,850	$273,302	$388,056	$560,722	$ 959,236
Expenses					
Hired labor	$ 15,498	$ 25,288	$ 45,839	$ 65,575	$125,058
Dairy feed & concentrate	42,613	53,405	78,634	117,640	199,718
Other feed	1,214	3,736	2,842	3,209	5,040
Machine hire	1,290	1,949	2,959	3,402	7,679
Machinery repair	9,801	12,681	18,860	26,189	35,401
Auto expense (farm share)	461	647	480	436	651
Gas & oil	8,514	10,550	15,190	17,942	33,572
Replacement animals	1,891	4,450	5,425	4,407	8,085
Breeding fees	2,371	3,119	4,284	6,997	10,348
Veterinary & medicine	3,444	4,995	7,484	13,727	19,137
Milk marketing	7,524	8,797	13,127	15,942	23,456
Cattle lease	382	72	284	347	0
Other livestock expense	6,477	8,379	12,027	16,256	30,513
Fertilizer & lime	9,727	13,053	19,779	26,312	41,403
Seeds & plants	2,911	4,394	7,201	9,096	12,189
Spray & other crop expense	2,744	3,297	5,441	5,990	10,462
Land, bldg., fence repair	3,265	3,824	5,881	5,987	5,668
Taxes & insurance	7,318	9,983	13,582	17,426	23,832
Elec. & phone (farm share)	4,701	5,979	8,146	9,060	14,792
Interest paid	21,779	26,397	36,645	44,507	99,366
Miscellaneous expenses	5,765	8,214	11,649	12,221	28,157
Total Cash Expenses	$159,690	$213,209	$315,759	$422,668	$734,527
Expansion livestock	931	4,540	6,025	7,528	19,319
Machinery depreciation	14,249	18,857	28,192	30,454	49,337
Building depreciation	5,952	9,130	11,857	18,398	27,895
Unpaid family labor	1,788	949	939	667	50
Interest on equity @ 5%	16,098	20,955	31,043	39,364	55,342
TOTAL FARM EXPENSES	$198,708	$267,640	$393,815	$519,079	$886,470
Financial Summary					
NET CASH FARM INCOME	$ 40,094	$ 52,107	$ 67,533	$108,428	$157,116
Labor & Management Income	$ 3,142	$ 5,662	$ -5,759	$ 41,643	$ 72,766
Number of Operators	1.46	1.39	1.61	1.53	1.60
LABOR & MGT. INCOME/OPER.	$ 2,152	$ 4,073	$ -3,577	$ 27,218	$ 45,479
LABOR, MGT. & OWNSHP. INC/OP.	$ 13,551	$ 20,218	$ 18,652	$ 58,346	$112,201

Table 54. SELECTED BUSINESS FACTORS BY HERD SIZE
572 New York Dairy Farms, 1982

Item	Farms with: Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows
Number of farms	76	128	107	82
Size of Business				
Number of cows	34	47	61	76
Number of heifers	26	38	51	64
Pounds of milk sold	440,100	660,600	928,900	1,124,500
Worker equivalent	1.67	2.00	2.42	2.75
Total work units	374	539	687	867
Total tillable acres	116	171	211	256
(Tillable acres rented)	(27)	(42)	(63)	(82)
Rates of Production				
Milk sold per cow	12,944	14,055	15,228	14,796
Tons hay crop per acre	2.0	2.2	2.5	2.5
Tons corn silage per acre	11.8	12.7	13.3	13.1
Bushels of oats per acre	29.1	57.1	60.5	54.3
Labor Efficiency				
Cows per worker	20	24	25	28
Pounds milk sold per worker	263,533	330,300	383,843	408,909
Work units per worker	224	270	284	315
Feed Costs				
Feed purchased per cow	$497	$495	$481	$474
Crop expense per cow	$93	$135	$172	$169
Feed cost per cwt. milk	$3.84	$3.52	$3.16	$3.20
Feed & crop exp. per cwt. milk	$4.73	$4.65	$4.43	$4.44
% feed is of milk receipts	29%	26%	24%	24%
Tons forage dry matter per cow	6.8	7.6	7.7	8.2
Tillable acres per cow	3.4	3.6	3.5	3.4
Fertilizer & lime per crop acre	$17	$24	$31	$32
Machinery & Labor Costs				
Total machinery costs	$13,337	$20,376	$28,204	$35,234
Machinery cost per cow	$392	$434	$462	$464
Machinery cost per cwt. milk	$3.03	$3.08	$3.04	$3.13
Labor cost per cow	$406	$364	$353	$338
Labor cost per cwt. milk	$3.14	$2.59	$2.32	$2.29
Capital Efficiency				
Investment per worker	$126,742	$147,874	$158,852	$166,747
Investment per cow	$6,047	$6,036	$6,007	$5,804
Investment per cwt. milk	$48	$45	$41	$41
Land & buildings per cow	$3,187	$3,048	$2,928	$2,754
Machinery investment per cow	$1,179	$1,183	$1,222	$1,174
Capital turnover	3.1	2.9	2.6	2.6
Other				
Price per cwt. milk sold	$13.46	$13.42	$13.36	$13.55
Acres hay crops	83	103	109	142
Acres corn silage*	14	31	44	60

*Average of all farms.

Table 54 continued — SELECTED BUSINESS FACTORS BY HERD SIZE
572 New York Dairy Farms, 1982

