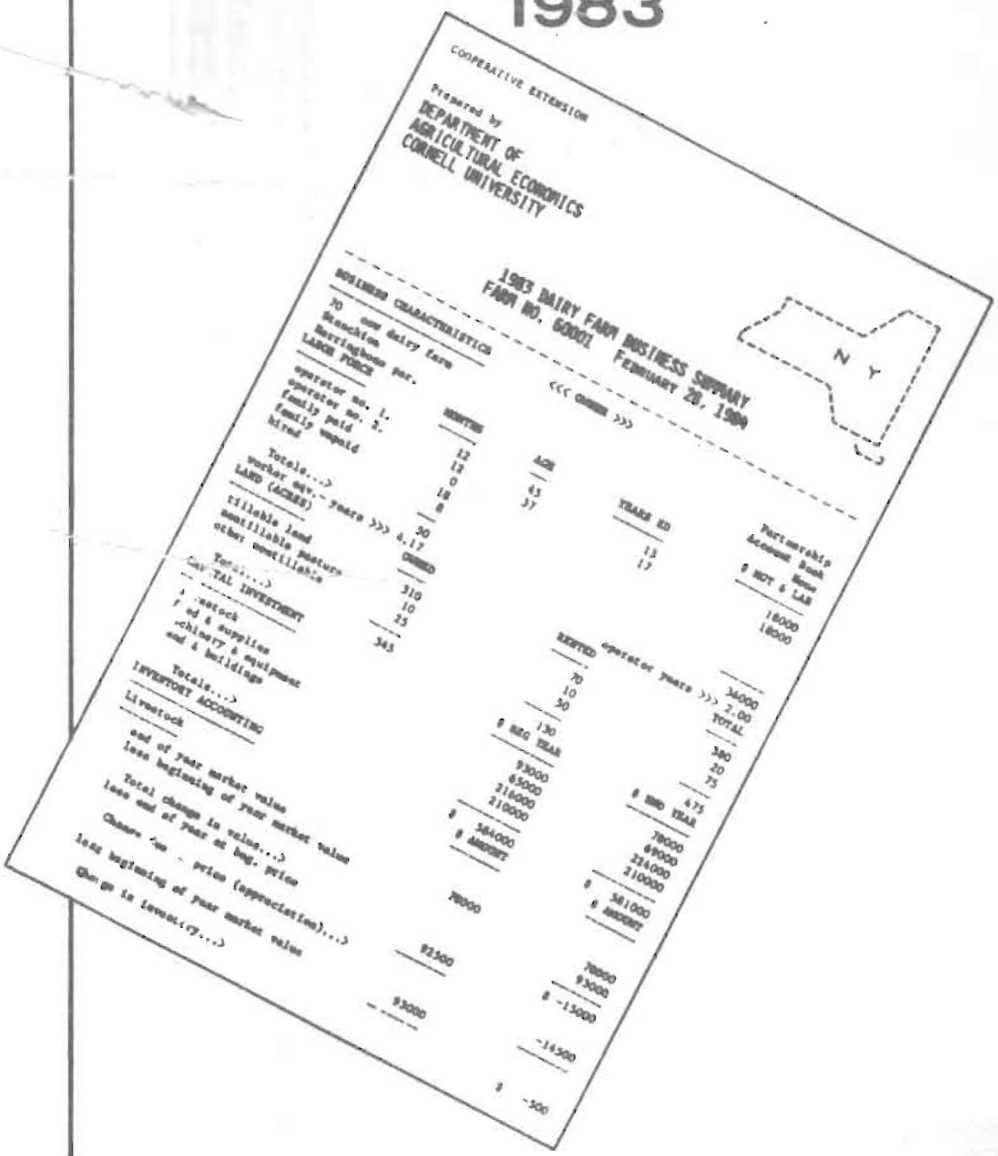
DAIRY FARM MANAGEMENT

August 1984 A.E. Res. 84-10

BUSINESS SUMMARY

New York

1983


COOPERATIVE EXTENSION

Prepared by
DEPARTMENT OF
AGRICULTURAL ECONOMICS
CORNELL UNIVERSITY

1983 DAIRY FARM BUSINESS SUMMARY
FARM NO. 60001 FEBRUARY 28, 1984

N Y

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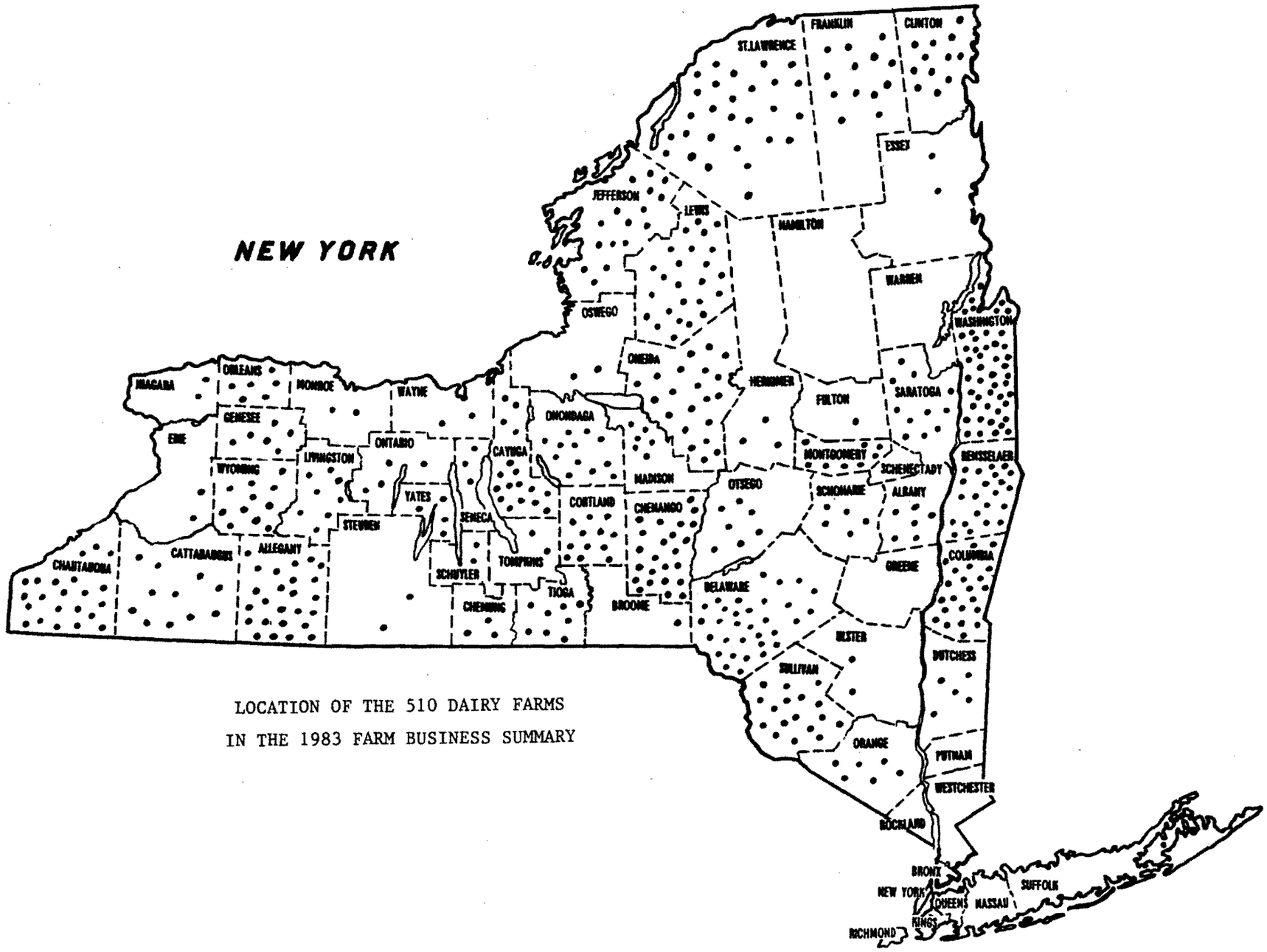


LOCATION OF THE 510 DAIRY FARMS
IN THE 1983 FARM BUSINESS SUMMARY

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 1983, more than 600 dairy farmers participated in these management projects. The records submitted by dairy farmers from 48 counties provide the basis for extension educational programs and data for applied research studies.

Cooperative 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 provides current farm business information for use by dairy farmers, Cooperative Extension staff, teachers, and others concerned with the New York dairy industry.

A total of 510 farm business records have been included in the regular dairy summary for 1983. 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 510 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.

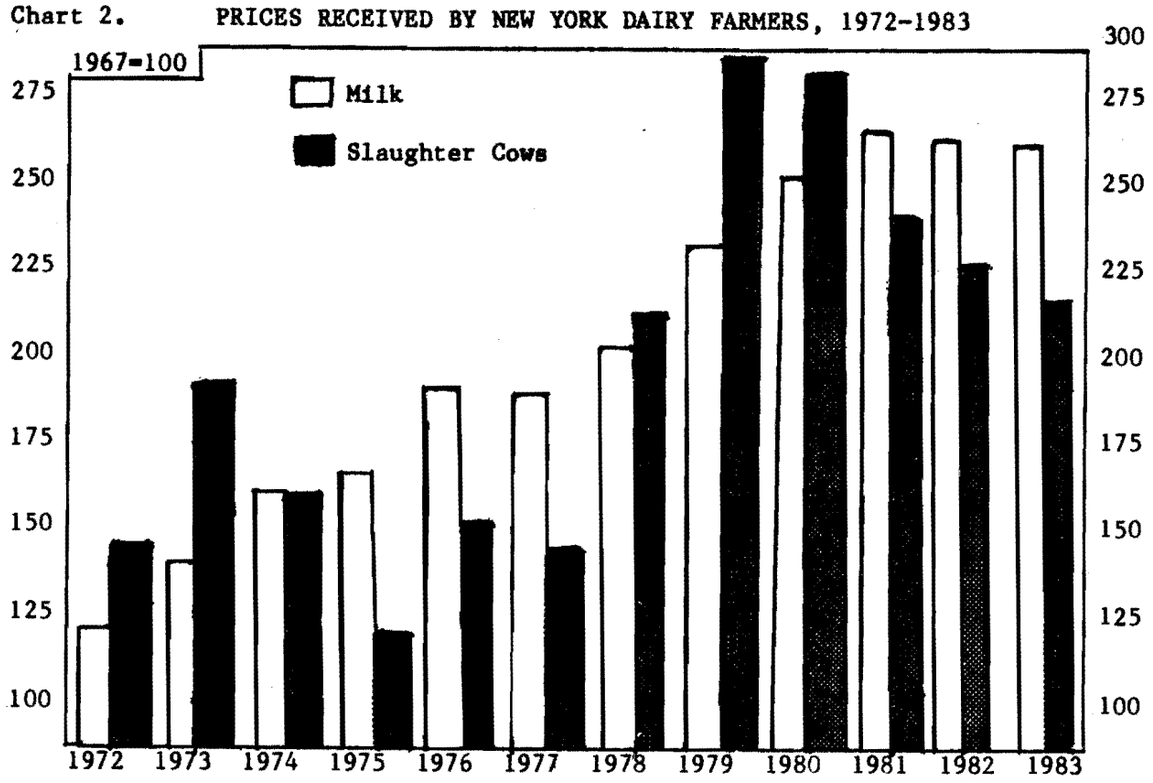
1983 Regional Summary Publications

Region	Publications	Author
Southeastern New York	A.E. Ext. 84-5	Stuart F. Smith and Linda D. Putnam
Western Plain Region	A.E. Ext. 84-6	Wayne A. Knoblauch and Linda D. Putnam
Northern New York	A.E. Ext. 84-8	William F. Lazarus
Eastern Plateau Region	A.E. Ext. 84-10	Stuart F. Smith and Linda D. Putnam
Oneida-Mohawk Region	A.E. Ext. 84-11	Eddy L. LaDue
Western Plateau Region	A.E. Ext. 84-12	Loren W. Tauer and Linda D. Putnam
Central Plain Region	A.E. Ext. 84-14	Wayne A. Knoblauch and Linda D. Putnam
Columbia and Dutchess Counties	A.E. Ext. 84-15	Stuart F. Smith and Linda D. Putnam
Northern Hudson Region	A.E. Ext. 84-16	Stuart F. Smith and Linda D. Putnam
Eastern New York Dairy Farm Renters	A.E. Ext. 84-17	Stuart F. Smith and Linda D. Putnam
Central New York	A.E. Ext. 84-20	Wayne A. Knoblauch and Linda D. Putnam

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.

Chart 2. PRICES RECEIVED BY NEW YORK DAIRY FARMERS, 1972-1983



The prices dairy farmers 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 1972. Milk prices have increased at a more constant rate showing declines in 1977, 1982 and 1983. 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 DAIRY FARMERS, 1971-1983

Year	All Milk (cwt.)	Slaughter Cows (cwt.)	Calves (cwt.)	Monthly Farm Price Per 100 Lbs. of Milk, 1983	
1971	6.12	21.20	36.20	January	13.80
1972	6.33	24.50	44.80	February	13.80
1973	7.32	32.80	54.60	March	13.50
1974	8.35	27.10	40.80	April	13.30
1975	8.71	20.60	26.20	May	13.10
				June	12.90
1976	9.83	25.40	34.50	July	13.30
1977	9.75	25.00	37.50	August	13.80
1978	10.50	35.30	58.20	September	14.00
1979	11.90	49.80	88.80	October	14.20
1980	13.00	46.30	78.00	November	14.10
				December	14.20
1981	13.80	41.30	66.20		
1982	13.70	38.60	58.80		
1983*	13.67	38.00	60.41		

*Preliminary
Source: USDA, Agricultural Prices, New York.

