AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

DAIRY FARM MANAGEMENT

Sept. 1982 A.E. Res. 82-24

BUSINESS SUMMARY

New York 1981

Stuart F. Smith

Department of Agricultural Economics
Cornell University Agricultural Experiment Station
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York, 14853

A.E. Res. 82-24 Dairy Farm Management Business Summary New York, 1981
September 1982

ERRATA SHEET

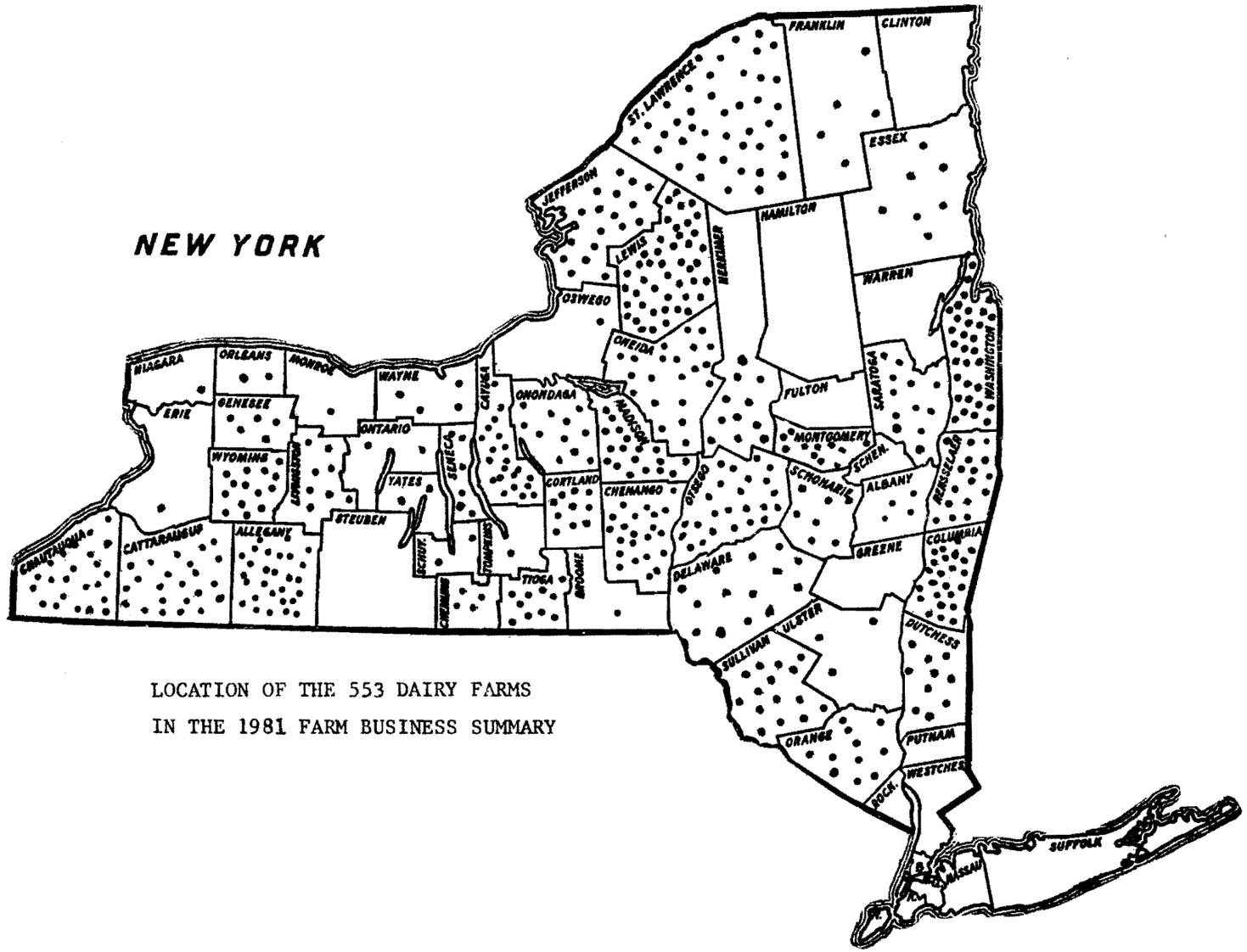
Item and Location	Correction
Change in livestock inventory caused by decline in cattle prices - page 6; paragraph 2 and Table 6.	-$2,218
End of year inventory at beginning prices page 6, Table 6.	$123,752
Change due to physical growth inventory page 6, Table 6 and paragraph 3.	$4,947
Increase in livestock inventory page 8, Table 9	$4,947 per farm $63 per cow
Total farm receipts excluding appreciation page 8, Table 9.	$180,367 per farm
Livestock appreciation page 8, Table 9.	-$2,218 per farm -$28 per cow
Real estate appreciation - page 14, paragraph 1 and Table 15.	Delete real estate (computations include all appreciation)
Appreciation; Table 15, line 7	$8,462
Return on Equity Capital; Table 15, line 8	$2,411
Amount of Equity Capital; Table 15, line 9	$301,975