Item	Farms with: 85 to 99 cows	100 to 149 cows	150 to 199 cows	200 to 249 cows	250 or more cows
Number of farms	52	69	33	15	10
Size of Business					
Number of cows	90	120	169	230	363
Number of heifers	70	98	127	212	284
Pounds of milk sold	1,303,200	1,753,400	2,528,300	3,464,100	5,868,500
Worker equivalent	3.08	3.67	4.83	6.25	8.75
Total work units	999	1,338	1,854	2,536	3,915
Total tillable acres	290	368	527	577	913
(Tillable acres rented)*	(106)	(132)	(181)	(184)	(348)
Rates of Production					
Milk sold per cow	14,480	14,612	14,960	15,061	16,167
Tons hay crop per acre	2.9	2.8	2.9	3.0	2.9
Tons corn silage per acre	13.5	13.8	15.6	15.6	15.4
Bushels of oats per acre	66.1	49.9	46.7	81.8	95.7
Labor Efficiency					
Cows per worker	29	33	35	37	41
Pounds milk sold per worker	423,117	477,766	523,458	554,256	670,686
Work units per worker	324	365	384	406	447
Feed Costs					
Feed purchased per cow	$473	$445	$465	$511	$550
Crop expense per cow	$171	$173	$192	$180	$176
Feed cost per cwt. milk	$3.27	$3.05	$3.11	$3.40	$3.40
Feed & crop exp. per cwt. milk	$4.54	$4.44	$4.50	$4.68	$4.58
% feed is of milk receipts	24%	22%	23%	25%	25%
Tons forage dry matter per cow	8.0	8.1	8.3	7.8	8.0
Tillable acres per cow	3.2	3.1	3.1	2.5	2.5
Fertilizer & lime per crop acre	$34	$35	$38	$46	$45
Machinery & Labor Costs					
Total machinery costs	$39,237	$51,045	$74,134	$87,122	$139,530
Machinery cost per cow	$436	$425	$439	$379	$384
Machinery cost per cwt. milk	$3.01	$2.91	$2.93	$2.51	$2.38
Labor cost per cow	$337	$321	$361	$348	$384
Labor cost per cwt. milk	$2.33	$2.20	$2.41	$2.31	$2.38
Capital Efficiency					
Investment per worker	$164,722	$178,413	$184,322	$196,385	$221,158
Investment per cow	$5,515	$5,156	$5,058	$5,072	$5,079
Investment per cwt. milk	$39	$37	$35	$35	$33
Land & buildings per cow	$2,653	$2,381	$2,332	$2,449	$2,512
Machinery investment per cow	$1,076	$1,014	$971	$739	$694
Capital turnover	2.5	2.4	2.2	2.2	1.9
Other					
Price per cwt. milk sold	$13.77	$13.64	$13.60	$13.67	$13.64
Acres hay crops	147	179	243	231	290
Acres corn silage*	69	102	131	209	406

*Average of all farms.

Table 55. FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
572 New York Dairy Farms, January 1, 1983

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	76	128	107	82	52
Assets					
Livestock (includes discounted	$ 49,013	$ 72,347	$ 94,219	$115,659	$128,688
lease payments)	(0)	(0)	(194)	(94)	(211)
Feed & supplies	9,858	16,105	24,793	32,663	35,862
Machinery & equipment (includes	41,577	58,063	78,479	93,274	99,079
discounted lease payments)	(319)	(114)	(293)	(513)	(113)
Land & buildings (includes	112,775	152,316	188,190	220,546	245,889
discounted lease payments)	(1,245)	(2,970)	(773)	(2,982)	(1,849)
Co-op investment	1,410	2,432	4,676	5,573	10,389
Accounts receivable	4,511	7,481	10,283	13,244	17,670
Cash & checking accounts	1,128	2,110	2,627	2,929	2,737
Total Farm Assets	$220,272	$310,854	$403,267	$483,888	$540,314
Savings accounts	2,422	1,907	3,258	3,124	3,253
Cash value life insurance	1,750	1,973	2,360	2,164	2,825
Stocks & bonds	1,581	1,396	1,634	1,275	5,075
Nonfarm real estate	2,243	1,871	8,140	4,901	4,077
Auto (personal share)	1,130	1,273	1,745	1,596	1,503
All other	8,064	5,834	5,140	7,652	5,947
Total Nonfarm Assets	$ 17,190	$ 14,254	$ 22,277	$ 20,712	$ 22,680
TOTAL ASSETS	$237,462	$325,108	$425,544	$504,600	$562,994
Liabilities					
Long term	$ 48,724	$ 76,905	$ 85,899	$111,280	$119,743
Intermediate	25,868	39,341	52,120	62,618	86,166
Financial lease	1,564	3,084	1,260	3,589	2,173
Short-term	1,548	1,941	3,204	4,211	3,035
Other farm accounts	2,486	3,665	3,927	4,426	7,246
Total Farm Liabilities	$ 80,190	$124,936	$146,410	$186,124	$218,363
Total Nonfarm Liabilities	542	384	743	30	129
TOTAL LIABILITIES	$ 80,732	$125,320	$147,153	$186,154	$218,492
Farm Net Worth (Eq. Cap.)	$140,082	$185,918	$256,857	$297,764	$321,951
FAMILY NET WORTH	$156,730	$199,788	$278,391	$318,446	$344,502
Financial Measures					
Percent equity	66%	61%	65%	63%	61%
Farm debt per cow	$2,291	$2,550	$2,288	$2,356	$2,374
Available for debt service & living	$23,188	$31,689	$44,556	$52,660	$62,205
Scheduled annual debt payment	$17,192	$24,924	$30,696	$40,160	$46,649
Scheduled debt payments/cow	$487	$504	$477	$496	$506
Payment as % of milk check	29%	28%	25%	26%	26%
Debt/Asset ratio - long term	0.43	0.50	0.46	0.50	0.49
Debt/Asset ratio - intermediate & short-term	0.27	0.28	0.26	0.27	0.31
Cash flow coverage ratio	0.55	0.64	0.84	0.81	0.84

Table 55 continued — FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
572 New York Dairy Farms, January 1, 1983