Table 3. PRICES PAID BY FARMERS FOR SELECTED ITEMS, 1973-1983

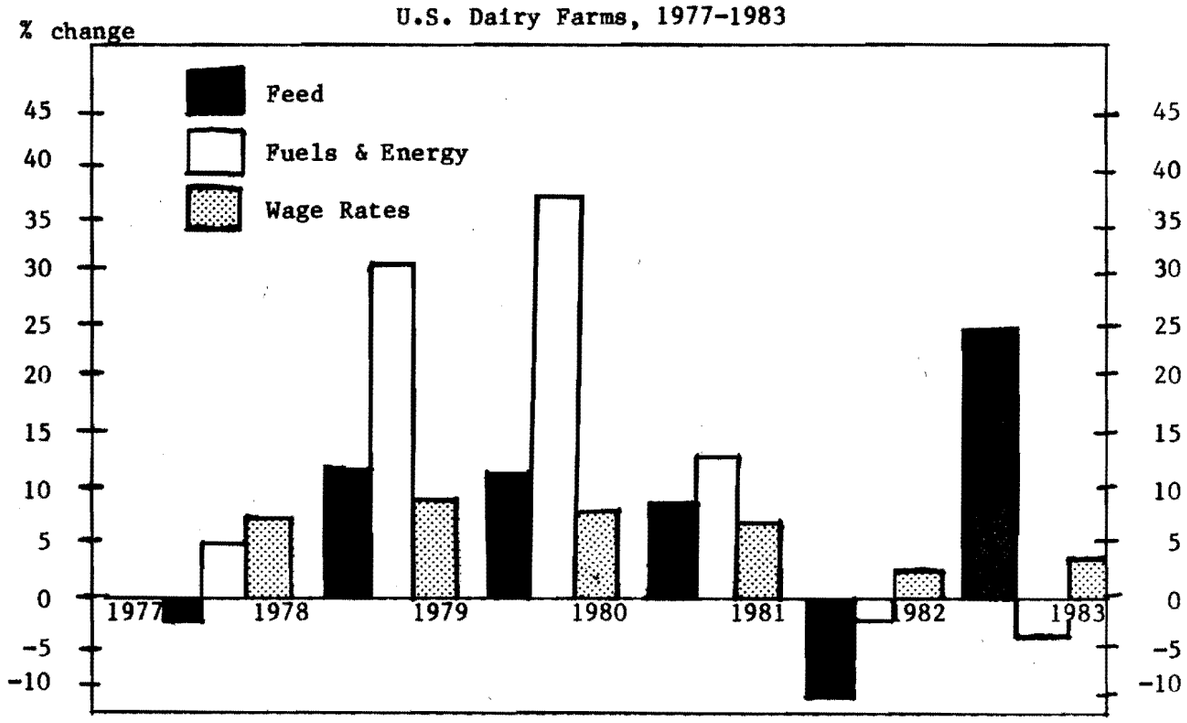
Year	Index 1977=100					
	Feed	Fert.	Fuel & Energy	Wage Rates	Taxes	Interest
1973	86	56	57	69	77	55
1974	104	92	79	79	81	65
1975	100	120	88	85	87	77
1976	103	102	93	93	94	88
1977	100	100	100	100	100	100
1978	98	100	105	107	100	117
1979	110	108	137	117	107	143
1980	123	134	188	126	115	174
1981	134	144	213	137	123	211
1982	122	144	210	143	131	233
1983*	153	137	202	147	140	236

*Preliminary
SOURCE: USDA Agricultural Prices

The prices dairy farmers 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, 1977-1983



Feed costs increased 25 percent in 1983 after declining nine percent in 1982. Fuel and energy prices dropped for the second consecutive year. Wage rates continued to increase.

Inflation, appreciation, supply and demand all have a direct effect on the inventory values on New York dairy farms. Machinery prices have risen steadily during the past six years. Dairy cow prices have changed most dramatically as the demand for replacements jumped in 1978 and 1979 but has declined rapidly since 1980. Real estate values dropped two percent in 1983.

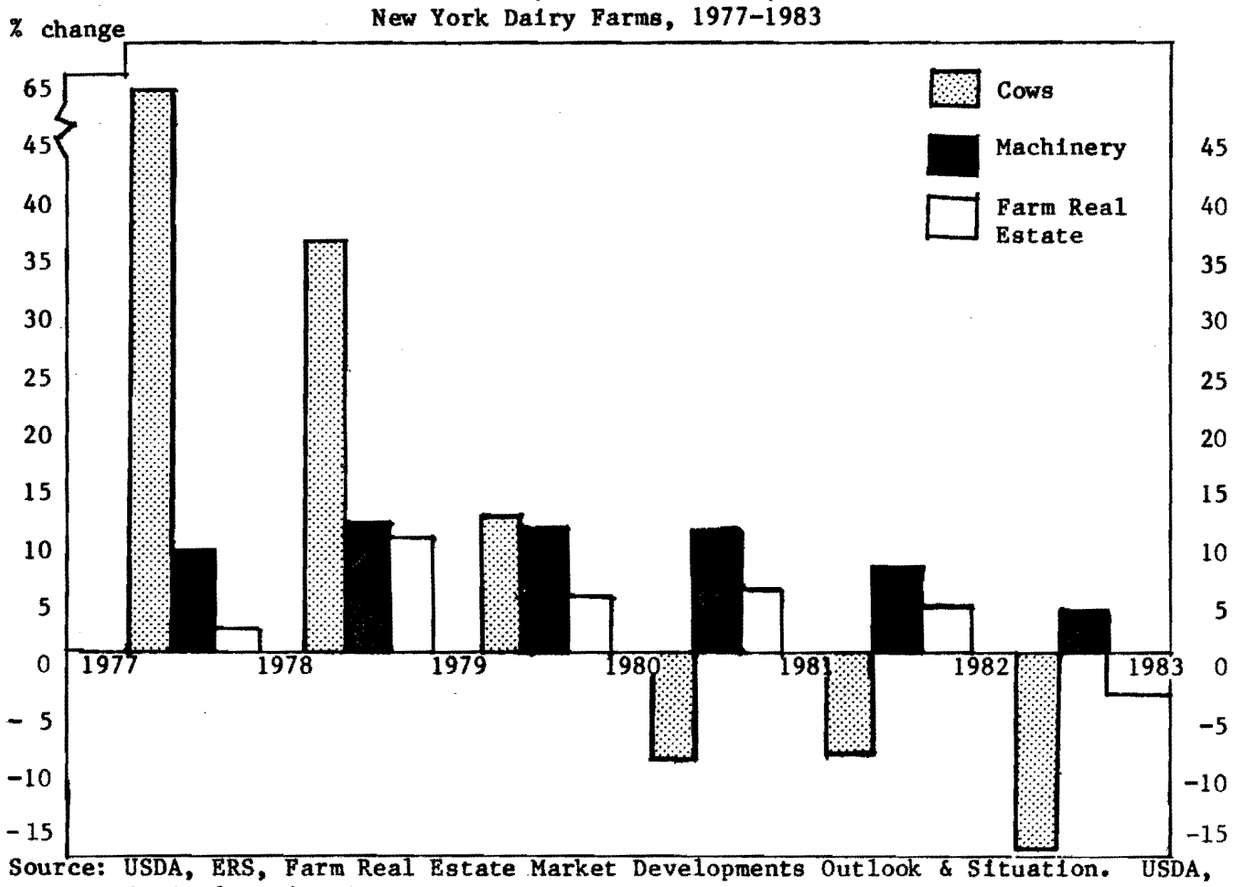
Table 1. UNIT VALUES OF NEW YORK DAIRY FARM INVENTORY ITEMS, 1977-1983

Year	New York Dairy Cows		Machinery*	N.Y. Farm Real Estate	
	Value/Head	1977=100	1977=100	Value/Acre	1977=100
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
1983	850	172	174	770	129

*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, 1977-1983



Source: USDA, ERS, Farm Real Estate Market Developments Outlook & Situation. USDA, Agricultural Prices.

SUMMARY OF THE FARM BUSINESS

Business Characteristics and Resources Used

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

Table 4. BUSINESS CHARACTERISTICS AND RESOURCES USED
510 New York Dairy Farms, 1983

Type of Business	Number	Percent
Sole Proprietorship	371	73
Partnership	127	25
Corporation	11	2
Unclassified	1	<1
Barn Type		
Stanchion	317	62
Freestall	174	34
Other	19	4
Milking System		
Bucket & Carry	6	1
Dumping Station	65	13
Pipeline	255	50
Herringbone	162	32
Other Parlor	22	4

Labor Force	My Farm	Average
Operator	_____	16 mo.
Family	_____	5 mo.
Family unpaid	_____	3 mo.
Hired	_____	12 mo.
Total months	_____	36 mo.
Operators (679)		1.32
Age	_____	43 yrs.
Education	_____	13 yrs.
Estimated value labor & mgmt.	$_____	$15,465

Business Records	Number	Percent
Account Book	201	39
Agrifax	125	25
CAMIS	71	14
Agway	34	7
Farm Bureau	2	<1
On-Farm Computer	7	1
Other	70	14
Dairy Records		
D.H.I.C.	368	72
Owner Sampler	64	13
Other	18	4
None	60	12

Land Used	My Farm	Average
Total acres:		
Owned		332
Rented (420)	_____	139
Tillable acres:		
Rented (415)	_____	112
Total	_____	272
Number of Cows		
Beg. of year	_____	87
End of year	_____	90
Ave. for year	_____	88

The most typical dairy farm business was a sole proprietorship with stanchion barn, pipeline milking system, computerized farm accounts, and DHIC records. There were 679 full-time operator equivalents on the 510 dairy farms for an average of 1.32 operators per farm. The operators averaged 43 years of age and 13 years of formal education.

All the 510 farm businesses included in the regular dairy summary own farm real estate. Dairy farm renters are summarized separately. However, 415 of the dairy farm owners rented an average of 112 acres of tillable land in 1983. The 510 farms averaged 272 total tillable acres per farm of which 91 acres were rented.

Farm Inventory Values

Table 5. CAPITAL INVESTMENT - FARM INVENTORY VALUES
510 New York Dairy Farms, 1983

Item	My Farm 1/1/83	My Farm 1/1/84	Average 510 Farms 1/1/83	Average 510 Farms 1/1/84
Livestock	$_____	$_____	$125,178	$117,793
Feed and supplies	_____	_____	34,863	38,341
Machinery and equipment	_____	_____	91,696	94,433
Land and buildings	_____	_____	237,115	242,744
TOTAL	$_____	$_____	$488,852	$493,311

The value of total farm inventories increased an average of $4,459 per farm or one percent during 1983. This is the smallest rate of growth that has occurred since 1962. From 1963 through 1982, farm inventory values increased at an average rate of nine percent.

The market value of livestock decreased an average of $7,385 per farm in 1983 for dairy cattle prices declined drastically during the year. The change in inventory caused by the decline in cattle prices averaged $-11,430 per farm. If there had been no herd growth during the year, the livestock inventory would have dropped an average of $11,430 per farm. Herd growth is calculated in Table 6.

Table 6. CHANGES IN LIVESTOCK INVENTORY
510 New York Dairy Farms, 1983

Item	Average 510 Farms	
End of year market value inventory	$117,793	
Beginning of year market value inventory	-125,178	
Total Increase in Inventory		$- 7,385
End of year market value inventory	$117,793	
End of year inventory at beginning prices	-129,223	
Change Due To Price Decline (Appreciation)		-11,430
Change Due To Physical Growth in Inventory		$ 4,045

The increase in livestock inventory caused by growth and maturity of the herd averaged $4,045 per farm. Approximately 65 percent of this amount can be attributed to the increase in dairy cow numbers owned from 87 to 90 head per farm. A seven percent increase in the size of the youngstock herd accounts for the rest of the inventory change.

Feed and supply inventories increased 10 percent during 1983 after jumping at an annual rate of 15 percent over the period 1978-81. The increase was only one percent in 1982.

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
510 New York Dairy Farms, 1983

Item	Average 510 Farms	
End of year market value		$94,433
Beginning of year market value	$91,696	
Plus machinery purchased	+12,876	
Less machinery sold	- 416	
Less depreciation	-14,239	
Net End Investment		89,917
Appreciation		$ 4,516

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
510 New York Dairy Farms, 1983

Item		Average 510 Farms	
End of year market value			$242,744
Beginning of year market value		$237,115	
Plus cost of new real estate	$+10,097		
Less lost capital	- 2,060		
Value Added		+ 8,037	
Less depreciation	- 6,706		
Less real estate sold	- 432		
Value Deducted		- 7,138	
Net End Investment			238,014
Appreciation			$ 4,730

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 summed excluding inventory appreciation.

Table 9. FARM RECEIPTS
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms Per Farm	Per Cow	Percent
Milk sales	$_____	$183,193	$2,082	90
Crop sales	_____	1,814	21	1
Dairy cattle sold	_____	11,045	125	5
Other livestock sales	_____	2,543	29	1
Gas tax refunds	_____	169	2	<1
Government payments	_____	1,367	15	1
Custom machine work	_____	327	4	<1
Miscellaneous	_____	2,682	30	1
Total Cash Receipts	$_____	$203,140	$2,308	100
Increase in livestock inventory*	_____	4,045	46	
Increase in feed & supply inventory	_____	3,478	40	
Total Farm Receipts Excluding Appreciation	$_____	$210,663	$2,394	
Livestock appreciation	_____	- 11,430	- 130	
Machinery appreciation	_____	4,516	51	
Real estate appreciation	_____	4,730	54	
Total Farm Receipts	$_____	$208,479	$2,369	

*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 1983. Participation by dairy farmers in the 1983 PIC program is reflected by an average increase in government payments of $852 per farm.

Table 10. INCOME ANALYSIS
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms	Top 10%*
Average price per cwt. milk sold	$_____	$13.64	$13.67
Milk sales per cow	$_____	$2,082	$2,254
Milk and cattle sales per cow	$_____	$2,236	$2,404
Total cash receipts per worker	$_____	$67,713	$90,145

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

The average price received for milk sold on all the farms was $13.64 per hundredweight in 1983, $.08 above the 1982 average. The average price is based on gross milk receipts. In 1982 the average price decreased $.10 per hundredweight. Milk sales averaged $2,082 per cow in 1983 compared to $2,002 in 1982.

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 510 farms was $13.64 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	15	3
$12.50 to 12.99	40	8
13.00 to 13.49	199	39
13.50 to 13.99	138	27
14.00 to 14.49	54	11
14.50 to 14.99	47	9
15.00 and over	17	3
Total	510	100

Sixty-six percent of the farms received from $13.00 to $13.99 per hundredweight of milk sold. Twenty-three percent of the farms received $14.00 or more per hundredweight while only 11 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 510 farms in 1983 is shown below.

DISTRIBUTION OF FARMS BY TOTAL FARM RECEIPTS

Total Farm Receipts	Farms	
	Number	Percent
Under $ 50,000	12	2
$ 50,000 to 99,999	95	19
100,000 to 149,999	100	20
150,000 to 199,999	106	21
200,000 to 249,999	68	13
250,000 to 299,999	41	8
300,000 to 349,999	22	4
350,000 to 399,999	22	4
400,000 and over	44	9
Total	510	100

Almost one-half of the 510 farms had total farm receipts of less than $150,000 but only two percent fell below $50,000. The remaining 303 farms had total receipts ranging from $150,000 to over $400,000 in 1983.

Expenses

Total cash farm expenses for the 510 farms averaged $449 per day or $5.10 per cow per day. Total farm expenses averaged more than $550 per day. The average expenses per farm and per cow for each item are shown below.