PAGE 38, TABLE 53, COLUMN 4
(70 TO 84 COWS)

Dairy feed	$37,227
Taxes & Ins.	$ 7,004
Elec. & phone	$ 3,874
Interest paid	$15,991

TABLE OF CONTENTS

	Page
INTRODUCTION	1
1981 Regional Summary Publications	1
Farm Inventory Values	2
Prices Received	3
Prices Paid	4
SUMMARY OF THE FARM BUSINESS	5
Business Characteristics and Resources Used	5
Farm Inventory Values	6
Machinery and Real Estate Calculations	7
Receipts	8
Expenses	10
Financial Summary of Year's Business	12
Farm Family Financial Situation	15
ANALYSIS OF THE FARM BUSINESS	18
Size of Business	18
Rates of Production	20
Labor Efficiency	21
Capital Efficiency	22
Cost Control	23
Feed Costs	23
Machinery Costs	25
Labor Costs	26
Miscellaneous Costs	27
Combination of Factors	28
Farm Business Chart	29
SUPPLEMENTAL INFORMATION	30
Age of Individual Operators	31
Education of Operators	32
Financial Situation	34
Cost of Producing Milk	36
Farm Business Summary by Herd Size	38
Selected Business Factors by Herd Size	40
Farm Family Financial Situation by Herd Size	42
Comparison of Farms by Type of Barn and Herd Size	44
Selected Business Factors by Milking Systems	45
Farm Business Summaries for Individuals, Partnerships, & Corporations	46
Comparison of Same Farms for 1980 & 1981	48
Selected Farm Business Summary Factors, 1961, 1971, 1976, & 1981	50
Operating Statements:	
21 Dairy Farms With Over 200 Cows	51
30 Dairy-Cash Crop Farms	52
57 Dairy-Renter Farms	53
Top Ten Percent of 553 Dairy Farms (55 Farms)	54
Average of 553 Dairy Farms, 1981	55
Average Per Cow of 553 Dairy Farms, 1981	56



LOCATION OF THE 553 DAIRY FARMS
IN THE 1981 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 1981, about 700 dairyfarmers participated in these management projects. The records submitted by dairyfarmers from 49 counties provide the basis for extension educational programs and data for applied research studies.

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

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

A total of 553 farm business records have been included in the general dairy summary for 1981. 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 553 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.

1981 Regional Summary Publications

Region	Publications	Author
Southeastern New York	A.E. Ext. 82-8	Stuart F. Smith
Oneida-Mohawk Region	A.E. Ext. 82-9	Eddy L. LaDue
Northern New York	A.E. Ext. 82-10	William F. Lazarus
Eastern Plateau Region	A.E. Ext. 82-11	Stuart F. Smith
Northern Hudson Region	A.E. Ext. 82-12	Stuart F. Smith
Columbia-Dutchess Counties	A.E. Ext. 82-13	Stuart F. Smith
Western Plateau Region	A.E. Ext. 82-14	Loren W. Tauer
Western Plain Region	A.E. Ext. 82-15	Wayne A. Knoblauch
Central Plain Region	A.E. Ext. 82-16	Wayne A. Knoblauch
Central New York	A.E. Ext. 82-17	Wayne A. Knoblauch
Eastern New York Dairy Farm Renters	A.E. Ext. 82-20	Stuart F. Smith

Acknowledgement

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

Inflation, appreciation, supply and demand all have a direct affect on the inventory values on New York dairy farms. Machinery and real estate prices have risen steadily during the past six years with machinery prices increasing more rapidly. Dairy cow prices have changed most dramatically since 1975 as the demand for replacements jumped in 1978 and 1979 and weakened in 1981.