Item	100 to 149 cows	150 to 199 cows	200 to 249 cows	250 or more cows
Number of farms	69	33	15	10
Assets				
Livestock (includes discounted	$174,890	$240,172	$ 353,216	$ 548,827
lease payments)	(0)	(885)	(0)	(0)
Feed & supplies	48,670	69,777	102,643	165,130
Machinery & equipment (includes	129,350	171,650	178,901	266,207
discounted lease payments)	(584)	(786)	(0)	(1,941)
Land & buildings (includes	306,021	412,803	596,034	956,913
discounted lease payments)	(3,573)	(2,456)	(3,386)	(0)
Co-op investment	9,503	19,241	23,975	40,200
Accounts receivable	20,977	28,611	44,462	75,160
Cash & checking accounts	3,466	3,109	1,818	8,184
Total Farm Assets	$692,877	$945,363	$1,301,049	$2,060,621
Savings accounts	2,609	6,233	768	1,193
Cash value life insurance	3,699	4,917	2,344	2,566
Stocks & bonds	3,750	7,606	4,970	4,574
Nonfarm real estate	10,648	13,030	3,592	0
Auto (personal share)	1,896	2,852	1,983	985
All other	7,029	7,788	1,534	5,476
Total Nonfarm Assets	$ 29,631	$ 42,426	$ 15,191	$ 14,794
TOTAL ASSETS	$722,508	$987,789	$1,316,240	$2,075,415
Liabilities				
Long term	$150,060	$155,699	$295,671	$490,215
Intermediate	105,394	149,339	193,044	352,098
Financial lease	4,157	4,127	3,386	1,941
Short-term	6,621	4,664	10,120	94,030
Other farm accounts	7,554	10,672	11,545	15,505
Total Farm Liabilities	$273,786	$324,501	$513,766	$953,789
Total Nonfarm Liabilities	301	2,986	0	0
TOTAL LIABILITIES	$274,087	$327,487	$513,766	$953,789
Farm Net Worth (Equity Cap.)	$419,091	$620,862	$787,283	$1,106,832
FAMILY NET WORTH	$448,421	$660,302	$802,474	$1,121,626
Financial Measures				
Percent equity	62%	67%	61%	54%
Farm debt per cow	$2,156	$1,844	$2,123	$2,503
Available for debt service & living	$79,512	$106,142	$155,997	$258,528
Scheduled annual debt payment	$57,850	$71,442	$109,206	$185,677
Scheduled debt payments/cow	$454	$404	$451	$487
Payment as % of milk check	24%	21%	23%	23%
Debt/Asset ratio - long term	0.49	0.38	0.50	0.51
Debt/Asset ratio - intermediate & short-term	0.30	0.30	0.29	0.41
Cash flow coverage ratio	0.95	1.04	1.09	1.11

Table 56. SELECTED BUSINESS FACTORS BY HERD SIZE
185 Freestall Barn Dairy Farms, New York, 1982

Item	Farms with: Less than 55 cows	55 to 69 cows	70 to 99 cows	100 to 149 cows	150 or more cows
Number of farms	5	23	51	51	55
Size of Business					
Number of cows	44	65	84	121	220
Number of heifers	34	52	68	100	178
Milk sold (cwt.)	6,470	9,836	12,130	17,791	33,777
Worker equivalent	2.08	2.42	2.92	3.67	6.00
Total tillable acres	155	229	271	374	612
Number of operators	1.2	1.4	1.4	1.3	1.5
Rates of Production					
Milk sold per cow (lbs.)	14,705	15,132	14,440	14,703	15,353
Tons hay crop dry matter/acre	2.1	2.5	2.8	2.9	2.9
Tons corn silage per acre	13.2	13.7	12.7	13.8	15.5
Labor Efficiency					
Cows per worker	21	27	29	33	37
Milk sold per worker (lbs.)	311,058	406,446	415,411	484,768	562,950
Feed Costs					
Feed purchased per cow	$514	$487	$534	$463	$501
Crop expense per cow	$150	$183	$162	$180	$183
Feed cost per cwt. milk	$3.49	$3.22	$3.70	$3.15	$3.26
Feed & crop exp. per cwt. milk	$4.96	$4.53	$4.88	$4.55	$4.55
% feed is of milk receipts	27%	24%	27%	23%	24%
Tons forage dry matter per cow	8.2	8.0	8.2	8.3	8.1
Tillable acres per cow	3.5	3.5	3.2	3.1	2.8
Fertilizer & lime per crop acre	$27	$30	$31	$37	$41
Machinery & Labor Costs					
Machinery cost per cow	$393	$484	$460	$430	$405
Machinery cost per cwt. milk	$2.68	$3.20	$3.19	$2.92	$2.64
Labor cost per cow	$414	$341	$333	$310	$367
Labor cost per cwt. milk	$2.82	$2.26	$2.31	$2.11	$2.39
Labor & mach. cost/cwt. milk	$5.50	$5.46	$5.50	$5.03	$5.03
Capital Efficiency					
Investment per worker	$126,780	$159,121	$162,356	$179,685	$195,038
Investment per cow	$5,860	$5,581	$5,449	$5,112	$5,066
Land & buildings per cow	$2,778	$2,574	$2,572	$2,353	$2,422
Machinery investment per cow	$1,094	$1,227	$1,111	$1,024	$816
Capital turnover	2.8	2.4	2.6	2.3	2.1
Income & Financial Measures					
Price per cwt. milk sold	$13.16	$13.49	$13.74	$13.71	$13.65
Net cash farm income	$19,947	$36,781	$32,861	$52,339	$94,188
Labor & mgmt. income/oper.	$1,050	$7,678	$-1,097	$3,719	$13,609
Labor, mgt. & ownshp. inc/op.	$9,630	$18,806	$7,724	$21,526	$47,987
Farm debt per cow	$1,762	$1,876	$2,303	$2,264	$2,141
Cash flow coverage ratio	0.74	0.99	0.75	0.91	1.08

Table 57. SELECTED BUSINESS FACTORS BY HERD SIZE
387 Conventional Stall Barn Dairy Farms, New York, 1982