Table 11. FARM EXPENSES
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms Per Farm	Per Cow	Percent
Hired Labor	$_____	$ 16,827	$ 191	10
Feed				
Dairy grain & concentrate	_____	46,265	526	28
Hay & other feed	_____	2,009	23	1
Machinery				
Machine hire, rent, & lease	_____	1,445	17	1
Machinery repairs	_____	8,902	101	5
Auto expense (farm share)	_____	528	6	<1
Gas & oil	_____	6,613	75	4
Livestock				
Replacement livestock	_____	2,168	25	1
Breeding fees	_____	2,581	29	2
Veterinary & medicine	_____	3,793	43	2
Milk marketing	_____	12,465	142	8
Cattle lease	_____	161	2	<1
Other livestock expense	_____	7,073	80	4
Crops				
Fertilizer & lime	_____	8,414	96	5
Seeds & plants	_____	2,802	32	1
Spray & other crop expense	_____	2,521	29	2
Real Estate				
Land, building, fence repair	_____	2,461	28	2
Taxes	_____	4,574	52	3
Insurance	_____	2,756	31	2
Rent/lease	_____	3,627	41	2
Other				
Telephone (farm share)	_____	611	7	<1
Electricity (farm share)	_____	4,165	47	3
Interest paid	_____	18,779	213	11
Miscellaneous	_____	2,312	26	1
Total Cash Expenses	$_____	$163,852	$1,862	100
Expansion livestock	_____	888	10	
Machinery depreciation	_____	14,239	162	
Building depreciation	_____	6,706	76	
Unpaid labor	_____	1,600	18	
TOTAL FARM EXPENSES EXCLUDING INTEREST ON EQUITY CAPITAL	$_____	$187,285	$2,128	
Interest on equity capital @ 5%	_____	16,100	183	
TOTAL FARM EXPENSES	$_____	$203,385	$2,311	

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.

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. Cattle lease, has been added under livestock expenses. Lease payments for farm buildings and structures fall under real estate Rent/lease.

Milk marketing costs include the federal milk assessment as well as coop dues, hauling, advertising, and milkhouse supplies.

Interest on equity capital was changed to five percent last year. 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 is used to determine the opportunity cost of using equity capital.

Following are explanations of other expense classifications.

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.

Other livestock expenses include DHIA fees, bedding, milkhouse and stable supplies, registration and classification expenses.

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 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
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms Per Farm	Average 510 Farms Per Cow
Cash Farm Receipts	$_____	$203,140	$2,308
Cash Farm Expenses	_____	163,852	1,862
NET CASH FARM INCOME	$_____	$ 39,288	$ 446

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
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms Per Farm	Average 510 Farms Per Cow
Total Farm Receipts	$_____	$208,479	$2,369
Total Farm Expenses Excluding Interest on Equity Capital	_____	187,285	2,128
LABOR, MANAGEMENT & OWNERSHIP INCOME PER FARM	$_____	$ 21,194	$ 241
Number of Operators	_____	1.32	1.32
LABOR, MANAGEMENT & OWNERSHIP INCOME PER OPERATOR	$_____	$ 16,056	$ 182

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 $16,056 in 1983.

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
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms	
		Per Farm	Per Cow
Total Farm Receipts Excluding Appreciation	$_____	$210,663	$2,394
Total Farm Expenses	_____	203,385	2,311
LABOR & MANGEMENT INCOME	$_____	$ 7,278	$ 83
Number of operators per farm	_____	1.32	1.32
LABOR & MANAGEMENT INCOME PER OPERATOR	$_____	$ 5,514	$ 63

Labor and management income per operator averaged $5,514 on these 510 dairy farms in 1983. There were 679 operators on the 510 farms for an average of 1.32 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 42 percent of the farms while only 17 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	9	2
-$50,000 to - 40,001	5	1
- 40,000 to - 30,001	13	3
- 30,000 to - 20,001	23	4
- 20,000 to - 10,001	43	8
- 10,000 to - 1	116	23
0 to 9,999	136	27
10,000 to 19,999	78	15
20,000 to 29,999	38	7
30,000 to 39,999	25	5
40,000 or more	24	5

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 679 operators was $15,873 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 + $10,157 = $19,157). The value used in Table 15 is the operators' estimates times the number of operators per farm ($15,873 x 1.32 = $20,953).

Table 15. RETURN ON EQUITY CAPITAL
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms
	Including Appreciation	
Labor, Management, & Ownership Income (pg. 12)	$_____	$ 21,194
Value of Operator's Labor & Management (pg. 5)	_____	20,953
RETURN ON EQUITY CAPITAL	$_____	$ 241
Amount of Equity Capital	$_____	$322,001
RATE OF RETURN ON EQUITY CAPITAL	_____%	0.1%
	Excluding Appreciation	
Return on Equity Capital (from above)	$_____	$ 241
Less Appreciation	_____	[2,184]*
RETURN ON EQUITY CAPITAL	$_____	$ 2,425
Amount of Equity Capital	$_____	$322,001
RATE OF RETURN ON EQUITY CAPITAL	_____%	0.8%

*Average for 510 farms was negative $2,184 due to $11,430 drop in cattle values. To exclude appreciation from return on equity capital, $2,184 must be added.

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 without appreciation, appreciation is excluded 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 3.6 percent on these farms in 1983.

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	$ 7,278
Cost of hired labor	16,827
Value of unpaid labor	1,600
Total Returns to Labor & Management	$25,705
Average worker equivalent	3.00
Returns per worker equivalent	$ 8,568
Returns per hour (3,000 hours/worker/year)	$ 2.86

Farm and Farm Family Financial Situation

The financial situation is an important part of the farm business summary. It has a direct effect 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
510 New York Dairy Farms, January 1, 1984

Item	My Farm	Average 510 Farms Amount		Average 510 Farms Percent
Assets				
Livestock	$_____	$117,880		22
(includes discounted lease payments)		(87)		
Feed & supplies	_____	38,341		7
Machinery & equipment	_____	95,355		17
(includes discounted lease payments)		(922)		
Land & buildings	_____	245,156		45
(includes discounted lease payments)		(2,412)		
Co-op investment	_____	8,314		2
Accounts receivable	_____	15,424		3
Cash & checking accounts	_____	2,381		<1
Total Farm Assets	$_____		$522,851	96
Savings accounts	$_____	$ 3,351		<1
Cash value life insurance	_____	2,845		<1
Stocks & bonds	_____	3,313		<1
Nonfarm real estate	_____	6,286		1
Auto (personal share)	_____	1,630		<1
All other	_____	6,878		1
Total Nonfarm Assets	$_____		24,303	
TOTAL ASSETS	$_____		$547,154	100
Liabilities				
Long term	$_____	$113,156		56
Intermediate	_____	74,804		37
Financial lease	_____	3,421		2
Short term	_____	3,586		2
Other farm accounts	_____	5,883		3
Total Farm Liabilities	$_____		$200,850	100
Nonfarm Liabilities	_____		1,638	
TOTAL LIABILITIES	$_____		$202,488	
Farm Net Worth (equity capital)	$_____		$322,001	
Family Net Worth	$_____		$344,666	

Total farm assets accounted for 96 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 1983 income is compared with 1984 scheduled debt payments in Table 17.

Table 17. DEBT PAYMENT CAPACITY AND SCHEDULED COMMITMENTS
510 New York Dairy Farms, January 1, 1984

Item	My Farm	Average 510 Farms	
		Per Farm	Per Cow[1]
Net cash farm income	$_____	$39,288	$432
Interest paid	_____	18,779	206
Off-farm income	_____	1,664	18
CASH AVAILABLE FOR DEBT PAYMENTS AND LIVING		$59,731	$656
Estimated family living expense[2]	_____	21,985	242
CASH AVAILABLE FOR DEBT PAYMENTS AND CAPITAL PURCHASES	$_____	$37,746	$414
Debt payments planned	$_____	$41,627	$457
Debt payments planned as percent of milk sales	_____%	23%	
Cash flow coverage ratio	_____	0.91	

[1]Based on 91 end of year cows per farm.
[2]Calculated at $10,500 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. Individual farmers should base their estimates of family living expenses on information from their records. 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, 1984. 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 1984 repayment schedules unless net cash farm income increases and/or family living expenses are less than estimated. An additional $3,881 is needed to meet 1984 scheduled debt commitments on the average of these 510 dairy farms.

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 1983 averages of selected measures for these factors for the 510 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 effect 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 18. MEASURES OF SIZE OF BUSINESS
510 New York Dairy Farms, 1983

Measure	My Farm	Average 510 Farms	Average Top 10% Farms
Number of cows	_____	88	170
Number of heifers	_____	72	152
Worker equivalent	_____	3.00	4.67
Total tillable acres	_____	272	435
Pounds of milk sold	_____	1,343,200	2,804,300
Total work units	_____	974	1,839
Total cash receipts	$_____	$203,140	$420,979
Total investment (end inventory)	$_____	$493,311	$867,901

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 1983 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 19 and 20. 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 19. COWS PER FARM AND LABOR AND MANAGEMENT INCOME
510 New York Dairy Farms, 1983

Number of Cows	Number of Farms	Ave. Number of Cows	Percent of Farms	Labor & Mgmt. Income Per Operator
Under 40	51	34	10	$-1,601
40 to 54	103	47	20	641
55 to 69	95	63	19	5,863
70 to 84	79	76	15	573
85 to 99	54	91	10	7,482
100 to 149	64	121	13	6,471
150 to 199	38	168	7	2,677
200 to 249	13	219	3	13,837
250 & over	13	355	3	61,724

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 1983, labor and management income increased from $-1,601 per operator to more than $61,720.

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 1,296 percent while labor, management, and ownership income per operator jumped $96,786 as herd size increased from less than 40 to over 250 cows per farm.

Table 20. FARM SIZE AND FARM INCOME MEASURES
510 New York Dairy Farms, 1983

Number of Cows	Number of Farms	Worker Equivalent	Net Cash Farm Income	Labor, Management & Ownership Income Per Operator
Under 40	51	1.67	$12,955	$ 2,541
40 to 54	103	2.08	19,443	6,279
55 to 69	95	2.42	32,659	14,886
70 to 84	79	2.83	33,688	11,517
85 to 99	54	3.08	43,739	19,509
100 to 149	64	3.75	50,521	21,210
150 to 199	38	4.58	62,048	7,458
200 to 249	13	6.00	100,374	43,033
250 & over	13	8.42	180,903	99,327

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 21. MEASURES OF RATES OF PRODUCTION
510 New York Dairy Farms, 1983

Item	My Farm Acres	My Farm Yield	510 Farms Farms Reporting	510 Farms Average* Acres	510 Farms Average* Yield	Ave. Yield Top 10% Farms
Milk sold per cow (lbs.)	_____	_____	510		15,264	16,496
All hay crops (tons dry matter/acre)	_____	_____	509	139	2.5	2.9
Corn silage (tons/acre)	_____	_____	472	72	13.5	14.8
All forage crops (tons dry matter/acre)	_____	_____	510	208	3.2	3.8
Grain corn (bu./acre)	_____	_____	258	64	94.3	103.2
Oats (bu. per acre)	_____	_____	89	26	52.4	61.0
Wheat (bu. per acre)	_____	_____	28	36	44.9	52.7

*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 dry matter 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 1983, the farms that sold more than 16,000 pounds of milk per cow had substantially higher profit margins with slightly higher than average herd sizes.

Table 22. MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
510 New York Dairy Farms, 1983

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Labor & Mgmt. Income/Oper.	Labor, Mgmt., & Ownership Income/Operator
Under 11,000	26	58	$-4,275	$ -903
11,000 to 11,999	35	62	-1,323	370
12,000 to 12,999	44	71	-3,493	5,074
13,000 to 13,999	56	79	-1,391	5,411
14,000 to 14,999	85	87	4,607	13,504
15,000 to 15,999	95	101	2,804	11,607
16,000 to 16,999	80	101	13,797	28,297
17,000 to 17,999	49	96	12,335	31,231
18,000 & over	40	101	18,716	36,819

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 23. MEASURES OF LABOR EFFICIENCY
510 New York Dairy Farms, 1983

Measure	My Farm	Average 510 Farms	Average Top 10% Farms
Number of cows per worker	_____	29	36
Pounds of milk sold per worker	_____	447,733	600,493
Work units per worker	_____	325	394
Tillable acres per worker	_____	91	93

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 510 farms in the four measures of labor efficiency. The top 10 percent sold 34 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 510 farms. The higher output per worker was achieved by more and better cows.

Table 24. MILK SOLD PER WORKER AND LABOR AND MANAGEMENT INCOME
510 New York Dairy Farms, 1983

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	46	44	11,386	$-2,734	$ 926
250,000 to 299,999	38	48	13,298	-1,281	4,804
300,000 to 349,999	56	64	14,128	860	5,896
350,000 to 399,999	70	75	14,793	993	9,853
400,000 to 449,000	95	77	15,319	6,463	17,787
450,000 to 499,999	68	89	15,293	3,590	13,037
500,000 to 599,999	81	104	15,710	5,968	19,317
600,000 & over	56	187	16,473	26,312	48,943

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 $493,311 per farm on the 510 farms. This includes both owned and borrowed capital for all farms. The use of borrowed capital or credit is part of capital management.

Table 25. MEASURES OF CAPITAL EFFICIENCY
510 New York Dairy Farms, 1983

Measure	My Farm	Average 510 Farms	Average Top 10% Farms
Total capital per worker	$_____	$164,437	$185,846
Total capital per cow	$_____	$5,421	$4,903
Total capital per cwt. milk sold	$_____	$37	$31
Machinery & equipment per cow	$_____	$1,038	$825
Land & building inventory per cow	$_____	$2,668	$2,239
Land & building inventory per tillable acre owned	$_____	$1,341	$1,441
Capital turnover, years	_____	2.4	1.9

The comparisons in Table 25 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 26. As a general rule, dairy farmers should aim for a capital turnover of 2.5 years or less.

Table 26. CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME
510 New York Dairy Farms, 1983

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	14	126	$3,178	$105,385	$ 34,525
1.5 to 1.99	92	121	4,493	153,029	15,742
2.0 to 2.49	168	97	5,246	163,826	5,682
2.5 to 2.99	113	74	6,239	170,148	3,794
3.0 to 3.49	66	63	6,364	168,003	-2,369
3.5 & over	57	60	7,601	206,061	-8,415

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 28 percent of all cash operating expenses on the 510 dairy farms in 1983.

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 27. ITEMS RELATED TO FEED COSTS
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms	Average Top 10% Farms
Dairy grain & conc. bought per cow	$_____	$526	$530
Crop expense per cow	$_____	$156	$166
Grain & conc. bought per cwt. milk	$_____	$3.44	$3.21
Feed & crop expense per cwt. milk	$_____	$4.62	$4.26
Grain & concentrate purchased as percent of milk sales	_____%	25%	24%
Forage dry matter harvested per cow	_____T	7.5T	7.4T
Tillable acres per cow	_____	3.1	2.6
Fertilizer & lime per crop acre	$_____	$31	$37
Heifers as percent of cow numbers	_____%	82%	84%

The average cost of grain and concentrate bought per cow in 1983 was $526 while in 1982 it was $482. Some of this cost increase can be attributed to the 1983 PIC program that affected the quantity and price of dairy grain purchased by farmers.

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 1983 forage crop supply was down five percent from 1982. On the average, 7.5 tons of dry matter were produced per cow in 1983 compared to 7.9 tons per cow in 1982. The ratio of heifers to cows did not increase in 1983 but remains high compared to 75 percent in 1981. The variability of this ratio between years and farms has an important effect on feed cost analysis.

The 51 farms with highest labor and management incomes spent more on dairy feed per cow, but combined feed and crop expense were 36¢ less per hundredweight of milk sold than the average of all farms.

Feed costs are influenced by a number of factors. Feed production costs are affected by the amount of homegrown grains fed, quality and quantity of the roughage, and the number of youngstock. Purchasing costs are 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 effect.