Table 1. UNIT VALUES OF NEW YORK DAIRY FARM INVENTORY ITEMS, 1975-1981

	New York Dairy Cows		Machinery*	N.Y. Farm Real Estate	
Year*	Value/Head	1977=100	1977=100	Value/Acre	1977=100
1975	$ 450	91	82	$510	88
1976	485	98	91	553	95
1977	495	100	100	587	100
1978	800	162	109	600	102
1979	1,105	223	122	670	113
1980	1,240	251	136	708	119
1981	1,120	226	152	149	126

*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, and the average per acre value of New York farmland and buildings reported in February. Chart 1 illustrates the annual changes in cow, machinery, and real estate values that have occurred over the last six years.

Chart 1. ANNUAL CHANGES IN DAIRY COW, FARM MACHINERY, & FARM REAL ESTATE VALUES
New York Dairy Farms, 1975-1981

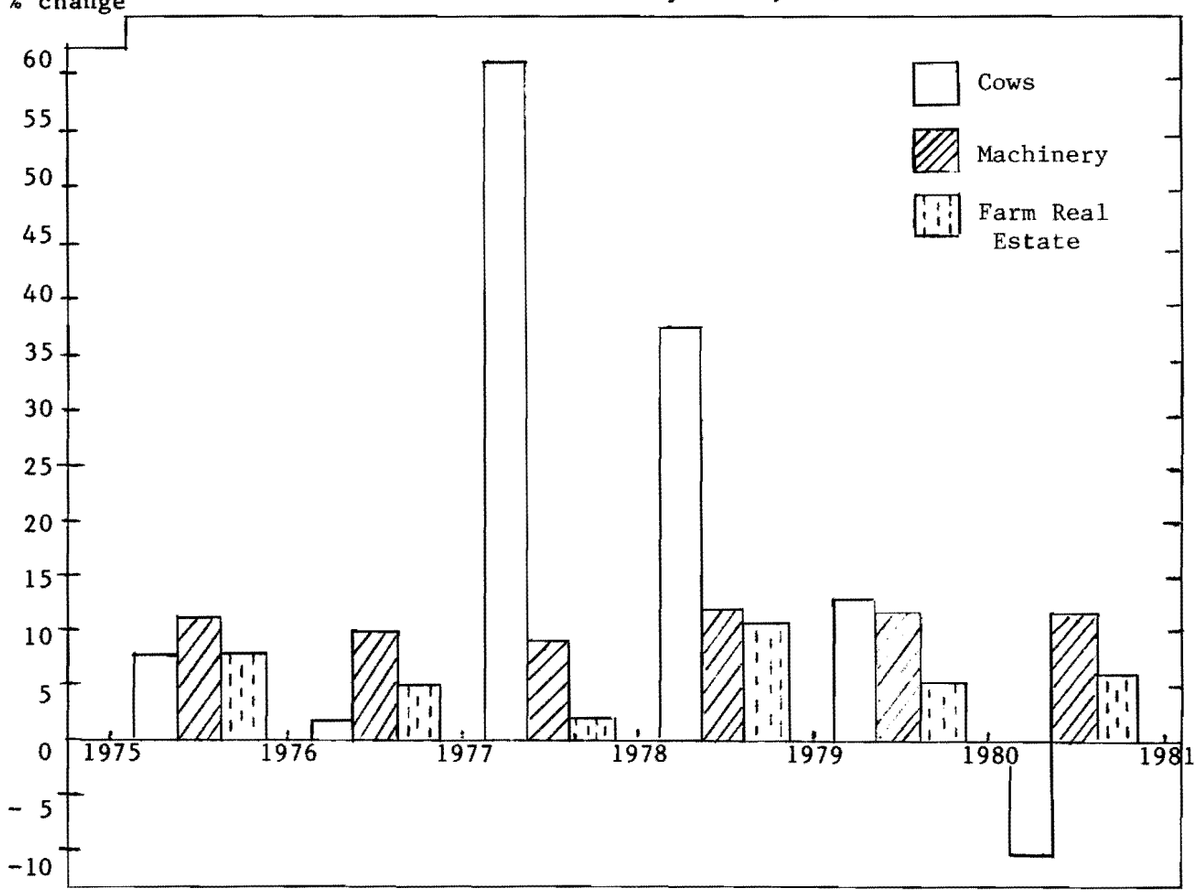
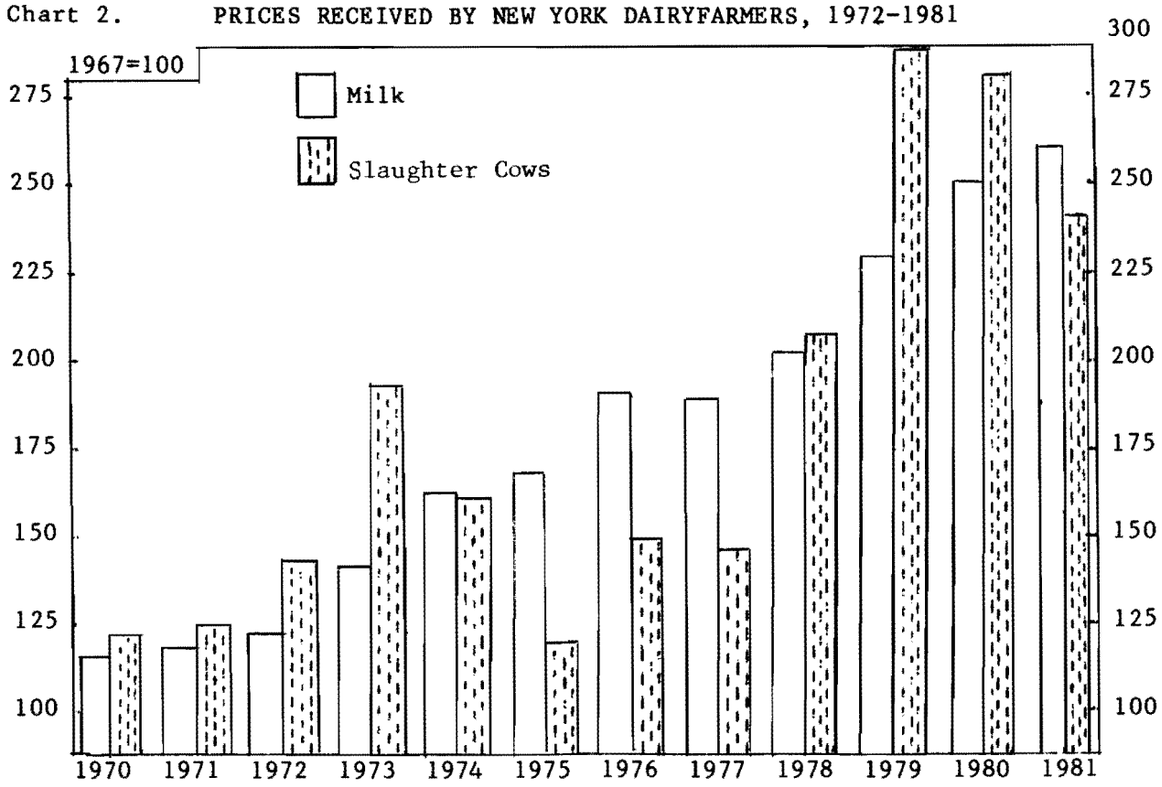