Item	Farms with: Less than 55 cows	55 to 69 cows	70 to 99 cows	100 to 149 cows	150 or more cows
Number of farms	199	84	83	18	3
Size of Business					
Number of cows	42	61	80	117	173
Number of heifers	34	51	66	92	143
Milk sold (cwt.)	5,767	9,139	11,820	16,804	27,680
Worker equivalent	1.83	2.42	2.92	4.00	4.83
Total tillable acres	150	206	268	350	510
Number of operators	1.1	1.3	1.3	1.6	3.3
Rates of Production					
Milk sold per cow (lbs.)	13,731	14,982	14,775	14,362	16,000
Tons hay crop dry matter/acre	2.2	2.5	2.6	2.6	3.0
Tons corn silage per acre	12.3	13.2	13.8	13.7	15.3
Labor Efficiency					
Cows per worker	23	25	27	29	36
Milk sold per worker (lbs.)	315,137	377,645	404,795	420,100	573,085
Feed Costs					
Feed purchased per cow	$496	$471	$434	$392	$574
Crop expense per cow	$122	$166	$174	$151	$228
Feed cost per cwt. milk	$3.62	$3.14	$2.94	$2.73	$3.59
Feed & crop exp. per cwt. milk	$4.67	$4.40	$4.23	$4.10	$5.25
% feed is of milk receipts	27%	24%	22%	20%	27%
Tons forage dry matter per cow	7.3	7.4	8.1	7.6	7.9
Tillable acres per cow	3.6	3.4	3.4	3.0	2.9
Fertilizer & lime per crop acre	$22	$32	$33	$30	$55
Machinery & Labor Costs					
Machinery cost per cow	$423	$448	$446	$414	$483
Machinery cost per cwt. milk	$3.08	$2.99	$3.02	$2.88	$3.02
Labor cost per cow	$377	$350	$340	$355	$328
Labor cost per cwt. milk	$2.74	$2.33	$2.30	$2.47	$2.05
Labor & mach. cost/cwt. milk	$5.82	$5.32	$5.32	$5.35	$5.07
Capital Efficiency					
Investment per worker	$144,502	$158,779	$164,240	$160,385	$191,790
Investment per cow	$6,010	$6,197	$5,849	$5,346	$5,324
Land & buildings per cow	$3,080	$3,066	$2,809	$2,494	$2,352
Machinery investment per cow	$1,177	$1,233	$1,149	$994	$1,143
Capital turnover	2.9	2.7	2.5	2.5	2.1
Income & Financial Measures					
Price per cwt. milk sold	$13.44	$13.33	$13.59	$13.40	$13.26
Net cash farm income	$17,233	$28,343	$38,690	$51,455	$81,994
Labor & mgmt. income/oper.	$260	$1,802	$5,123	$4,907	$4,713
Labor, mgt. & ownshp. inc/op.	$8,150	$16,216	$20,756	$17,283	$19,318
Farm debt per cow	$2,477	$2,436	$2,410	$1,849	$1,434
Cash flow coverage ratio	0.61	0.80	0.87	1.09	1.09

Table 58. SELECTED BUSINESS FACTORS BY MILKING SYSTEMS
572 New York Dairy Farms, 1982

Item	Bucket and Carry	Dumping Station	Pipe-line	Herring-bone Parlor	Other Parlors
Number of farms	11	96	274	172	19
Percent of farms	2%	17%	48%	30%	3%
Capital Investment (end of year)					
Livestock	$ 81,591	$ 65,893	$ 96,623	$192,045	$169,665
Feed & supplies	14,313	12,752	26,125	55,267	42,770
Machinery & equipment	50,657	46,851	78,833	132,228	111,719
Land & buildings	167,500	129,886	192,208	342,435	272,118
TOTAL INVESTMENT	$314,061	$255,382	$393,789	$721,975	$596,272
Financial Summary					
Total farm rec. excl. apprec.	$118,507	$86,332	$144,843	$312,545	$264,264
Total farm expenses	124,165	88,138	140,697	303,905	254,911
Labor & Management Income	$ -5,658	$-1,806	$ 4,146	$ 8,640	$ 9,353
Number of operators	1.27	1.20	1.24	1.44	1.37
LABOR & MANAGEMENT INCOME PER OPERATOR	$ -4,455	$-1,505	$ 3,344	$ 6,000	$ 6,827
Size of Business					
Number of cows	54	46	63	132	108
Number of heifers	48	37	51	107	89
Pounds of milk sold	731,400	570,300	937,200	1,984,000	1,662,300
Worker equivalent	2.67	2.17	2.42	3.92	3.75
Crop acres	215	164	210	398	299
Rates of Production					
Milk sold per cow (lbs.)	13,544	12,398	14,876	15,030	15,392
Tons hay crops per acre	2.3	2.0	2.5	2.8	3.1
Tons corn silage per acre	10.2	12.0	13.3	14.8	13.8
Labor Efficiency					
Cows per worker	20	21	26	34	29
Lbs. milk sold per worker	273,933	262,811	387,273	506,122	443,280
Costs					
Feed purchased per cow	$498	$456	$462	$495	$531
% feed is of milk receipts	26%	27%	23%	24%	25%
Machinery cost per cow	$390	$360	$455	$429	$401
Labor cost per cow	$465	$380	$343	$346	$376
Capital Efficiency					
Investment per worker	$117,626	$117,688	$162,723	$184,177	$159,006
Investment per cow	$5,710	$5,434	$6,058	$5,194	$5,277
Land & buildings per cow	$3,045	$2,764	$2,957	$2,464	$2,408
Machinery investment per cow	$921	$997	$1,213	$951	$989
Other					
Price per cwt. milk sold	$13.97	$13.39	$13.46	$13.63	$13.90

Table 59.

FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
572 New York Dairy Farms, 1982

Item	Averages for: 436 Individuals		123 Partnerships		13 Corporations	
CAPITAL INVESTMENT	1/1/82	1/1/83	1/1/82	1/1/83	1/1/82	1/1/83
Livestock	$106,397	$105,548	$166,792	$173,554	$205,155	$199,069
Feed & supplies	27,944	28,062	45,736	47,979	62,752	55,530
Mach. & equipment	79,787	81,770	107,475	112,508	147,466	156,220
Land & buildings	193,616	201,505	291,777	307,304	401,290	414,705
TOTAL INVESTMENT	$407,744	$416,885	$611,780	$641,345	$816,663	$825,524
EXPENSES						
Hired Labor	$ 13,972		$ 18,336		$ 46,948	
Feed						
Dairy grain & conc.	34,177		56,026		62,984	
Hay & other	1,561		2,006		1,402	
Machinery						
Machine hire	1,182		2,297		1,551	
Machinery repair	7,287		11,751		15,503	
Auto expense	464		487		393	
Gas & oil	6,049		10,093		13,377	
Livestock						
Replacement livestock	1,991		3,177		2,072	
Breeding fees	2,017		3,182		3,661	
Veterinary & medicine	2,945		5,253		4,896	
Milk marketing	5,360		7,670		14,546	
Cattle lease	136		163		0	
Other livestock expense	5,422		8,554		8,981	
Crops						
Fertilizer & lime	7,163		12,613		18,325	
Seeds & plants	2,426		4,101		4,671	
Spray & other	1,771		3,470		4,005	
Real Estate						
Land, bldg., fence repair	2,322		3,244		4,087	
Taxes	3,599		5,587		9,195	
Insurance	2,326		3,717		7,125	
Rent	2,532		4,043		3,603	
Other						
Telephone (farm share)	585		682		887	
Elec. (farm share)	3,169		4,845		6,497	
Interest paid	16,403		26,614		18,658	
Miscellaneous	1,805		3,964		5,186	
Total Cash Expenses	$126,664		$201,875		$258,553	
Expansion livestock	1,398		4,713		0	
Machinery depreciation	12,099		17,647		22,747	
Building depreciation	4,972		8,046		13,135	
Unpaid labor ($500/mo.)	1,788		1,280		0	
Interest on farm equity @ 5 percent	13,220		20,869		33,683	
TOTAL FARM EXPENSES	$160,141		$254,430		$328,118	