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 28. PERCENT PURCHASED FEED IS OF MILK RECEIPTS AND LABOR AND MANAGEMENT INCOME
510 New York Dairy Farms, 1983

Percent Feed is of Milk	Number of Farms	Number of Cows	Forage Dry Matter Harvested Per Cow	Pounds Milk Per Cow	Labor & Management Income Per Operator
Over 40%	20	65	6.1	14,126	$-7,970
35 to 39	45	78	7.3	14,745	-3,635
30 to 34	110	80	7.2	15,218	3,393
25 to 29	133	91	7.4	14,621	6,481
20 to 24	88	104	7.9	15,264	9,532
15 to 19	66	90	7.9	15,237	9,911
Under 15%	48	88	7.6	15,119	6,542

Generally, the lower the percent of the milk check going for purchased feed, the higher the income. The 1983 data suggests that it is possible to spend too little as well as too much on purchased dairy feed. Farmers spending between 15 and 30 percent of their milk receipts for purchased feed in 1983 appear to be practicing effective feed cost control.

Machinery Costs

Machinery accounted for 19 percent of the year-end farm inventory on these 510 farms and the new purchases averaged $12,876 per farm in 1983. The cost of owning and operating machinery accounted for 18 percent of the total farm expenses.

Table 29. MACHINERY COSTS
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms Amount	Average 510 Farms Percent	Average Top 10% Farms
Depreciation (from page 7)	$_____	$14,239	39	$22,388
Interest @ 5% on average inventory	_____	4,653	13	7,057
Machine hire	_____	1,445	4	2,018
Machinery repairs	_____	8,902	25	17,887
Auto expense (farm share)	_____	528	1	861
Gas & oil	_____	6,613	18	12,307
Total Machinery Costs	$_____	$36,380	100	$62,518
Machinery cost:				
per cow	$_____	$413		$368
per hundredweight of milk sold	$_____	$2.71		$2.23

Depreciation accounted for 39 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 seven percent per cow in 1983 following a decrease of four percent in 1982 and increases of 15, 28, and 33 percent in 1981, 1980, and 1979. In 1983 machinery costs averaged $413 per cow, compared to $432 in 1982 and $465 in 1981.

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

Table 30. MACHINERY COST PER COW AND LABOR AND MANAGEMENT INCOME
510 New York Dairy Farms, 1983

Machinery Cost Per Cow	Number of Farms	Number of Cows	Labor Cost Per Cow	Labor & Management Income Per Operator
Under $300	92	83	$318	$10,375
$300 to 349	80	99	331	12,451
350 to 399	81	98	337	6,312
400 to 449	69	86	330	2,355
450 to 499	64	89	376	6,527
500 & over	124	80	364	-1,641

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 510 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 31 and 32.

Table 31. LABOR COSTS
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms	Average Top 10% Farms
Value operator's labor (@$750/month)	$_____	$11,835	$11,897
Hired labor expense (from page 10; includes paid family labor)	_____	16,827	44,308
Unpaid family labor (@ $500/month)	_____	1,600	853
Total Labor Costs	$_____	$30,262	$57,058
Labor cost per cow	$_____	$344	$336
Labor cost per cwt. milk	$_____	$2.25	$2.03
Cost per month hired labor	$_____	$990	$1,166
Cost per month all labor	$_____	$841	$1,108

Although the top decile farms paid $176 per month more for hired labor and $267 per month more for all labor than the average of the 510 farms, superior labor efficiency kept labor costs per cow and per hundredweight of milk sold well below average.

Labor and machinery should operate as a "team", the challenge is to find a combination that will give a reasonable cost per unit of milk sold. On these 510 farms the machinery costs were higher than labor costs. The labor and machinery costs per hundredweight of milk for the top 51 farms were 70¢ less than the average for all farms.

Table 32. LABOR AND MACHINERY COSTS
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms	Average Top 10% Farms
Total labor costs	$_____	$30,262	$ 57,058
Total machinery costs	_____	36,380	62,518
Total Labor & Machinery Costs	$_____	$66,642	$119,576
Labor & machinery costs per cow	$_____	$757	$704
Labor & machinery costs per cwt. milk	$_____	$4.96	$4.26

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 33 to help in a detailed checkup on all farm costs.

Table 33. MISCELLANEOUS COST CONTROL MEASURES
510 New York Dairy Farms, 1983

Item	My Farm	Average 510 Farms	Average Top 10% Farms
Livestock			
Breeding fees per cow	$_____	$29	$30
Veterinary & medicine per cow	$_____	$43	$50
Other livestock expense per cow	$_____	$80	$82
Milk marketing per cow	$_____	$142	$143
Milk marketing per cwt. milk	_____¢	93¢	86¢
Cattle lease	$_____	$2	$2
Real Estate			
Taxes per cow	$_____	$52	$40
Taxes per $1,000 year-end real estate value	$_____	$19	$17
Insurance paid per cow	$_____	$31	$23
Cash rent paid per cow	$_____	$41	$52
Cash rent paid per acre rented	$_____	$26	$40
Real estate expense per cow	$_____	$152	$145
Capital Cost			
Interest paid per cow	$_____	$213	$191
Interest on equity per cow	$_____	$183	$175
Interest paid as percent of year-end debt	_____%	9.3%	9.9%
Depreciation per cow	$_____	$238	$206
Fixed & Variable Costs*			
Total fixed costs per cow	$_____	$805	$722
Total variable costs per cow	$_____	$1,506	$1,558
Variable costs per cwt. of milk sold	$_____	$9.86	$9.45

*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.

Milk marketing costs increased 92 percent per cow and 86 percent per hundredweight on these farms in 1983. Nearly all of the increase can be attributed to the 50 cent federal milk assessment.

Fixed costs on the top decile farms were 11 percent below the 510 farm average. This is related to more intensive use of cows and cropland through better management. Variable costs were four 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 510 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 34. As the number of factors better than average decreased, labor and management income decreased at a rapid rate.

Table 34. COMBINATION OF FACTORS ABOVE AVERAGE* AND LABOR AND MANAGEMENT INCOME
510 New York Dairy Farms, 1983

Number of Factors Above Average	Number of Farms	Percent of Farms	Labor & Management Income Per Operator
4 factors better than average	41	8	$23,400
3 factors better than average	112	22	10,700
2 factors better than average	135	26	3,200
1 factor better than average	129	25	200
0 factors better than average	93	18	-3,900

*Factors were:

Size - number of cows - average 88.

Rates of production - pounds of milk sold per cow - average 15,264.

Labor efficiency - pounds of milk sold per worker - average 447,733.

Cost control - percent purchased feed was of milk receipts - average 25%.

The top decile farms averaged 170 cows, 16,496 pounds of milk sold per cow, 600,493 pounds of milk sold per worker, and purchased feed was 24 percent of milk sales. Labor and management income averaged $50,217 per operator on these farms. Obviously, other business factors excluded from the combination in Table 34 have a strong affect on business profits. These include labor, machinery and crop expenses, capital efficiency, financial 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 510 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 35. FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
510 New York Dairy Farms, 1983

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop D.M./ Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
6.3	233	3,749,300	18,500	4.8	21	47	722,800
4.2	136	2,058,600	17,200	3.5	17	37	570,200
3.4	100	1,547,000	16,500	3.1	16	34	510,400
3.1	85	1,324,900	15,900	2.7	15	31	472,400
2.8	75	1,153,100	15,300	2.5	14	29	437,800
2.5	67	988,000	14,800	2.3	13	27	413,100
2.2	59	870,600	14,200	2.1	12	26	373,900
2.0	51	730,000	13,400	1.9	12	23	340,700
1.8	44	600,600	12,400	1.7	10	21	290,800
1.4	34	410,300	10,300	1.3	7	17	200,300

Feed Bought Per Cow	% Feed is of Milk Receipts	Machinery Costs Per Cow	Labor and Machinery Costs Per Cow	Feed and Crop Expenses Per Cwt. Milk
$224	12%	$215	$ 499	$2.82
329	17	281	598	3.55
389	20	324	641	4.00
448	23	354	678	4.29
505	26	384	723	4.57
552	28	418	767	4.83
596	29	458	816	5.04
646	31	501	875	5.30
698	34	557	952	5.67
830	40	684	1,141	6.63

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 AND MANAGEMENT

Analysis and astute management of farm financial affairs must receive high priority if the farm business is to be successful and if the farm family is going to achieve a reasonable living standard.

The Farm Finance Checklist, Table 36, and the Financial Analysis Chart, Table 37, are provided to serve as guidelines. Dairy farmers can determine how their financial management measures up by comparing with average data from other farms.

Table 36. A FARM FINANCE CHECKLIST
510 New York Dairy Farms, 1983

	My Farm	Ave. 510 New York Farms	Ave. Top 10% Farms[1]
How farm assets are being used:			
Total inventory (capital) per cow	$_____	$5,421	$4,906
Farm assets in livestock	_____%	23%	26%
Farm assets in farm real estate	_____%	47%	43%
Farm assets in machinery	_____%	18%	16%
Measures of debt capacity and debt structure:			
Equity in the business	_____%	63%	65%
Farm debt per cow	$_____	$2,207	$1,851
Long term debt/asset ratio[2]	_____	0.46	0.43
Inter. & short term debt/asset ratio[2]	_____	0.29	0.28
Inter. & short term debt as % of total	_____%	39%	44%
Debt repayment ability:			
Cash flow coverage ratio	$_____	0.91	1.54
Scheduled debt payments per cow	$_____	$456	$379
Scheduled debt pymts. as % of milk check	_____%	23%	17%

Indicators of annual financial progress:		Average of same 387 Farms 1982 and 1983	
		Amount	Percent
Annual change in farm assets	$_____	+ $7,567	+ 1.0%
Annual change in farm debts	$_____	+ $ 661	+ 0.3%
Annual change in farm net worth	$_____	+ $6,906	+ 2.0%

[1]Fifty-one farms with highest returns to labor and management per operator.
[2]Long or intermediate and short term debt divided by long or intermediate and short term assets.

The most profitable farms carried $356 less debt per cow and a greater ability to make 1984 debt payments although their equity in their business was only two percent greater than that of the average.

Farm assets grew faster than farm debts between 1982 and 1983 and net worth increased less than the annual rate of inflation.

Financial Analysis Chart

The farm financial analysis chart is designed just like the Farm Business Chart in Table 35 on page 28 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 16 and 21 in this publication.

Table 37. FINANCIAL ANALYSIS CHART
510 New York Dairy Farms, 1983

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
$ 56	$844	7.49	3	$ 152
191	625	2.02	10	735
290	543	1.36	15	1,193
368	471	1.07	19	1,620
429	418	.90	22	1,991
481	361	.78	24	2,289
547	308	.62	28	2,667
618	236	.48	32	3,054
710	147	.32	37	3,643
940	-69	-.88	52	4,751

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]
.01	97	.00	.00	1.17	15%	12%
.13	88	.05	.04	1.87	6	7
.25	79	.11	.16	2.13	4	5
.37	72	.17	.30	2.32	1	4
.51	66	.24	.41	2.53	- 1	3
.69	59	.30	.51	2.72	- 3	1
.90	52	.38	.62	2.92	- 6	- 0.4
1.23	44	.46	.74	3.25	-10	- 2
1.72	36	.54	.89	3.83	-19	- 5
5.19	16	.83	1.68	7.55	-59	-10

[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.

Productivity and Debt Capacity

The amount of debt that a dairy farmer can manage without getting into cash flow difficulties is related to the productivity of the dairy herd. Herds with high levels of milk output per cow can carry more debt than herds with medium and low levels of milk marketed per cow.

The data presented in Tables 38 through 41 represents four levels of milk output per cow; farms selling less than 13,000 pounds per cow, farms selling 13,000 to 14,999 pounds per cow, farms selling 15,000 to 16,999 pounds per cow, and farms selling 17,000 pounds per cow and over. Each production group has been sorted into five farm debt per cow categories.

There were 105 dairy farms selling less than 13,000 pounds per cow. They averaged 65 cows per farm, approximately 11,500 pounds of milk sold per cow and 308,900 pounds of milk sold per worker.

Table 38. FARM DEBT PER COW AND CASH FLOW
105 New York Dairy Farms Selling Less Than 13,000 Pounds of Milk Per Cow, 1983

Farm Debt per Cow	Average Number of Farms	Average Number of Cows	Amount Available Debt Payments & Living	Planned Debt Payments	Amount Left for Living
$ 0 to $ 599	17	54	$28,240	$ 5,420	$22,820
600 to 1,799	26	66	35,140	18,970	16,170
1,800 to 2,999	31	65	36,330	30,950	5,400
3,000 to 4,199	22	74	39,100	48,620	-9,520
4,200 and over	9	58	31,230	40,130	-8,900

Most farms selling less than 13,000 pounds of milk per cow could not manage debt loads exceeding $1,800 per cow and have enough cash available for a reasonable living standard. Farms with low productivity and more than $3,000 of debt per cow could not meet debt payment commitments planned for 1984. Cash available for debt payments and family living based on 1983 cash flow would provide less than 86 percent of that needed for 1984 debt payments.

The 141 dairy farms selling 13,000 to 14,999 pounds of milk per cow average 84 cows per farm and over 14,100 pounds of milk sold per cow. Milk output per worker topped 420,000 pounds on this group of farms. Note that within this production group of dairy farms, size of herd does not increase as debt load increases.

Table 39. FARM DEBT PER COW AND CASH FLOW
141 New York Dairy Farms Selling 13,000 to 14,999 Pounds of Milk Per Cow, 1983

Farm Debt per Cow	Average Number of Farms	Average Number of Cows	Amount Available Debt Payments & Living	Planned Debt Payments	Amount Left for Living
$ 0 to $ 599	13	114	$72,380	$12,470	$59,910
600 to 1,799	38	78	48,320	30,750	17,570
1,800 to 2,999	49	88	51,390	49,250	2,140
3,000 to 4,199	32	77	53,740	52,110	1,630
4,200 and over	9	65	38,760	49,950	-11,190

The relationship of debt per cow to the amount of cash left for family living is very similar for both production groups below 15,000 pounds of milk sold per cow. An average production level of 14,100 pounds of milk sold per cow was not adequate to carry debt loads exceeding $1,800 per cow in 1983. Family living requirements are estimated to average between $15,000 and $25,000 on these farms.

The largest number, 175, or 34 percent of the farms sold 15,000 to 16,999 pounds of milk per cow. The farms average 101 cows per farm and over 15,800 pounds of milk sold per cow. Milk output per worker exceeded 490,000 pounds. Once again, there is little correlation between debt load and herd size.

Table 40. FARM DEBT PER COW AND CASH FLOW
175 New York Dairy Farms Selling 15,000 to 16,999 Pounds of Milk Per Cow, 1983

Farm Debt per Cow	Average Number of Farms	Average Number of Cows	Amount Available Debt Payments & Living	Planned Debt Payments	Amount Left for Living
$ 0 to $ 599	19	100	$61,120	$ 8,940	$52,180
600 to 1,799	48	102	67,900	31,150	36,750
1,800 to 2,999	70	108	76,290	57,040	19,250
3,000 to 4,199	26	85	68,600	59,670	8,930
4,200 and over	12	92	64,640	72,450	-7,810

At production levels close to 16,000 pounds of milk sold per cow, many dairy farms were able to manage debt loads approaching $3,000 per cow in 1983. Debt loads ranging from $3,000 to $4,199 per cow left only $8,930 available for family living, and debt loads exceeding $4,200 per cow could not be serviced with 1983 cash flow projections.