Chart 2. PRICES RECEIVED BY NEW YORK DAIRYFARMERS, 1972-1981



The prices dairyfarmers receive for milk, cattle, and other commodities they sell have a major effect on dairy farm profits. Chart 2 shows what has happened to average milk and slaughter cow prices paid to New York farmers since 1970. Milk prices have increased at a more constant rate showing only one year of decline since 1970. Slaughter cow prices have shown wide fluctuations over the period but have not moved in the same direction for more than three consecutive years.

Table 2. PRICES RECEIVED BY NEW YORK DAIRYFARMERS, 1970-1981

Year	All Milk (cwt.)	Slaughter Cows (cwt.)	Calves (cwt.)	Monthly Farm Price Per 100 Lbs. of Milk, 1981	
1970	$ 5.99	$20.70	$34.70	January	$14.00
1971	6.12	21.20	36.20	February	13.90
1972	6.33	24.50	44.80	March	13.60
1973	7.32	32.80	54.60	April	13.40
1974	8.35	27.10	40.80	May	13.20
				June	13.00
1975	8.71	20.60	26.20	July	13.50
1976	9.83	25.40	34.50	August	13.90
1977	9.75	25.00	37.50	September	14.10
1978	10.50	35.30	58.20	October	14.40
1979	11.90	49.80	88.80	November	14.20
				December	13.90
1980	13.00	46.30	78.00		
1981	13.80	41.30	66.20		

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

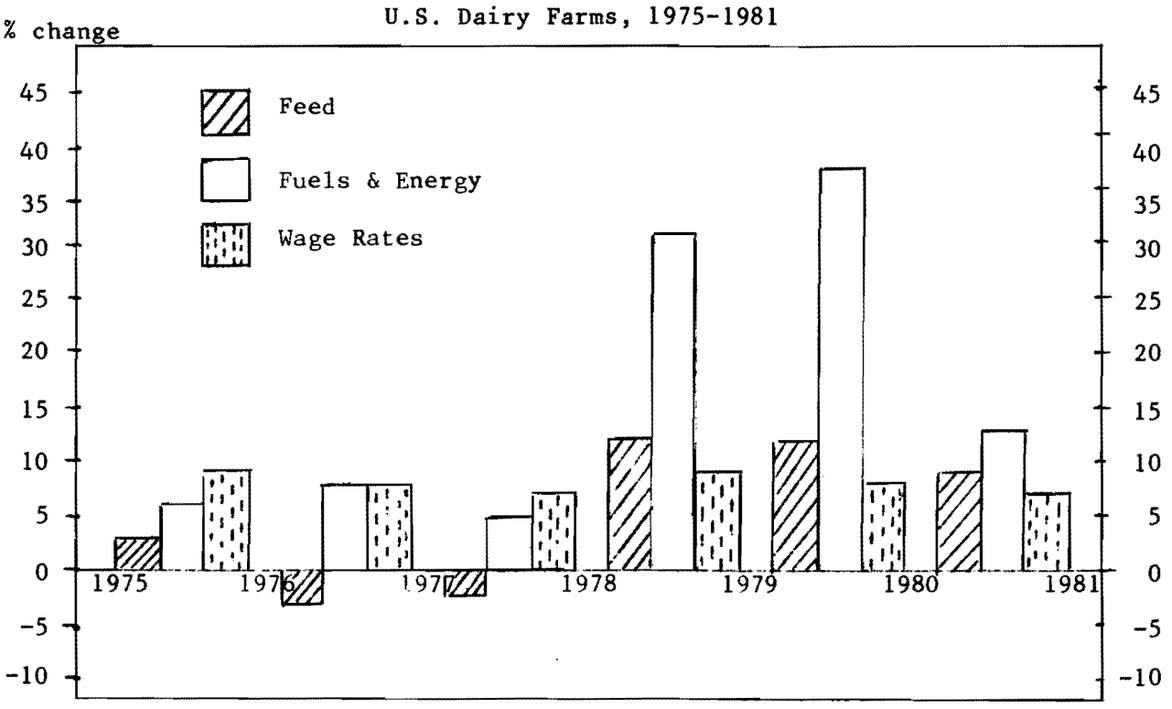
Year	Index 1977=100					
	Feed	Fert.	Fuel & Energy	Wage Rates	Taxes	Interest
1972	57	52	54	63	75	46
1973	86	56	57	69	77	54
1974	104	92	79	79	81	65
1975	100	120	88	85	87	76
1976	103	102	93	93	94	87
1977	100	100	100	100	100	100
1978	98	100	105	107	100	118
1979	110	108	137	117	107	144
1980	123	134	188	127	114	179
1981	134	144	213	136	124	195

SOURCE: USDA Agricultural Prices

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

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

Chart 3. ANNUAL CHANGES IN PRICES OF THREE MAJOR PRODUCTION ITEMS
U.S. Dairy Farms, 1975-1981



Although all three major cost items have increased since 1975. Feed prices have been through a cycle, fuel and energy costs show the greatest increases, and wage rates have increased at a relatively slow but constant rate.