Table 59 continued
FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
572 New York Dairy Farms, 1982

Item	Averages for: 436 Individuals	123 Partnerships	13 Corporations
RECEIPTS			
Milk sales	$141,073	$232,292	$295,432
Crop sales	1,402	2,497	4,541
Dairy cattle sold	8,923	16,761	23,738
Other livestock sales	2,113	3,071	2,654
Gas tax refund	127	216	47
Government payments	542	388	791
Custom machine work	203	281	282
Miscellaneous	1,523	2,835	5,791
Total Cash Receipts	$155,906	$258,341	$333,276
Increase in livestock	4,908	11,937	1,796
Increase in feed & supplies	118	2,243	-7,222
Appreciation	1,670	8,134	10,050
TOTAL FARM RECEIPTS	$162,602	$280,655	$337,900
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$160,932	$272,521	$327,850
FINANCIAL SUMMARY			
Total Cash Receipts	$155,906	$258,341	$333,276
Total Cash Expenses	126,664	201,875	258,553
NET CASH FARM INCOME	$ 29,242	$ 56,466	$ 74,723
Total Farm Receipts Excluding Appreciation	$160,932	$272,521	$327,850
Total Farm Expenses	160,141	254,430	328,118
LABOR & MGMT. INCOME PER FARM	$ 791	$ 18,091	$ -268
Number of Operators	(476) 1.07	(259) 2.06	(23) 1.77
LABOR & MGMT. INCOME PER OPER.	$ 739	$ 8,782	$ -151
BUSINESS FACTORS			
Worker equivalent	2.67	3.58	4.58
Number of cows	72	112	139
Number of heifers	58	93	123
Acres of hay crops	124	164	223
Acres of corn silage*	55	93	111
Total tillable acres	233	345	452
Pounds of milk sold	1,041,200	1,713,200	2,133,400
Pounds of milk sold per cow	14,461	15,296	15,348
Tons hay crops per acre	2.5	2.7	2.9
Tons corn silage per acre	13.4	15.2	13.2
Cows per worker	27	31	30
Lbs. of milk sold per worker	389,963	478,547	465,808
% feed is of milk receipts	24%	24%	21%
Feed & crop expense per cwt. milk	$4.52	$4.57	$4.28
Fertilizer & lime per crop acre	$31	$37	$41
Machinery cost per cow	$432	$427	$440
Average price per cwt. milk	$13.55	$13.56	$13.85

*Average of all farms.

Table 60. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1981 & 1982
Same 402 New York Dairy Farms

Item	Averages 1981		Averages 1982	
CAPITAL INVESTMENT	1/1/81	1/1/82	1/1/82	1/1/83
Livestock	$122,161	$125,057	$124,643	$124,578
Feed & supplies	32,835	34,551	34,093	34,676
Machinery & equipment	80,725	89,699	89,738	92,165
Land & buildings	205,158	219,825	220,335	228,812
TOTAL INVESTMENT	$440,879	$469,132[1]	$468,809[1]	$480,231
EXPENSES				
Hired Labor	$ 14,593		$ 16,082	
Feed				
Dairy grain & concentrate	42,204		40,900	
Hay & other	1,191		1,639	
Machinery				
Machine hire	1,431		1,393	
Machinery repair	8,139		8,630	
Auto expense	466		471	
Gas & oil	7,173		7,146	
Livestock				
Replacement livestock	2,781		2,286	
Breeding fees	2,126		2,348	
Veterinary & medicine	3,449		3,695	
Milk marketing	4,709		5,871	
Cattle lease	NA		132	
Other livestock expense	5,761		6,329	
Crops				
Fertilizer & lime	8,454		8,702	
Seeds & plants	2,709		3,002	
Spray & other	2,344		2,280	
Real Estate				
Land, building, fence repair	2,576		2,782	
Taxes	4,007		4,180	
Insurance	2,628		2,660	
Rent	2,601		2,692	
Other				
Telephone (farm share)	591		603	
Electricity (farm share)	3,144		3,656	
Interest paid	16,571		18,732	
Miscellaneous	2,353		2,309	
Total Cash Expenses	$142,001		$148,520	
Expansion livestock	2,447		1,883	
Machinery depreciation	12,833		13,673	
Building depreciation	5,468		5,954	
Unpaid labor @ $500 per month	1,573		1,670	
Interest on farm equity @ 5%	15,402[2]		15,531	
TOTAL FARM EXPENSES	$179,724		$187,231	

[1]Operators often make adjustments in values "between" years.
[2]A nine percent charge for interest on farm equity was used in 1981. It is recalculated here at five percent for comparison purposes.