Only 17 percent of the dairy farms sold more than 17,000 pounds of milk per cow in 1983. The 89 farms averaged 92 cows and 17,965 pounds of milk sold per cow. Milk output per worker exceeded 520,000 pounds on the high productivity farms.

Table 41. FARM DEBT PER COW AND CASH FLOW
89 New York Dairy Farms Selling 17,000 Pounds and Over of Milk Per Cow, 1983

Farm Debt per Cow	Average Number of Farms	Average Number of Cows	Amount Available Debt Payments & Living	Planned Debt Payments	Amount Left for Living
$ 0 to $ 599	14	75	$ 61,140	$ 7,980	$53,153
600 to 1,799	21	85	66,390	27,500	38,894
1,800 to 2,999	32	119	91,660	60,600	31,066
3,000 to 4,199	13	113	102,270	91,050	11,220
4,200 and over	9	68	67,270	55,880	11,390

Even the highest producing herds did not generate enough cash flow in 1983 to comfortably carry debt loads exceeding $3,000 per cow. However, about one-half of the high producing herds with debt loads of more than $3,000 per cow averaged $20,000 or more cash available for family living.

In summary, this analysis of the debt carrying capacity of 510 New York dairy farms indicates that farms selling less than 15,000 pounds of milk per cow will be hard pressed to generate enough cash flow in 1984 to service more than $1,800 of debt per cow and also maintain a reasonable standard of living. Most farms selling between 15,000 and 17,000 pounds of milk per cow can manage debt loads up to $3,000 per cow and a few can exceed $3,000.

Only farms selling over 17,000 pounds of milk per cow in 1983 successfully managed debt loads exceeding $3,000 per cow. The modest $11,000 left for family living would not be adequate for many farm families.

Debt Capacity and Related Factors

Data presented in Table 42 shows the relationship of debt per cow to capital invested per cow, cows per worker, and age of operator.

Table 42. FARM DEBT PER COW AND RELATED BUSINESS FACTORS
510 New York Dairy Farms, 1983

Farm Debt Per Cow	Number of Farms	Number of Cows	Capital Investment Per Cow	Cows Per Worker	Age of Operator
None	11	62	$6,908	26	50
$ 1 to $ 599	52	90	5,263	28	47
600 to 1,199	64	84	5,287	29	44
1,200 to 1,799	69	87	5,293	29	46
1,800 to 2,399	102	93	5,420	30	43
2,400 to 2,999	80	102	5,079	31	40
3,000 to 3,599	54	96	5,396	32	40
3,600 to 4,199	39	67	5,801	28	38
4,200 to 4,799	18	74	6,193	30	39
4,800 and over	21	71	7,272	28	38

Twenty-six percent of the farms reported debt loads of $3,000 or more per cow, 16 percent had debt loads of $3,600 or more per cow, eight percent exceeded $4,199 debt per cow, and four percent were above $4,799 debt per cow.

Debt loads exceeding $3,600 per cow are associated with very high capital investments per cow and relatively poor levels of labor efficiency. These relationships imply serious management problems.

SUPPLEMENTAL INFORMATION

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 43. FARM COST OF PRODUCING MILK
510 New York Dairy Farms, 1983

Item	Average 510 Farms		My Farm	
Total cash farm expenses (p.10)	$163,852		$	
Expansion livestock	888			
Machinery depreciation	14,239			
Building depreciation	6,706			
Unpaid labor @ $500 per month	1,600			
Interest on equity capital @ 5%	16,100			
TOTAL FARM EXPENSES	$203,385		$	
Value operator's labor @ $750/mo.	12,000			
TOTAL COST OF PRODUCTION (1)		$215,385		$
Total cash farm receipts (p.8)	$203,140		$	
Less: Milk sales	183,193			
Nonmilk cash receipts	$ 19,947		$	
Increase in feed & supplies	3,478			
Increase due to herd growth*	4,045			
TOTAL OTHER INCOME (2)		27,470		
COST OF PRODUCING MILK (1 minus 2)		$187,915		$
Hundredweights of milk sold (p.17)	13,432			
COST OF PRODUCING CWT. MILK		$13.99		$
Management charge @ 5% cash receipts	$10,157		$	
Management charge per cwt. milk	76¢			¢
COST OF PRODUCING MILK WITH MANAGEMENT CHARGE		$14.75		$

*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 35. It is included at five percent of cash receipts.

Table 44. COST OF PRODUCING MILK AND PRICES RECEIVED, 1977-1983
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
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
1983	9,000	10,157	13.99	14.75	13.64

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 77 cents per hundredweight of milk. The cost of producing milk, including the management fee, exceeded the price received by $1.13 or eight percent in 1983 (Table 44).

Table 45. FARM COST OF PRODUCING MILK BY HERD SIZE
510 New York Dairy Farms, 1983

Number of Cows	Number of Farms	Cost/Cwt. With Management		Average Price Received
		Excluded	Included	
Under 40	51	$16.18	$16.93	$13.59
40 to 54	103	14.91	15.66	13.52
55 to 69	95	13.96	14.72	13.58
70 to 84	79	14.54	15.30	13.56
85 to 99	54	13.90	14.66	13.73
100 to 149	64	13.91	14.67	13.72
150 to 199	38	14.09	14.85	13.67
200 to 249	13	13.37	14.14	13.57
250 & over	13	13.86	14.60	13.70

Size is an important factor in the analysis of farm businesses. The costs of producing milk were computed for nine herd size groups (Table 45). 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 $14.70 for herds with less than 100 cows, while it was $13.80 for those with 100 cows or more, for a difference of $0.90 per hundredweight.

The level of milk production is more closely related to the cost of producing milk as indicated by the data in Table 46. Farms selling less than 11,000 pounds of milk per cow had an average cost of production (excluding management) of $26.46, while those selling 16,000 pounds and over averaged approximately $12.75 for a difference of $13.71 per hundredweight.

Table 46. FARM COST OF PRODUCING MILK BY MILK SOLD PER COW
510 New York Dairy Farms, 1983

Pounds of Milk Sold Per Cow	Cost Per Cwt. With Management		Average Price Received
	Excluded	Included	
Under 11,000	$26.46	$27.81	$14.04
11,000 to 11,999	15.74	16.50	13.96
12,000 to 12,999	15.65	16.41	13.77
13,000 to 13,999	14.97	15.74	13.75
14,000 to 14,999	14.07	14.82	13.60
15,000 to 15,999	14.16	14.92	13.64
16,000 to 16,999	13.12	13.87	13.50
17,000 to 17,999	13.40	14.16	13.67
18,000 & over	11.74	12.38	13.55

Table 47. FARM BUSINESS SUMMARY BY HERD SIZE
510 New York Dairy Farms, 1983

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	$ 41,228	$ 61,459	$ 85,887	$ 98,628
Feed & supplies	10,381	18,411	26,767	34,220
Machinery & equipment	39,680	58,452	76,189	88,047
Land & buildings	114,057	150,410	190,603	222,475
TOTAL INVESTMENT	$205,346	$288,732	$379,446	$443,370
Receipts				
Milk sales	$ 59,890	$ 94,045	$127,435	$156,255
Dairy cattle sold	3,615	5,780	7,799	10,293
Other livestock sales	1,545	1,445	1,656	2,097
Crop sales	220	673	1,661	1,698
Miscellaneous receipts	1,321	1,903	3,160	4,444
Total Cash Receipts	$ 66,591	$103,846	$141,711	$174,787
Increase in livestock	865	1,618	2,714	500
Increase in feed & supplies	900	2,433	2,726	2,775
Appreciation	(2,802)	(2,389)	(1,245)	312
TOTAL FARM RECEIPTS	$ 65,554	$105,508	$145,906	$178,374
TOTAL FARM REC. EXCL. APPREC.	$ 68,356	$107,897	$147,151	$178,062
Expenses				
Hired labor	$ 2,980	$ 5,421	$ 7,306	$ 12,401
Dairy grain & concentrate	17,146	25,553	32,132	40,676
Other feed	1,229	985	1,452	1,896
Machine hire	714	885	1,600	1,694
Machinery repair	2,486	4,235	5,858	7,778
Auto expense (farm share)	527	462	481	466
Gas & oil	2,044	3,256	4,611	5,664
Replacement animals	1,406	1,432	1,292	1,284
Breeding fees	895	1,372	1,890	2,381
Veterinary & medicine	996	1,967	2,431	3,174
Milk marketing	4,666	6,785	8,683	10,155
Cattle lease	0	80	32	440
Other livestock expense	2,061	3,864	5,203	5,687
Fertilizer & lime	1,730	4,013	5,441	7,393
Seeds & plants	595	1,289	1,901	2,513
Spray & other crop expense	518	1,075	1,352	1,956
Land, bldg., fence repair	1,020	1,286	1,506	2,676
Taxes & insurance	3,317	4,308	5,766	7,255
Electricity & phone (farm share)	2,048	2,823	3,863	4,501
Interest paid	6,002	10,569	12,769	15,946
Miscellaneous expenses	1,256	2,743	3,483	5,163
Total Cash Expenses	$ 53,636	$ 84,403	$109,052	$141,099
Expansion livestock	196	819	460	244
Machinery depreciation	5,504	7,716	10,016	13,621
Building depreciation	1,840	3,176	4,914	6,207
Unpaid family labor	1,735	1,859	1,963	1,886
Interest on equity @ 5%	7,110	9,155	13,065	14,243
TOTAL FARM EXPENSES	$ 70,021	$107,128	$139,470	$177,300
Financial Summary				
NET CASH FARM INCOME	$ 12,955	$ 19,443	$ 32,659	$ 33,688
Labor & Management Income	$ -1,665	$ 769	$ 7,681	$ 762
Number of Operators	1.04	1.20	1.31	1.33
LABOR & MGT. INCOME/OPER.	$ -1,601	$ 641	$ 5,863	$ 573
LABOR, MGT. & OWNSHP. INC./OPER.	$ 2,541	$ 6,279	$ 14,886	$ 11,517

Table 47 continued — FARM BUSINESS SUMMARY BY HERD SIZE
510 New York Dairy Farms, 1983

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	$125,294	$160,160	$215,402	$ $308,916	$ 497,937
Feed & supplies	42,139	53,070	70,909	94,822	175,581
Machinery & equipment	110,980	124,768	169,416	181,519	242,080
Land & buildings	254,998	317,401	386,900	506,269	880,006
TOTAL INVESTMENT	$533,411	$655,399	$842,627	$1,091,526	$1,795,604
Receipts					
Milk sales	$190,993	$247,849	$349,071	$467,567	$824,478
Dairy cattle sold	10,718	14,575	21,762	31,483	42,411
Other livestock sales	2,607	3,842	4,377	5,806	9,078
Crop sales	1,983	2,306	3,857	6,873	4,792
Miscellaneous receipts	4,830	5,743	9,982	18,207	12,250
Total Cash Receipts	$211,131	$274,315	$389,049	$529,936	$893,009
Increase in livestock	4,555	5,724	6,427	15,172	38,561
Increase in feed & supplies	5,158	4,630	4,639	(2,857)	21,929
Appreciation	(1,923)	277	(17,087)	3,307	4,649
TOTAL FARM RECEIPTS	$218,921	$284,946	$383,028	$545,558	$958,148
TOT. FARM REC. EXCL. APPREC.	$220,844	$284,669	$400,115	$542,251	$953,499
Expenses					
Hired labor	$ 15,684	$ 24,817	$ 38,523	$ 67,620	$109,208
Dairy feed & concentrate	47,017	59,535	85,473	117,279	207,775
Other feed	1,907	3,919	3,926	3,132	2,251
Machine hire	1,404	1,586	1,293	3,033	4,444
Machinery repair	10,162	12,342	17,337	26,385	35,838
Auto expense (farm share)	615	617	560	381	1,023
Gas & oil	7,216	9,871	13,358	14,604	25,295
Replacement animals	1,332	2,292	9,477	2,581	3,831
Breeding fees	2,484	3,159	4,990	7,320	10,807
Veterinary & medicine	3,654	4,738	7,219	11,416	21,224
Milk marketing	13,440	16,589	24,264	30,999	52,366
Cattle lease	0	261	424	0	259
Other livestock expense	7,446	9,139	13,376	20,365	30,827
Fertilizer & lime	9,701	12,280	18,126	19,367	33,696
Seeds & plants	3,173	4,395	5,592	5,486	11,555
Spray & other crop expense	2,673	3,514	5,951	7,783	12,986
Land, bldg., fence repair	2,595	3,234	4,060	7,705	8,837
Taxes & insurance	7,799	10,163	12,513	16,015	19,210
Elec. & phone (farm share)	5,151	6,402	7,874	10,544	14,898
Interest paid	17,309	25,135	40,718	43,956	80,607
Miscellaneous expenses	6,630	9,806	11,947	13,591	25,169
Total Cash Expenses	$167,392	$223,794	$327,001	$429,562	$712,106
Expansion livestock	579	1,016	1,905	3,219	6,532
Machinery depreciation	15,519	19,044	28,209	33,853	45,379
Building depreciation	6,888	9,440	12,849	18,539	25,884
Unpaid family labor	1,426	1,109	908	1,000	385
Interest on equity @ 5%	18,640	20,948	24,879	36,983	58,899
TOTAL FARM EXPENSES	$210,444	$275,351	$395,751	$523,156	$849,185
Financial Summary					
NET CASH FARM INCOME	$ 43,739	$ 50,521	$ 62,048	$100,374	$180,903
Labor & Management Income	$ 10,400	$ 9,318	$ 4,364	$ 19,095	$104,314
Number of Operators	1.39	1.44	1.63	1.38	1.69
LABOR & MGT. INCOME/OPER.	$ 7,482	$ 6,471	$ 2,677	$ 13,837	$ 61,724
LABOR, MGT. & OWNSHP. INC/OP.	$ 19,509	$ 21,210	$ 7,458	$ 43,033	$ 99,327

Table 48. SELECTED BUSINESS FACTORS BY HERD SIZE
510 New York Dairy Farms, 1983

Item	Farms with: Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows
Number of farms	51	103	95	79
Size of Business				
Number of cows	34	47	63	76
Number of heifers	26	38	50	63
Pounds of milk sold	440,800	695,800	938,300	1,152,000
Worker equivalent	1.67	2.08	2.42	2.83
Total work units	370	531	695	849
Total tillable acres	118	164	213	251
(Tillable acres rented)*	(28)	(48)	(70)	(81)
Rates of Production				
Milk sold per cow	12,965	14,804	14,894	15,158
Tons hay crop dry matter per acre	2.1	2.1	2.4	2.5
Tons corn silage per acre	12.6	12.8	13.3	12.7
Bushels of oats per acre	33.6	52.9	48.0	54.3
Labor Efficiency				
Cows per worker	20	23	26	27
Pounds milk sold per worker	263,952	334,519	387,727	407,067
Work units per worker	222	255	287	300
Feed Costs				
Feed purchased per cow	$504	$544	$510	$535
Crop expense per cow	$84	$136	$138	$156
Feed cost per cwt. milk	$3.89	$3.67	$3.42	$3.53
Feed & crop exp. per cwt. milk	$4.81	$4.73	$4.51	$4.73
% feed is of milk receipts	29%	27%	25%	26%
Tons forage dry matter per cow	6.8	7.6	7.5	7.7
Tillable acres per cow	3.5	3.5	3.4	3.3
Fertilizer & lime per crop acre	$15	$24	$26	$29
Machinery & Labor Costs				
Total machinery costs	$13,243	$19,463	$26,309	$33,550
Machinery cost per cow	$390	$414	$418	$441
Machinery cost per cwt. milk	$3.00	$2.08	$2.80	$2.91
Labor cost per cow	$415	$382	$330	$345
Labor cost per cwt. milk	$3.20	$2.58	$2.22	$2.28
Capital Efficiency				
Investment per worker	$122,962	$138,813	$156,796	$156,668
Investment per cow	$6,040	$5,892	$5,929	$5,758
Investment per cwt. milk	$47	$41	$40	$38
Land & buildings per cow	$3,355	$3,070	$2,978	$2,889
Machinery investment per cow	$1,167	$1,193	$1,190	$1,143
Capital turnover	3.1	2.7	2.6	2.5
Other				
Price per cwt. milk sold	$13.59	$13.52	$13.58	$13.56
Acres hay crops*	78	104	117	131
Acres corn silage*	16	29	40	57

*Average of all farms.