Table 60
continued COMPARISON OF FARM BUSINESS SUMMARIES FOR 1981 & 1982
Same 402 New York Dairy Farms

Item	Averages 1981	Averages 1982
RECEIPTS		
Milk sales	$162,544	$167,763
Crop sales	1,698	1,791
Dairy cattle sold	11,425	11,563
Other livestock sales	2,743	2,537
Gas tax refund	240	136
Government payments	326	539
Custom machine work	217	252
Miscellaneous	1,709	1,885
Total Cash Receipts	$180,902	$186,466
Increase in livestock	5,719	6,309
Increase in feed & supplies	1,716	583
Appreciation	8,249	2,438
TOTAL FARM RECEIPTS	$196,586	$195,796
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$188,337	$193,358
FINANCIAL SUMMARY		
Total Cash Receipts	$180,902	$186,466
Total Cash Expenses	142,001	148,520
NET CASH FARM INCOME	$ 38,901	$ 37,946
Total Farm Receipts Excluding Appreciation	$188,337	$193,358
Total Farm Expenses	179,724	187,231
LABOR & MGMT. INCOME PER FARM	$ 8,613	$ 6,127
Number of Operators	(517) 1.25	(520) 1.26
LABOR & MGMT. INCOME PER OPER.	$ 6,890	$ 4,863
BUSINESS FACTORS		
Worker equivalent	2.75	2.83
Number of cows	81	84
Number of heifers	62	68
Acres of hay crops	131	133
Acres of corn silage*	56	66
Total tillable acres	258	262
Pounds of milk sold	1,189,400	1,237,600
Pounds of milk sold per cow	14,684	14,733
Tons hay crop dry matter per acre	2.6	2.6
Tons corn silage per acre	15.1	14.3
Cows per worker	29	30
Lbs. of milk sold per worker	432,509	437,314
% feed is of milk receipts	26%	24%
Feed & crop expense per cwt. milk	$4.68	$4.57
Fertilizer & lime per crop acre	$33	$33
Machinery cost per cow	$423	$427
Average price per cwt. milk	$13.67	$13.56

*Average of all farms.

Table 61. SELECTED FARM BUSINESS SUMMARY FACTORS
New York Dairy Farms, Selected Years, 1962-1982

Item	Year			
	1962	1972	1977	1982
Number of farms	503	571	570	572
Financial Summary				
Total capital investment	$54,133	$173,780	$284,210	$474,438
Total farm receipts	$21,352	$68,376	$107,395	$191,968
Total farm expenses[1]	$16,406	$49,636	$103,657	$184,233
Labor & mgmt. income/operator	$2,020	$5,835	$3,049	$3,451
Size of Business				
Number of cows	38	70	71	82
Pounds of milk sold	394,900	887,500	964,800	1,210,500
Tillable acres	101	188	219	262
Worker equivalent	1.8	2.3	2.5	2.83
Total work units	524	754	785	917
Rates of Production				
Milk sold per cow, lbs.	10,390	12,700	13,589	14,762
Tons hay crops/acre (dry matter)	1.8	2.4	2.3	2.6
Tons corn silage per acre	12.0	11.0	14.1	14.0
Labor Efficiency				
Cows per worker	21	30	28	29
Pounds milk sold per worker	219,400	385,900	385,920	427,739
Work units per worker	291	328	314	324
Cost Control Factors				
Machinery cost per cow[2]	$106	$177	$257	$432
Machinery cost per cwt. milk[2]	$1.02	$1.40	$1.89	$2.92
Feed bought per cow	$147	$206	$377	$482
Feed bought per cwt. milk	$1.41	$1.62	$2.77	$3.27
Feed & crop expense/cwt. milk	$1.67	$2.06	$3.56	$4.53
% feed is of milk receipts	33%	25%	28%	24%
Capital Efficiency				
Total investment per worker	$30,074	$75,600	$113,684	$167,646
Total investment per cow	$1,425	$2,480	$4,003	$5,517
Machinery investment per cow	$296	$490	$778	$1,047
Land & buildings per cow	$675	$1,250	$2,137	$2,664
Capital turnover (years)	2.5	2.5	2.6	2.5
Other				
Price per cwt. milk	$4.33	$6.41	$9.76	$13.56
Acres hay crops[3]	72	106	119	135
Acres corn silage[3]	12	57	55	64
Total tillable acres per cow	2.7	2.7	3.1	3.2
Fert. & lime exp./tillable acre	$6.70	$13	$22	$33
Net cash farm income per cow	$203	$312	$332	$441
Labor & mgmt. income per cow	$60	$99	$53	$55

[1]Includes an interest charge on average farm capital of five percent in 1962, seven percent in 1972, interest paid plus interest on equity capital at seven percent in 1977, and interest paid plus interest on equity capital at five percent in 1982.

[2]Includes an interest charge on average machinery investment of five percent in 1962, seven percent in 1972 and 1977, and five percent in 1982.

[3]Average of all farms.

Table 62. FARM BUSINESS SUMMARY
43 New York Dairy-Cash Crop Farms,[1] 1982

CAPITAL INVESTMENT	1/1/82	1/1/83
Livestock	$152,579	$150,566
Feed & supplies	64,202	65,541
Machinery & equipment	149,793	155,277
Land & buildings	310,084	323,986
TOTAL INVESTMENT	$676,658	$695,370

EXPENSES	
Labor	
Hired	$ 25,631
Feed	
Dairy grain & concentrate	37,120
Hay & other	2,055
Machinery	
Machine hire	5,023
Machinery repair	13,907
Auto expense	555
Gas & oil	13,350
Livestock	
Replacement livestock	4,231
Breeding fees	2,660
Veterinary & medicine	4,162
Milk marketing	6,079
Cattle lease	1,629
Other livestock expense	7,133
Crops	
Lime & fertilizer	18,466
Seeds & plants	6,738
Spray & other	5,494
Real Estate	
Land, building, fence repair	3,353
Taxes	6,133
Insurance	3,484
Rent	7,392
Other	
Telephone (farm share)	658
Electricity (farm share)	4,893
Interest paid	30,196
Miscellaneous	2,961
TOTAL CASH EXPENSES	$213,303
Expansion livestock	3,317
Machinery depreciation	24,040
Building depreciation	8,145
Unpaid labor	721
Interest on farm equity @ 5%	21,729
TOTAL FARM EXPENSES	$271,255

RECEIPTS	
Milk sales	$194,720
Crop sales	39,249
Dairy cattle sold	11,746
Livestock sales	4,034
Gas tax refund	369
Government payments	1,870
Custom machine work	3,200
Miscellaneous	4,675
TOTAL CASH RECEIPTS	$259,863
Increase in livestock	7,706
Increase in feed & supplies	1,339
Appreciation	12,490
TOTAL FARM RECEIPTS	$281,398
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$268,908