Table 48 continued — SELECTED BUSINESS FACTORS BY HERD SIZE
510 New York Dairy Farms, 1983

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	54	64	38	13	13
Size of Business					
Number of cows	91	121	168	219	355
Number of heifers	77	101	127	177	292
Pounds of milk sold	1,390,800	1,806,600	2,553,800	3,444,600	6,016,600
Worker equivalent	3.08	3.75	4.58	6.00	8.42
Total work units	1,014	1,345	1,836	2,356	3,755
Total tillable acres	294	378	503	543	731
(Tillable acres rented)*	(103)	(126)	(204)	(210)	(230)
Rates of Production					
Milk sold per cow	15,284	14,931	15,201	15,729	16,948
Tons hay crop dry matter/acre	2.7	2.6	2.7	2.8	3.3
Tons corn silage per acre	13.0	13.2	13.9	15.1	15.2
Bushels of oats per acre	50.8	51.3	53.0	56.0	80.0
Labor Efficiency					
Cows per worker	30	32	37	37	42
Pounds milk sold per worker	451,558	481,760	557,598	574,100	714,561
Work units per worker	329	359	401	393	446
Feed Costs					
Feed purchased per cow	$517	$492	$509	$536	$585
Crop expense per cow	$171	$167	$177	$149	$164
Feed cost per cwt. milk	$3.38	$3.30	$3.35	$3.40	$3.45
Feed & crop exp. per cwt. milk	$4.64	$4.63	$4.66	$4.44	$4.46
% feed is of milk receipts	25%	24%	24%	25%	25%
Tons forage dry matter per cow	7.6	7.8	7.5	7.0	7.2
Tillable acres per cow	3.2	3.1	3.0	2.5	2.1
Fertilizer & lime per crop acre	$33	$32	$36	$36	$46
Machinery & Labor Costs					
Total machinery costs	$40,311	$49,645	$69,160	$87,257	$123,695
Machinery cost per cow	$443	$410	$412	$398	$348
Machinery cost per cwt. milk	$2.90	$2.75	$2.71	$2.53	$2.06
Labor cost per cow	$325	$321	$322	$368	$352
Labor cost per cwt. milk	$2.13	$2.15	$2.12	$2.34	$2.07
Capital Efficiency					
Investment per worker	$173,185	$174,773	$183,980	$181,921	$213,255
Investment per cow	$5,798	$5,202	$4,957	$4,873	$4,827
Investment per cwt. milk	$38	$36	$33	$32	$30
Land & buildings per cow	$2,772	$2,519	$2,276	$2,260	$2,366
Machinery investment per cow	$1,206	$990	$997	$810	$651
Capital turnover	2.4	2.3	2.2	2.0	1.9
Other					
Price per cwt. milk sold	$13.73	$13.72	$13.67	$13.57	$13.70
Acres hay crops*	149	185	234	231	230
Acres corn silage*	64	98	133	179	341

*Average of all farms.

Table 49. FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
510 New York Dairy Farms, January 1, 1984

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	51	103	95	79	54
Assets					
Livestock (includes discounted	$ 41,228	$ 61,540	$ 85,929	$ 98,674	$125,294
lease payments)	(0)	(81)	(42)	(46)	(0)
Feed & supplies	10,381	18,411	26,767	34,220	42,139
Machinery & equipment (includes	40,785	59,115	77,201	89,233	111,861
discounted lease payments)	(1,105)	(663)	(1,112)	(1,186)	(881)
Land & buildings (includes	114,500	152,831	193,038	224,054	256,322
discounted lease payments)	(443)	(2,421)	(2,435)	(1,579)	(1,324)
Co-op investment	1,529	2,642	5,006	6,123	7,916
Accounts receivable	4,567	7,630	10,557	13,143	16,950
Cash & checking accounts	949	885	2,300	3,350	2,221
Total Farm Assets	$213,939	$303,054	$400,798	$468,797	$562,703
Savings accounts	3,067	2,032	4,289	3,106	4,344
Cash value life insurance	2,366	2,498	2,854	2,052	2,454
Stocks & bonds	899	1,605	2,541	4,369	4,856
Nonfarm real estate	3,843	3,684	10,491	1,744	5,784
Auto (personal share)	1,110	1,532	1,710	1,425	1,946
All other	7,694	7,975	6,536	6,215	7,282
Total Nonfarm Assets	$ 18,979	$ 19,326	$ 28,421	$ 18,911	$ 26,666
TOTAL ASSETS	$232,918	$322,380	$429,219	$487,708	$589,369
Liabilities					
Long term	$ 45,225	$ 70,854	$ 83,044	$115,843	$109,048
Intermediate	21,775	41,239	45,676	56,631	64,655
Financial lease	1,548	3,165	3,489	2,811	2,205
Short-term	1,170	1,263	3,011	3,242	7,094
Other farm accounts	2,023	3,443	4,279	5,418	6,910
Total Farm Liabilities	$ 71,741	$119,964	$139,499	$183,945	$189,912
Total Nonfarm Liabilities	338	926	1,310	189	641
TOTAL LIABILITIES	$ 72,079	$120,890	$140,809	$184,134	$190,553
Farm Net Worth (Eq. Cap.)	$142,198	$183,090	$261,299	$284,852	$372,791
FAMILY NET WORTH	$160,839	$201,490	$288,410	$303,574	$398,816
Financial Measures					
Percent equity	69%	63%	67%	62%	68%
Farm debt per cow	$2,110	$2,448	$2,180	$2,389	$2,064
Available for debt service & living	$21,523	$32,196	$46,794	$51,210	$62,252
Scheduled annual debt payment	$13,513	$23,122	$30,289	$37,532	$42,918
Scheduled debt payments/cow	$393	$468	$471	$486	$464
Payment as % of milk check	22%	24%	24%	24%	22%
Debt/Asset ratio - long term	0.39	0.46	0.43	0.52	0.43
Debt/Asset ratio - intermediate & short-term	0.25	0.30	0.25	0.26	0.24
Cash flow coverage ratio	0.59	0.67	0.90	0.81	0.91

Table 49 continued — FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
510 New York Dairy Farms, January 1, 1984

Item	100 to 149 cows	150 to 199 cows	200 to 249 cows	250 or more cows
Number of farms	64	38	13	13
Assets				
Livestock (includes discounted	$160,160	$216,151	$ 308,916	$ 497,937
lease payments)	(0)	(749)	(0)	(0)
Feed & supplies	53,070	70,909	94,822	175,581
Machinery & equipment (includes	125,491	169,416	186,283	242,080
discounted lease payments)	(723)	(0)	(4,764)	(0)
Land & buildings (includes	322,858	389,980	507,695	883,526
discounted lease payments)	(5,457)	(3,080)	(1,426)	(3,520)
Co-op investment	11,794	24,462	32,374	30,627
Accounts receivable	20,230	27,582	41,128	77,943
Cash & checking accounts	2,417	3,430	4,270	10,072
Total Farm Assets	$696,020	$901,930	$1,175,488	$1,917,766
Savings accounts	3,391	5,178	132	3,115
Cash value life insurance	2,951	6,111	1,808	4,821
Stocks & bonds	2,770	6,629	13,102	2,308
Nonfarm real estate	5,508	20,423	399	3,846
Auto (personal share)	1,695	2,650	1,173	962
All other	5,170	8,079	6,392	5,231
Total Nonfarm Assets	$ 21,485	$ 49,070	$ 23,006	$ 20,283
TOTAL ASSETS	$717,505	$951,000	$1,198,494	$1,938,049
Liabilities				
Long term	$145,700	$214,453	$222,344	$370,108
Intermediate	113,125	170,191	192,872	328,702
Financial lease	6,180	3,829	6,190	3,520
Short-term	4,972	5,471	1,957	12,491
Other farm accounts	7,078	10,406	12,459	24,959
Total Farm Liabilities	$277,055	$404,350	$ 435,822	$ 739,780
Total Nonfarm Liabilities	3,589	5,870	7,385	0
TOTAL LIABILITIES	$280,644	$410,220	$ 443,207	$ 739,780
Farm Net Worth (Equity Cap.)	$418,965	$497,580	$ 739,666	$1,177,986
FAMILY NET WORTH	$436,861	$540,780	$ 755,287	$1,198,269
Financial Measures				
Percent equity	61%	57%	63%	62%
Farm debt per cow	$2,199	$2,379	$1,946	$1,989
Available for debt service & living	$77,036	$105,000	$144,344	$261,536
Scheduled annual debt payment	$57,984	$86,400	$94,063	$137,159
Scheduled debt payments/cow	$459	$507	$416	$369
Payment as % of milk check	23%	25%	20%	17%
Debt/Asset ratio - long term	0.45	0.55	0.44	0.42
Debt/Asset ratio - intermediate & short-term	0.33	0.35	0.30	0.33
Cash flow coverage ratio	0.88	0.84	1.16	1.52

Table 50. SELECTED BUSINESS FACTORS BY HERD SIZE
174 Freestall Barn Dairy Farms, New York, 1983

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	6	14	52	44	58
Size of Business					
Number of cows	45	65	83	123	220
Number of heifers	42	48	71	105	171
Milk sold (cwt.)	6,674	9,849	12,685	18,496	35,057
Worker equivalent	2.33	2.25	2.92	3.83	5.75
Total tillable acres	205	228	280	379	551
Number of operators	1.5	1.3	1.4	1.3	1.6
Rates of Production					
Milk sold per cow (lbs.)	14,831	15,152	15,283	15,037	15,935
Tons hay crop dry matter/acre	1.9	2.4	2.7	2.7	2.9
Tons corn silage per acre	12.0	11.6	12.7	12.8	14.7
Labor Efficiency					
Cows per worker	19	29	28	32	38
Milk sold per worker (lbs.)	286,438	437,733	434,418	482,924	609,687
Feed Costs					
Feed purchased per cow	$560	$531	$562	$506	$542
Crop expense per cow	$165	$172	$167	$171	$165
Feed cost per cwt. milk	$3.77	$3.50	$3.67	$3.36	$3.40
Feed & crop exp. per cwt. milk	$5.09	$4.78	$4.95	$4.72	$4.52
% feed is of milk receipts	29%	25%	27%	24%	25%
Tons forage dry matter per cow	8.5	7.2	7.8	7.7	7.2
Tillable acres per cow	4.6	3.5	3.4	3.1	2.5
Fertilizer & lime per crop acre	$24	$28	$30	$34	$39
Machinery & Labor Costs					
Machinery cost per cow	$434	$437	$464	$406	$386
Machinery cost per cwt. milk	$2.93	$2.89	$3.03	$2.70	$2.42
Labor cost per cow	$462	$310	$327	$325	$345
Labor cost per cwt. milk	$3.12	$2.04	$2.14	$2.16	$2.17
Labor & mach. cost/cwt. milk	$6.05	$4.93	$5.17	$4.86	$4.59
Capital Efficiency					
Investment per worker	$111,269	$160,388	$165,671	$168,357	$192,109
Investment per cow	$5,083	$4,877	$5,691	$5,118	$4,866
Land & buildings per cow	$2,608	$2,318	$2,782	$2,454	$2,287
Machinery investment per cow	$1,050	$1,091	$1,177	$977	$826
Capital turnover	2.7	2.4	2.4	2.2	2.0
Income & Financial Measures					
Price per cwt. milk sold	$13.19	$13.85	$13.72	$13.74	$13.68
Net cash farm income	$20,438	$35,902	$37,829	$49,485	$93,265
Labor & mgmt. income/oper.	$-583	$6,159	$2,112	$6,511	$19,321
Labor, mgt. & ownshp. inc/op.	$3,825	$15,877	$13,569	$21,269	$36,310
Farm debt per cow	$1,224	$2,019	$2,263	$2,288	$2,170
Cash flow coverage ratio	0.72	0.95	0.84	0.85	1.09

Table 51. SELECTED BUSINESS FACTORS BY HERD SIZE
336 Conventional Stall Barn Dairy Farms, New York, 1983

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	148	81	81	20	6
Size of Business					
Number of cows	43	62	81	117	182
Number of heifers	34	51	67	91	166
Milk sold (cwt.)	6,091	9,302	12,364	17,118	27,850
Worker equivalent	1.92	2.33	3.00	3.67	5.08
Total tillable acres	147	211	261	376	615
Number of operators	1.1	1.3	1.3	1.7	2.0
Rates of Production					
Milk sold per cow (lbs.)	14,165	15,003	15,264	14,631	15,136
Tons hay crop dry matter/acre	2.1	2.4	2.5	2.4	2.4
Tons corn silage per acre	12.9	13.8	12.8	14.0	14.0
Labor Efficiency					
Cows per worker	22	27	27	32	36
Milk sold per worker (lbs.)	317,240	399,227	412,133	466,431	548,228
Feed Costs					
Feed purchased per cow	$527	$512	$507	$459	$501
Crop expense per cow	$119	$133	$161	$157	$185
Feed cost per cwt. milk	$3.72	$3.41	$3.32	$3.14	$3.31
Feed & crop exp. per cwt. milk	$4.74	$4.46	$4.51	$4.43	$4.83
% feed is of milk receipts	27%	25%	24%	23%	25%
Tons forage dry matter per cow	7.3	7.6	7.6	8.1	7.7
Tillable acres per cow	3.4	3.4	3.2	3.2	3.3
Fertilizer & lime per crop acre	$22	$25	$32	$28	$39
Machinery & Labor Costs					
Machinery cost per cow	$403	$418	$431	$419	$398
Machinery cost per cwt. milk	$2.84	$2.79	$2.82	$2.87	$2.63
Labor cost per cow	$384	$338	$344	$312	$296
Labor cost per cwt. milk	$2.71	$2.25	$2.26	$2.14	$1.96
Labor & mach. cost/cwt. milk	$5.55	$5.04	$5.08	$5.01	$4.59
Capital Efficiency					
Investment per worker	$136,038	$164,230	$159,156	$184,931	$179,926
Investment per cow	$5,936	$5,979	$5,753	$5,430	$5,022
Land & buildings per cow	$3,150	$3,030	$2,833	$2,683	$2,393
Machinery investment per cow	$1,186	$1,178	$1,152	$1,026	$981
Capital turnover	2.8	2.6	2.5	2.5	2.2
Income & Financial Measures					
Price per cwt. milk sold	$13.55	$13.53	$13.58	$13.66	$13.49
Net cash farm income	$17,168	$32,096	$37,734	$52,811	$100,845
Labor & mgmt. income/operator	$0	$5,824	$4,381	$6,424	$2,776
Labor, mgt. & ownshp. inc/op.	$5,197	$14,753	$15,778	$21,165	$12,600
Farm debt per cow	$2,402	$2,153	$2,199	$2,019	$1,899
Cash flow coverage ratio	0.64	0.89	0.87	0.96	1.11