FINANCIAL SUMMARY	
Total Cash Receipts	$259,863
Total Cash Expenses	213,303
NET CASH FARM INCOME	$ 46,560
Total Farm Receipts Excluding Appreciation	$268,908
Total Farm Expenses	271,255
LABOR & MGMT. INCOME PER FARM	$ -2,347
Number of operators (69)	1.51
LABOR & MGMT. INCOME PER OPER.	$ -1,554

BUSINESS FACTORS	
Worker equivalent	3.67
Number of cows	100
Number of heifers	86
Acres of hay crops	183
Acres of corn silage[2]	72
Total tillable acres	499
Pounds of milk sold	1,455,600
Pounds of milk sold per cow	14,556
Tons hay crops per acre	2.8
Tons corn silage per acre	15.7
Lbs. of milk sold per worker	396,621
Cows per worker	27
% feed is of milk receipts	19%
Feed & crop expense per cwt. milk	$4.80
Fertilizer & lime/tillable acre	$37
Machinery cost per cow	$645
Average price per cwt. milk	$13.38

[1]Farms where crop sales amounted to 10 percent or more of milk sales.

[2]Average of all farms.

Table 63. FARM BUSINESS SUMMARY
61 New York Dairy-Renter Farms,[1] 1982

CAPITAL INVESTMENT	1/1/82	1/1/83
Livestock	$100,014	$103,351
Feed & supplies	25,958	24,941
Machinery & equipment	68,068	73,006
Land & buildings	10,344	10,601
TOTAL INVESTMENT	$204,384	$211,899

EXPENSES	
Labor	
Hired	$ 11,483
Feed	
Dairy grain & concentrate	34,325
Hay & other	1,964
Machinery	
Machine hire	1,270
Machinery repair	6,522
Auto expense	253
Gas & oil	6,473
Livestock	
Replacement livestock	2,683
Breeding fees	2,341
Veterinary & medicine	3,294
Milk marketing	6,258
Cattle lease	942
Other livestock expense	6,082
Crops	
Lime & fertilizer	7,113
Seeds & plants	2,457
Spray & other	1,850
Real Estate	
Land, building, fence repair	2,644
Taxes	1,836
Insurance	1,947
Rent	14,059
Other	
Telephone (farm share)	508
Electricity (farm share)	3,115
Interest paid	10,776
Miscellaneous	2,963
TOTAL CASH EXPENSES	$133,158
Expansion livestock	2,541
Machinery depreciation	10,684
Building depreciation	443
Unpaid labor	1,500
Interest on farm equity @ 5%	6,869
TOTAL FARM EXPENSES	$155,195

RECEIPTS	
Milk sales	$144,347
Crop sales	3,462
Dairy cattle sold	8,855
Livestock sales	2,034
Gas tax refund	198
Government payments	534
Custom machine work	349
Miscellaneous	1,790
TOTAL CASH RECEIPTS	$161,569
Increase in livestock	5,628
Increase in feed & supplies	(1,017)
Appreciation	2,456
TOTAL FARM RECEIPTS	$168,636
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$166,180

FINANCIAL SUMMARY	
Total Cash Receipts	$161,569
Total Cash Expenses	133,158
NET CASH FARM INCOME	$ 28,411
Total Farm Receipts Excluding Appreciation	$166,180
Total Farm Expenses	155,195
LABOR & MGMT. INCOME PER FARM	$ 10,985
Number of operators (87)	1.43
LABOR & MGMT. INCOME PER OPER.	$ 7,682

BUSINESS FACTORS	
Worker equivalent	2.67
Number of cows	72
Number of heifers	55
Acres of hay crops[2]	114
Acres of corn silage[2]	50
Total tillable acres	222
Pounds of milk sold	1,053,100
Pounds of milk sold per cow	14,626
Tons hay crops per acre	2.4
Tons corn silage per acre	12.7
Lbs. of milk sold per worker	394,419
Cows per worker	27
% feed is of milk receipts	24%
Feed & crop expense per cwt. milk	$4.53
Fertilizer & lime/tillable acre	$32
Machinery cost per cow	$399
Average price per cwt. milk	$13.71

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

[2] Average of all farms.

Table 64. FARM BUSINESS SUMMARY
Top 10 Percent of the Farms by Labor & Management Income Per Operator
57 New York Dairy Farms, 1982

CAPITAL INVESTMENT

	1/1/82	1/1/83
Livestock	$207,703	$223,156
Feed & supplies	56,553	65,677
Machinery & equipment	113,354	122,159
Land & buildings	302,968	335,184
TOTAL INVESTMENT	$680,578	$746,176

EXPENSES

Labor	
Hired	$ 32,539
Feed	
Dairy grain & concentrate	71,510
Hay & other	2,663
Machinery	
Machine hire	3,285
Machinery repair	14,686
Auto expense	451
Gas & oil	11,466
Livestock	
Replacement livestock	2,218
Breeding fees	4,296
Veterinary & medicine	6,572
Milk marketing	10,389
Cattle lease	0
Other livestock expense	10,777
Crops	
Lime & fertilizer	15,032
Seeds & plants	4,771
Spray & other	3,726
Real Estate	
Land, building, fence repair	4,108
Taxes	5,618
Insurance	3,807
Rent	5,988
Other	
Telephone (farm share)	903
Electricity (farm share)	5,492
Interest paid	27,615
Miscellaneous	3,991
TOTAL CASH EXPENSES	$251,903
Expansion livestock	6,688
Machinery depreciation	19,531
Building depreciation	9,799
Unpaid labor	1,395
Interest on farm equity @ 5%	24,732
TOTAL FARM EXPENSES	$314,048

RECEIPTS

Milk sales	$302,305
Crop sales	3,444
Dairy cattle sold	20,127
Livestock sales	3,483
Gas tax refund	157
Government payments	478
Custom machine work	195
Miscellaneous	4,338
TOTAL CASH RECEIPTS	$334,527
Increase in livestock	25,943
Increase in feed & supplies	9,124
Appreciation	4,606
TOTAL FARM RECEIPTS	$374,200
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$369,594

FINANCIAL SUMMARY

Total Cash Receipts	$334,527
Total Cash Expenses	251,903
NET CASH FARM INCOME	$ 82,624
Total Farm Receipts Excluding Appreciation	$369,594
Total Farm Expenses	314,048
LABOR & MGMT. INCOME PER FARM	$ 55,546
Number of operators (75)	1.28
LABOR & MGMT. INCOME PER OPER.	$ 43,395

BUSINESS FACTORS

Worker equivalent	3.92
Number of cows	140
Number of heifers	117
Acres of hay crops*	169
Acres of corn silage*	133
Total tillable acres	384
Pounds of milk sold	2,207,500
Pounds of milk sold per cow	15,768
Tons hay crops per acre	2.9
Tons corn silage per acre	15.5
Lbs. of milk sold per worker	563,138
Cows per worker	36
% feed is of milk receipts	24%
Feed & crop expense per cwt. milk	$4.43
Fertilizer & lime/tillable acre	$39
Machinery cost per cow	$395
Average price per cwt. milk	$13.69

*Average of all farms.

Average 572 New York Dairy Farms, 1982

CAPITAL INVESTMENT

	1/1/82	1/1/83
Livestock	$121,629	$122,296
Feed & supplies	32,561	32,969
Machinery & equipment	87,279	90,072
Land & buildings	219,444	229,101
TOTAL INVESTMENT	$460,913	$474,438

EXPENSES

Labor	
Hired	$ 15,660
Feed	
Dairy grain & concentrate	39,530
Hay & other	1,653
Machinery	
Machine hire	1,430
Machinery repair	8,433
Auto expense	467
Gas & oil	7,085
Livestock	
Replacement livestock	2,248
Breeding fees	2,305
Veterinary & medicine	3,486
Milk marketing	6,066
Cattle lease	139
Other livestock expense	6,176
Crops	
Lime & fertilizer	8,588
Seeds & plants	2,838
Spray & other	2,187
Real Estate	
Land, building, fence repair	2,560
Taxes	4,154
Insurance	2,734
Rent	2,881
Other	
Telephone (farm share)	613
Electricity (farm share)	3,605
Interest paid	18,650
Miscellaneous	2,346
TOTAL CASH EXPENSES	$145,834
Expansion livestock	2,079
Machinery depreciation	13,534
Building depreciation	5,819
Unpaid labor	1,638
Interest on farm equity @ 5%	15,329
TOTAL FARM EXPENSES	$184,233

RECEIPTS

Milk sales	$164,196
Crop sales	1,709
Dairy cattle sold	10,945
Livestock sales	2,331
Gas tax refund	144
Government payments	515
Custom machine work	221
Miscellaneous	1,902
TOTAL CASH RECEIPTS	$181,963
Increase in livestock	6,348
Increase in feed & supplies	408
Appreciation	3,249
TOTAL FARM RECEIPTS	$191,968
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$188,719

FINANCIAL SUMMARY

Total Cash Receipts	$181,963
Total Cash Expenses	145,834
NET CASH FARM INCOME	$ 36,129
Total Farm Receipts Excluding Appreciation	$188,719
Total Farm Expenses	184,233
LABOR & MGMT. INCOME PER FARM	$ 4,486
Number of operators (758)	1.30
LABOR & MGMT. INCOME PER OPER.	$ 3,451

BUSINESS FACTORS

Worker equivalent	2.83
Number of cows	82
Number of heifers	67
Acres of hay crops	135
Acres of corn silage*	64
Total tillable acres	262
Pounds of milk sold	1,210,500
Pounds of milk sold per cow	14,762
Tons hay crops per acre	2.6
Tons corn silage per acre	14.0
Lbs. of milk sold per worker	427,739
Cows per worker	29
% feed is of milk receipts	24%
Feed & crop expense per cwt. milk	$4.53
Fertilizer & lime/tillable acre	$33
Machinery cost per cow	$432
Average price per cwt. milk	$13.56

*Average of all farms.

Table 66. FARM BUSINESS SUMMARY
Average Per Cow, 572 New York Dairy Farms, 1982

CAPITAL INVESTMENT	1/1/82	1/1/83
Livestock	$1,483	$1,422
Feed & supplies	397	383
Machinery & equipment	1,064	1,047
Land & buildings	2,676	2,664
TOTAL INVESTMENT	$5,620	$5,516

EXPENSES	
Labor	
Hired	$ 191
Feed	
Dairy grain & concentrate	482
Hay & other	20
Machinery	
Machine hire	17
Machinery repair	103
Auto expense	6
Gas & oil	86
Livestock	
Replacement livestock	27
Breeding fees	28
Veterinary & medicine	43
Milk marketing	74
Cattle lease	2
Other livestock expense	75
Crops	
Lime & fertilizer	105
Seeds & plants	35
Spray & other	27
Real Estate	
Land, building, fence repair	31
Taxes	51
Insurance	33
Rent	35
Other	
Telephone (farm share)	7
Electricity (farm share)	44
Interest paid	227
Miscellaneous	29
TOTAL CASH EXPENSES	$1,778
Expansion livestock	26
Machinery depreciation	165
Building depreciation	71
Unpaid labor	20
Interest on farm equity @ 5%	187
TOTAL FARM EXPENSES	$2,247

RECEIPTS	
Milk sales	$2,002
Crop sales	21
Dairy cattle sold	134
Livestock sales	28
Gas tax refund	2
Government payments	6
Custom machine work	3
Miscellaneous	23
TOTAL CASH RECEIPTS	$2,219
Increase in livestock	77
Increase in feed & supplies	5
Appreciation	40
TOTAL FARM RECEIPTS	$2,341
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$2,301

FINANCIAL SUMMARY	
Total Cash Receipts	$2,219
Total Cash Expenses	1,778
NET CASH FARM INCOME	$ 441
Total Farm Receipts Excluding Appreciation	$2,301
Total Farm Expenses	2,247
LABOR & MGMT. INCOME PER FARM	$ 54
Number of operators	(758) 1.30
LABOR & MGMT. INCOME PER OPER.	$ 42

BUSINESS FACTORS	
Worker equivalent	.035
Number of cows	(82)
Number of heifers	.8
Acres of hay crops	1.6
Acres of corn silage*	.8
Total tillable acres	3.2
Pounds of milk sold	14,762
Tons hay crops	4.3
Tons corn silage	11.9
Feed & crop expense	$668
Lime & fertilizer	$105
Machinery cost	$432
Total debt	$2,261
Debt payment	$471

*Average of all farms.