Table 52. SELECTED BUSINESS FACTORS BY MILKING SYSTEMS
510 New York Dairy Farms, 1983

Item	Bucket and Carry	Dumping Station	Pipe-line	Herring-bone Parlor	Other Parlors
Number of farms	6	65	255	162	22
Percent of farms	1%	13%	50%	32%	4%
Capital Investment (end of year)					
Livestock	$ 54,423	$ 55,868	$ 90,474	$183,246	$152,707
Feed & supplies	14,225	16,399	29,049	60,981	50,734
Machinery & equipment	40,477	50,160	79,623	135,314	110,573
Land & buildings	163,083	131,771	202,380	346,701	294,689
TOTAL INVESTMENT	$272,208	$254,198	$401,526	$726,242	$608,703
Financial Summary					
Total farm rec. excl. apprec.	$ 84,385	$ 91,258	$157,254	$338,083	$278,726
Total farm expenses	86,365	90,721	152,255	324,178	271,338
Labor & Management Income	$ -1,980	$ 537	$ 4,999	$ 13,905	$ 7,388
Number of operators	1.17	1.17	1.28	1.44	1.45
LABOR & MANAGEMENT INCOME PER OPERATOR	$ -1,692	$ 459	$ 3,905	$ 9,656	$ 5,095
Size of Business					
Number of cows	46	46	66	139	112
Number of heifers	34	36	54	112	96
Pounds of milk sold	528,800	596,100	1,000,200	2,150,300	1,805,800
Worker equivalent	2.17	2.17	2.42	4.00	3.83
Crop acres	160	164	218	398	326
Rates of Production					
Milk sold per cow (lbs.)	11,496	12,959	15,155	15,470	16,123
Tons hay crop dry matter/acre	2.1	2.1	2.4	2.7	2.8
Tons corn silage per acre	12.6	12.7	13.1	14.0	12.7
Labor Efficiency					
Cows per worker	21	21	27	35	29
Lbs. milk sold per worker	243,687	274,700	413,306	537,575	471,488
Costs					
Feed purchased per cow	$390	$480	$510	$544	$497
% feed is of milk receipts	24%	28%	25%	2.%	22%
Machinery cost per cow	$328	$374	$426	$407	$411
Labor cost per cow	$388	$384	$345	$332	$359
Capital Efficiency					
Investment per worker	$125,441	$117,142	$165,920	$181,561	$158,930
Investment per cow	$5,792	$5,526	$5,819	$5,114	$5,247
Land & buildings per cow	$3,470	$2,865	$2,933	$2,442	$2,540
Machinery investment per cow	$861	$1,090	$1,154	$953	$953
Other					
Price per cwt. milk sold	$14.00	$13.42	$13.57	$13.68	$13.88

Table 53.

FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
510 New York Dairy Farms, 1983

Item	Averages for: 371 Individuals		127 Partnerships		11 Corporations	
CAPITAL INVESTMENT	1/1/83	1/1/84	1/1/83	1/1/84	1/1/83	1/1/84
Livestock	$109,242	$102,241	$167,218	$158,842	$177,721	$170,182
Feed & supplies	29,728	32,395	47,197	53,255	67,184	68,056
Mach. & equipment	83,775	85,758	110,423	115,859	143,549	140,135
Land & buildings	210,255	214,074	307,028	316,434	340,148	362,803
TOTAL INVESTMENT	$433,000	$434,468	$631,866	$644,390	$728,602	$741,176
EXPENSES						
Hired Labor	$ 15,723		$ 18,463		$ 36,047	
Feed						
Dairy grain & conc.	41,640		58,064		66,765	
Hay & other	1,944		2,319		815	
Machinery						
Machine hire	1,257		1,981		1,589	
Machinery repair	7,976		11,304		12,617	
Auto expense	520		568		360	
Gas & oil	5,751		8,760		11,130	
Livestock						
Replacement livestock	2,061		2,552		1,535	
Breeding fees	2,184		3,589		4,528	
Veterinary & medicine	3,255		5,283		4,923	
Milk marketing	11,167		15,511		21,193	
Cattle lease	178		127		0	
Other livestock expense	6,178		9,744		6,255	
Crops						
Fertilizer & lime	7,268		11,369		12,993	
Seeds & plants	2,413		3,826		4,231	
Spray & other	2,030		3,800		4,480	
Real Estate						
Land, bldg., fence repair	2,186		2,832		7,663	
Taxes	4,068		5,622		9,736	
Insurance	2,439		3,464		5,375	
Rent	3,182		4,969		3,470	
Other						
Telephone (farm share)	592		635		958	
Elec. (farm share)	3,692		5,318		6,898	
Interest paid	17,140		23,926		16,351	
Miscellaneous	1,962		3,160		4,410	
Total Cash Expenses	$146,806		$207,186		$244,322	
Expansion livestock	789		1,237		280	
Machinery depreciation	12,494		18,693		22,420	
Building depreciation	5,893		8,746		10,721	
Unpaid labor ($500/mo.)	1,836		1,012		591	
Interest on farm equity @ 5 percent	13,659		21,823		31,645	
TOTAL FARM EXPENSES	$181,477		$258,697		$309,979	

Table 53 continued
FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
510 New York Dairy Farms, 1983

Item	Averages for: 371 Individuals	127 Partnerships	11 Corporations
RECEIPTS			
Milk sales	$159,738	$242,940	$286,881
Crop sales	1,689	2,200	1,752
Dairy cattle sold	9,205	15,592	20,776
Other livestock sales	2,399	2,830	4,186
Gas tax refund	155	201	314
Government payments	1,394	1,338	903
Custom machine work	321	330	524
Miscellaneous	2,414	3,460	3,015
Total Cash Receipts	$177,315	$268,891	$318,351
Increase in livestock	3,490	5,808	2,810
Increase in feed & supplies	2,667	6,058	872
Appreciation	-2,750	-502	-2,712
TOTAL FARM RECEIPTS	$180,722	$280,255	$319,321
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$183,472	$280,757	$322,033
FINANCIAL SUMMARY			
Total Cash Receipts	$177,315	$268,891	$318,351
Total Cash Expenses	146,806	207,186	244,322
NET CASH FARM INCOME	$ 30,509	$ 61,705	$ 74,029
Total Farm Receipts Excluding Appreciation	$183,472	$280,757	$322,033
Total Farm Expenses	181,477	258,697	309,979
LABOR & MGMT. INCOME PER FARM	$ 1,995	$ 22,060	$ 12,054
Number of Operators	(388) 1.05	(260) 2.07	(22) 2.00
LABOR & MGMT. INCOME PER OPER.	$ 1,900	$ 10,657	$ 6,027
BUSINESS FACTORS			
Worker equivalent	2.75	3.58	4.17
Number of cows	79	113	129
Number of heifers	62	95	114
Acres of hay crops*	131	159	188
Acres of corn silage*	59	85	104
Total tillable acres	247	337	381
Pounds of milk sold	1,172,600	1,782,200	2,044,400
Pounds of milk sold per cow	14,843	15,772	15,848
Tons hay crop dry matter per acre	2.5	2.6	2.1
Tons corn silage per acre	13.3	14.2	11.0
Cows per worker	29	32	31
Lbs. of milk sold per worker	426,400	497,821	490,264
% feed is of milk receipts	26%	24%	23%
Feed & crop expense per cwt. milk	$4.72	$4.45	$4.37
Fertilizer & lime per crop acre	$29	$34	$34
Machinery cost per cow	$408	$416	$428
Average price per cwt. milk	$13.62	$13.63	$14.03

*Average of all farms.

Table 54. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1982 & 1983
Same 387 New York Dairy Farms

Item	Averages 1982		Averages 1983	
CAPITAL INVESTMENT	1/1/82	1/1/83	1/1/83	1/1/84
Livestock	$128,490	$130,061	$129,962	$122,014
Feed & supplies	35,288	35,893	36,930	40,580
Machinery & equipment	91,686	94,741	95,112	97,700
Land & buildings	229,418	241,126	241,156	246,333
TOTAL INVESTMENT	$484,882	$501,821*	$503,160*	$506,627
EXPENSES				
Hired Labor	$ 16,842		$ 17,820	
Feed				
Dairy grain & concentrate	41,907		47,120	
Hay & other	1,682		2,172	
Machinery				
Machine hire	1,520		1,543	
Machinery repair	9,076		9,264	
Auto expense	452		571	
Gas & oil	7,415		6,820	
Livestock				
Replacement livestock	2,247		1,957	
Breeding fees	2,558		2,709	
Veterinary & medicine	3,744		4,028	
Milk marketing	6,487		12,912	
Cattle lease	116		132	
Other livestock expense	6,493		7,195	
Crops				
Fertilizer & lime	9,266		8,932	
Seeds & plants	3,075		2,961	
Spray & other	2,405		2,712	
Real Estate				
Land, building, fence repair	2,754		2,466	
Taxes	4,323		4,707	
Insurance	2,760		2,851	
Rent	2,988		3,349	
Other				
Telephone (farm share)	617		633	
Electricity (farm share)	3,708		4,195	
Interest paid	19,245		19,147	
Miscellaneous	2,621		2,455	
Total Cash Expenses	$154,301		$168,651	
Expansion livestock	2,330		806	
Machinery depreciation	14,246		14,652	
Building depreciation	6,339		7,069	
Unpaid labor @ $500 per month	1,511		1,574	
Interest on farm equity @ 5%	16,352		16,697	
TOTAL FARM EXPENSES	$195,079		$209,449	

*Operators often make adjustments in values "between" years.

Table 54
continued COMPARISON OF FARM BUSINESS SUMMARIES FOR 1982 & 1983
Same 387 New York Dairy Farms

Item	Averages 1982	Averages 1983
RECEIPTS		
Milk sales	$175,566	$189,883
Crop sales	1,791	1,702
Dairy cattle sold	11,329	11,678
Other livestock sales	2,339	2,645
Gas tax refund	129	169
Government payments	554	1,423
Custom machine work	247	339
Miscellaneous	1,949	2,721
Total Cash Receipts	$193,904	$210,560
Increase in livestock	7,442	4,156
Increase in feed & supplies	605	3,650
Appreciation	3,434	-3,236
TOTAL FARM RECEIPTS	$205,385	$215,130
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$201,951	$218,366
FINANCIAL SUMMARY		
Net Cash Farm Income	$ 39,603	$ 41,909
Labor, Management & Ownership Income Per Farm	$ 26,658	$ 22,378
Number of Operators	(522) 1.32	(525) 1.32
Labor, Management & Ownership Income Per Operator	$ 20,195	$ 16,953
Labor & Management Income Per Farm	$ 6,872	$ 8,917
Labor & Management Income Per Operator	$ 5,206	$ 6,755
Rate of Return on Equity Capital Including Appreciation	1.9%	0.4%
BUSINESS FACTORS		
Worker equivalent	2.92	3.00
Number of cows	87	91
Number of heifers	71	76
Acres of hay crops	137	139
Acres of corn silage*	69	69
Total tillable acres	270	277
Pounds of milk sold	1,292,400	1,391,000
Pounds of milk sold per cow	14,855	15,286
Tons hay crop dry matter per acre	2.6	2.6
Tons corn silage per acre	14.3	13.6
Cows per worker	30	30
Pounds milk sold per worker	442,603	463,680
Percent feed is of milk receipts	24%	25%
Feed & crop expense per cwt. milk	$4.51	$4.59
Fertilizer & lime per crop acre	$34	$32
Machinery cost per cow	$430	$414
Average price per cwt. milk	$13.58	$13.65

*Average of all farms.

Table 55. SELECTED FARM BUSINESS SUMMARY FACTORS
New York Dairy Farms, Selected Years, 1963-1983

Item	Year			
	1963	1973	1978	1983
Number of farms	468	609	527	510
Financial Summary				
Total capital investment	$55,304	$195,322	$322,362	$493,311
Total farm receipts	$23,891	$84,682	$139,700	$208,479
Total farm expenses[1]	$17,278	$72,570	$115,443	$203,385
Labor & mgmt. income/operator	$3,492	$10,195	$6,778	$5,514
Size of Business				
Number of cows	39	69	71	88
Pounds of milk sold	427,000	851,900	979,500	1,343,200
Tillable acres				
Worker equivalent	1.7	2.2	2.4	3.0
Total work units	527	750	780	974
Rates of Production				
Milk sold per cow, lbs.	10,950	12,350	13,800	15,264
Tons hay crop dry matter/acre	2.3	2.6	2.4	2.5
Tons corn silage per acre	12.0	13.0	13.9	13.5
Labor Efficiency				
Cows per worker	23	32	29	29
Pounds milk sold per worker	251,200	392,600	404,800	447,733
Work units per worker	310	346	322	325
Cost Control Factors				
Machinery cost per cow[2]	$108	$183	$286	$413
Machinery cost per cwt. milk[2]	$0.99	$1.49	$2.07	$2.71
Feed bought per cow	$150	$278	$408	$526
Feed bought per cwt. milk	$1.37	$2.25	$2.96	$3.44
Feed & crop expense/cwt. milk	$1.64	$2.81	$3.81	$4.62
% feed is of milk receipts	32%	31%	28%	25%
Capital Efficiency				
Total investment per worker	$33,258	$95,667	$133,200	$164,437
Total investment per cow	$1,450	$3,009	$4,500	$5,421
Machinery investment per cow	$304	$527	$830	$1,038
Land & buildings per cow	$675	$1,547	$2,280	$2,668
Capital turnover (years)	2.4	2.5	2.3	2.4
Other				
Price per cwt. milk	$4.31	$7.30	$10.51	$13.64
Acres hay crops[3]	73	116	128	139
Acres corn silage[3]	14	57	60	67
Total tillable acres per cow	2.7	2.9	3.1	3.1
Fert. & lime exp./tillable acre	$8	$16	$24	$31
Net cash farm income per cow	$170	$262	$382	$446
Labor & mgmt. income per cow	$99	$176	$43	$83

[1]Includes an interest charge on average farm capital of five percent in 1963, seven percent in 1973, interest paid plus interest on equity capital at seven percent in 1978, and interest paid plus interest on equity capital at five percent in 1983.

[2]Includes an interest charge on average machinery investment of five percent in 1963, seven percent in 1973 and 1978, and five percent in 1983.

[3]Average of all farms.

Table 56. SELECTED BUSINESS FACTORS BY AREA*
510 New York Dairy Farms, 1983

Item / Area*:	Plain	Plateau	Mid N.Y.	Northern	Hudson Valley
Number of farms	67	156	70	96	121
Percent of farms	13%	30%	14%	19%	24%
Size of Business					
Number of cows	144	79	82	72	86
Number of heifers	114	63	67	60	71
Milk sold (cwt.)	22,986	11,714	12,583	10,760	12,790
Worker equivalent	4.25	2.67	2.67	2.58	3.00
Total tillable acres	416	242	249	230	278
Number of operators	1.37	1.30	1.40	1.26	1.33
Rates of Production					
Milk sold per cow (lbs.)	15,963	14,828	15,345	14,944	15,081
Tons hay crop dry matter/acre	3.1	2.4	2.6	2.3	2.5
Tons corn silage D.M./acre	14.6	14.0	14.0	14.8	11.5
Labor Efficiency					
Cows per worker	34	30	31	28	29
Milk sold per worker (lbs.)	540,847	438,727	471,273	417,054	432,333
Feed & Crop Expenses					
Feed purchased per cow	$504	$545	$516	$531	$518
Crop expense per cow	$174	$145	$142	$127	$177
Feed & crop expense/cwt. milk	$4.36	$4.87	$4.46	$4.59	$4.67
% feed is of milk receipts	24%	27%	25%	27%	24%
Tons forage dry matter/cow	7.5	7.2	7.7	7.8	7.6
Tillable acres per cow	2.9	3.1	3.0	3.2	3.2
Fertilizer & lime/crop acre	$35	$29	$28	$23	$36
Machinery & Labor Costs					
Machinery cost per cow	$418	$414	$403	$402	$416
Labor cost per cow	$357	$334	$319	$337	$358
Labor & mach. cost/cwt. milk	$4.85	$5.04	$4.71	$4.94	$5.13
Capital Efficiency					
Investment per cow	$5,302	$5,371	$5,742	$5,537	$5,381
Land & buildings per cow	$2,565	$2,650	$2,794	$2,642	$2,753
Machinery per cow	$968	$1,068	$1,102	$1,140	$972
Capital turnover	2.2	2.4	2.4	2.6	2.3
Income & Financial Measures					
Price per cwt. milk sold	$13.42	$13.43	$13.48	$13.29	$14.41
Net cash farm income	$63,670	$34,633	$39,412	$34,458	$35,555
Labor & mgt. income/oper.	$13,250	$3,434	$8,956	$4,578	$2,293
Labor, mgt. & ownsh. inc./op.	$29,431	$10,340	$22,930	$13,421	$13,298
Farm debt per cow	$2,460	$2,132	$2,259	$2,049	$2,158
Cash flow coverage ratio	0.98	0.82	0.97	1.00	0.84

*The Plain area includes the Central and Western Plain Regions plus Cayuga County. The Plateau includes all southern counties from Chautauqua east to and including Sullivan. Mid New York includes the Central and Oneida-Mohawk regions excluding Cayuga County. The Northern area starts with Jefferson County and goes north and east to Essex. The Hudson Valley goes from Washington and Saratoga Counties south to include Dutchess and Orange.

Table 57. FARM BUSINESS SUMMARY
37 New York Dairy-Cash Crop Farms,[1] 1983

CAPITAL INVESTMENT	1/1/83	1/1/84
Livestock	$153,918	$139,906
Feed & supplies	62,802	65,128
Machinery & equipment	138,311	144,326
Land & buildings	343,204	343,096
TOTAL INVESTMENT	$698,235	$692,456

EXPENSES	
Labor	
Hired	$ 28,525
Feed	
Dairy grain & concentrate	37,845
Hay & other	2,985
Machinery	
Machine hire	3,652
Machinery repair	12,614
Auto expense	436
Gas & oil	10,601
Livestock	
Replacement livestock	2,355
Breeding fees	2,838
Veterinary & medicine	4,875
Milk marketing	13,069
Cattle lease	162
Other livestock expense	8,652
Crops	
Lime & fertilizer	16,407
Seeds & plants	5,810
Spray & other	5,600
Real Estate	
Land, building, fence repair	2,661
Taxes	6,589
Insurance	4,134
Rent	8,087
Other	
Telephone (farm share)	770
Electricity (farm share)	5,377
Interest paid	24,645
Miscellaneous	3,791
TOTAL CASH EXPENSES	$212,480
Expansion livestock	227
Machinery depreciation	23,780
Building depreciation	9,722
Unpaid labor	446
Interest on farm equity @ 5%	21,904
TOTAL FARM EXPENSES	$268,559

RECEIPTS	
Milk sales	$210,972
Crop sales	41,185
Dairy cattle sold	14,628
Livestock sales	5,338
Gas tax refund	512
Government payments	3,779
Custom machine work	1,200
Miscellaneous	4,658
TOTAL CASH RECEIPTS	$282,272
Increase in livestock	1,400
Increase in feed & supplies	2,326
Appreciation	1,611
TOTAL FARM RECEIPTS	$287,609
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$285,998

FINANCIAL SUMMARY	
Net Cash Farm Income	$69,792
Labor, Management & Ownership Income Per Farm	$40,954
Number of Operators	1.35
Labor, Management & Ownership Income Per Operator	$30,336
Labor & Mgmt. Income Per Farm	$17,439
Labor & Mgmt. Income/Operator	$12,918
Rate of Return on Equity Capital Including Appreciation	3.7%

BUSINESS FACTORS	
Worker equivalent	3.50
Number of cows	102
Number of heifers	87
Acres of hay crops[2]	161
Acres of corn silage[2]	64
Total tillable acres	471
Pounds of milk sold	1,555,900
Pounds of milk sold per cow	15,254
Tons hay crop dry matter/acre	2.7
Tons corn silage per acre	12.6
Cows per worker	29
Lbs. of milk sold per worker	444,543
% feed is of milk receipts	18%
Feed & crop expense per cwt. milk	$4.41
Fertilizer & lime/tillable acre	$35
Machinery cost per cow	$570
Average price per cwt. milk	$13.56

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

Table 58. FARM BUSINESS SUMMARY
57 New York Dairy-Renter Farms,[1] 1983

CAPITAL INVESTMENT	1/1/83	1/1/84
Livestock	$ 87,662	$ 79,987
Feed & supplies	23,663	26,785
Machinery & equipment	67,863	68,607
Land & buildings	11,971	12,337
TOTAL INVESTMENT	$191,159	$187,716

EXPENSES	
Labor	
Hired	$ 10,851
Feed	
Dairy grain & concentrate	33,833
Hay & other	3,574
Machinery	
Machine hire	1,422
Machinery repair	5,975
Auto expense	218
Gas & oil	5,197
Livestock	
Replacement livestock	2,013
Breeding fees	2,191
Veterinary & medicine	2,775
Milk marketing	10,605
Cattle lease	347
Other livestock expense	5,722
Crops	
Lime & fertilizer	6,284
Seeds & plants	2,603
Spray & other	1,844
Real Estate	
Land, building, fence repair	1,451
Taxes	1,682
Insurance	1,972
Rent	12,915
Other	
Telephone (farm share)	464
Electricity (farm share)	3,069
Interest paid	8,604
Miscellaneous	1,834
TOTAL CASH EXPENSES	$127,445
Expansion livestock	1,402
Machinery depreciation	9,954
Building depreciation	712
Unpaid labor	1,675
Interest on farm equity @ 5%	6,104
TOTAL FARM EXPENSES	$147,272

RECEIPTS	
Milk sales	$137,988
Crop sales	3,567
Dairy cattle sold	8,602
Livestock sales	1,928
Gas tax refund	183
Government payments	1,088
Custom machine work	1,276
Miscellaneous	1,270
TOTAL CASH RECEIPTS	$155,902
Increase in livestock	1,599
Increase in feed & supplies	3,122
Appreciation	(6,716)
TOTAL FARM RECEIPTS	$153,907
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$160,623

FINANCIAL SUMMARY	
Net Cash Farm Income	$28,457
Labor, Management & Ownership Income Per Farm	$12,719
Number of Operators	1.4
Labor, Management & Ownership Income Per Operator	$9,085
Labor & Mgmt. Income Per Farm	$13,331
Labor & Mgmt. Income/Operator	$9,522
Rate of Return on Equity Capital Including Appreciation	-7.3%

BUSINESS FACTORS	
Worker equivalent	2.50
Number of cows	67
Number of heifers	51
Acres of hay crops[2]	114
Acres of corn silage[2]	44
Total tillable acres	218
Pounds of milk sold	996,400
Pounds of milk sold per cow	14,872
Tons hay crop dry matter/acre	2.3
Tons corn silage per acre	11.3
Cows per worker	27
Lbs. of milk sold per worker	398,560
% feed is of milk receipts	25%
Feed & crop expense per cwt. milk	$4.83
Fertilizer & lime/tillable acre	$29
Machinery cost per cow	$391
Average price per cwt. milk	$13.85

[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 59. FARM BUSINESS SUMMARY
Top 10 Percent of the Farms by Labor & Management Income Per Operator
51 New York Dairy Farms, 1983

CAPITAL INVESTMENT	1/1/83	1/1/84
Livestock	$241,308	$243,346
Feed & supplies	68,385	82,174
Machinery & equipment	136,257	146,009
Land & buildings	370,973	396,372
TOTAL INVESTMENT	$816,923	$867,901

EXPENSES	
Labor	
Hired	$ 44,308
Feed	
Dairy grain & concentrate	90,087
Hay & other	1,054
Machinery	
Machine hire	2,018
Machinery repair	17,887
Auto expense	861
Gas & oil	12,307
Livestock	
Replacement livestock	1,605
Breeding fees	5,100
Veterinary & medicine	8,541
Milk marketing	24,227
Cattle lease	272
Other livestock expense	13,915
Crops	
Lime & fertilizer	16,298
Seeds & plants	5,692
Spray & other	6,251
Real Estate	
Land, building, fence repair	4,884
Taxes	6,847
Insurance	3,978
Rent	8,907
Other	
Telephone (farm share)	827
Electricity (farm share)	7,017
Interest paid	32,470
Miscellaneous	4,411
TOTAL CASH EXPENSES	$319,764
Expansion livestock	2,281
Machinery depreciation	22,388
Building depreciation	12,561
Unpaid labor	853
Interest on farm equity @ 5%	29,815
TOTAL FARM EXPENSES	$387,662

RECEIPTS	
Milk sales	$383,244
Crop sales	4,145
Dairy cattle sold	20,235
Livestock sales	5,229
Gas tax refund	317
Government payments	2,389
Custom machine work	177
Miscellaneous	5,243
TOTAL CASH RECEIPTS	$420,979
Increase in livestock	19,683
Increase in feed & supplies	13,789
Appreciation	1,581
TOTAL FARM RECEIPTS	$456,032
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$454,451

FINANCIAL SUMMARY	
Net Cash Farm Income	$101,215
Labor, Management & Ownership Income Per Farm	$98,185
Number of Operators	1.33
Labor, Management & Ownership Income Per Operator	$73,823
Labor & Mgmt. Income Per Farm	$66,789
Labor & Mgmt. Income/Operator	$50,217
Rate of Return on Equity Capital Including Appreciation	12.1%

BUSINESS FACTORS	
Worker equivalent	4.67
Number of cows	170
Number of heifers	142
Acres of hay crops*	182
Acres of corn silage*	145
Total tillable acres	435
Pounds of milk sold	2,804,300
Pounds of milk sold per cow	16,496
Tons hay crop dry matter/acre	2.9
Tons corn silage per acre	14.8
Cows per worker	36
Lbs. of milk sold per worker	600,493
% feed is of milk receipts	24%
Feed & crop expense per cwt. milk	$4.26
Fertilizer & lime/tillable acre	$37
Machinery cost per cow	$368
Average price per cwt. milk	$13.67

*Average of all farms.

Table 60. FARM BUSINESS SUMMARY
Average 510 New York Dairy Farms, 1983

CAPITAL INVESTMENT	1/1/83	1/1/84
Livestock	$125,178	$117,793
Feed & supplies	34,863	38,341
Machinery & equipment	91,696	94,433
Land & buildings	237,115	242,744
TOTAL INVESTMENT	$488,852	$493,311

EXPENSES	
Labor	
Hired	$ 16,827
Feed	
Dairy grain & concentrate	46,265
Hay & other	2,009
Machinery	
Machine hire	1,445
Machinery repair	8,902
Auto expense	528
Gas & oil	6,613
Livestock	
Replacement livestock	2,168
Breeding fees	2,581
Veterinary & medicine	3,793
Milk marketing	12,465
Cattle lease	161
Other livestock expense	7,073
Crops	
Lime & fertilizer	8,414
Seeds & plants	2,802
Spray & other	2,521
Real Estate	
Land, building, fence repair	2,461
Taxes	4,574
Insurance	2,756
Rent	3,627
Other	
Telephone (farm share)	611
Electricity (farm share)	4,165
Interest paid	18,779
Miscellaneous	2,312
TOTAL CASH EXPENSES	$163,852
Expansion livestock	888
Machinery depreciation	14,239
Building depreciation	6,706
Unpaid labor	1,600
Interest on farm equity @ 5%	16,100
TOTAL FARM EXPENSES	$203,385

RECEIPTS	
Milk sales	$183,193
Crop sales	1,814
Dairy cattle sold	11,045
Livestock sales	2,543
Gas tax refund	169
Government payments	1,367
Custom machine work	327
Miscellaneous	2,682
TOTAL CASH RECEIPTS	$203,140
Increase in livestock	4,045
Increase in feed & supplies	3,478
Appreciation	(2,184)
TOTAL FARM RECEIPTS	$208,479
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$210,663

FINANCIAL SUMMARY		
Net Cash Farm Income		$39,288
Labor, Management & Ownership Income Per Farm		$21,194
Number of Operators	(679)	1.32
Labor, Management & Ownership Income Per Operator		$16,056
Labor & Mgmt. Income Per Farm		$7,278
Labor & Mgmt. Income/Operator		$5,514
Rate of Return On Equity Capital Including Appreciation		0.1%

BUSINESS FACTORS	
Worker equivalent	3.00
Number of cows	88
Number of heifers	72
Acres of hay crops	139
Acres of corn silage*	67
Total tillable acres	272
Pounds of milk sold	1,343,200
Pounds of milk sold per cow	15,264
Tons hay crop dry matter/acre	2.5
Tons corn silage per acre	13.5
Cows per worker	29
Lbs. of milk sold per worker	447,733
% feed is of milk receipts	25%
Feed & crop expense per cwt. milk	$4.62
Fertilizer & lime/tillable acre	$31
Machinery cost per cow	$413
Average price per cwt. milk	$13.64

*Average of all farms.