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
553 New York Dairy Farms, 1981

Type of Business	Number	Percent	Business Records	Number	Percent
Sole Proprietorship	431	78	Account Book	216	39
Partnership	112	20	Agrifax	138	25
Corporation	10	2	CAMIS	80	14
			Agway	49	9
Barn Type			Farm Bureau	11	2
Stanchion	355	64	Other	59	11
Freestall	171	31			
Other	27	5	Dairy Records		
			D.H.I.C.	386	70
Milking System			Owner Sampler	53	10
Bucket & Carry	11	2	Other	34	6
Dumping Station	115	21	None	80	14
Pipeline	253	46			
Herringbone	152	27			
Other Parlor	22	4			

Labor Force	My Farm	Average	Land Used	My Farm	Average
Operator	_____	15 mo.	Total acres:		
Family	_____	4 mo.	Owned	_____	313
Family unpaid	_____	3 mo.	Rented (445)	_____	125
Hired	_____	11 mo.	Tillable acres:		
Total months	_____	33 mo.	Rented (440)	_____	104
			Total	_____	257
Operators (712)		1.28			
Age	_____	40 yrs.	Number of Cows		
Education	_____	12 yrs.	Beg. of year	_____	78
Estimated value			End of year	_____	81
labor & mgmt.	$_____	$15,100	Ave. for year	_____	79

The most typical dairy farm business was a sole proprietorship with a stanchion barn, milk transfer system, farm account book, and DHIC records. There were 712 operators on the 553 dairy farms for an average of 1.28 operators per farm. The operators averaged 40 years of age and 12 years of formal education. Their estimated value of labor and management averaged $15,100 per operator.

All the 553 farm businesses summarized in the main body of this report own land and buildings. The dairy farm renters are summarized separately. However, 440 of the dairy farm owners rented an average of 104 acres of tillable land in 1981. The 553 farms averaged 257 total tillable acres per farm of which 82 acres were rented.

Farm Inventory Values

Table 5. CAPITAL INVESTMENT - FARM INVENTORY VALUES
553 New York Dairy Farms, 1981

Item	My Farm 1/1/81	My Farm 1/1/82	Average 553 Farms 1/1/81	Average 553 Farms 1/1/82
Livestock	$_____	$_____	$118,805	$121,534
Feed and supplies	_____	_____	31,521	32,831
Machinery and equipment	_____	_____	78,172	87,290
Land and buildings	_____	_____	204,181	218,106
TOTAL	$_____	$_____	$432,679	$459,761

The value of total farm inventories increased an average of $27,082 per farm or six percent during 1981. This is the smallest rate of growth that has occurred since 1975. From 1976 through 1980, farm inventory values increased at an annual rate of 12 percent.

The market value of livestock increased an average of $2,729 per farm in 1981 even though dairy cattle prices declined during the year. The change in inventory caused by the decline in cattle prices averaged $-1,565 per farm. If there had been no herd growth during the year, livestock inventory would have dropped an average of $1,565 per farm. Herd growth did occur however.

Table 6. CHANGES IN LIVESTOCK INVENTORY
553 New York Dairy Farms, 1981

Item	Average 553 Farms	
End of year market value inventory	$121,534	
Beginning of year market value inventory	-118,805	
Total Increase in Inventory		$2,729
End of year market value inventory	$121,534	
End of year inventory at beginning prices	-123,099	
Change Due To Price Decline (Appreciation)		(1,565)
Change Due To Physical Growth in Inventory		$4,294

The increase in livestock inventory caused by growth and maturity of the herd averaged $4,294 per farm. Most of this increase can be attributed to the change in dairy cow numbers from 78 to 81 head per farm. The youngstock herd grew at the same rate as the cow herd in 1981.

Feed and supply inventories increased only four percent during 1981 after jumping at an annual rate of 19 percent over the three previous years. Lower quality and quantity of hay crops in storage at the end of the year was a major factor contributing to little inventory growth in 1981. Machinery and equipment and land and building inventory changes are examined on the following pages.

Machinery and Real Estate Inventory Calculations

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

Table 7. CHANGES IN MACHINERY AND EQUIPMENT INVENTORY
553 New York Dairy Farms, 1981

Item	Average 553 Farms	
End of year market value		$87,290
Beginning of year market value	$78,172	
Plus machinery purchased	+17,180	
Less machinery sold	- 359	
Less depreciation	-12,508	
Net End Investment		$82,485
Appreciation		$ 4,805

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
553 New York Dairy Farms, 1981

Item		Average 553 Farms	
End of year market value			$218,106
Beginning of year market value		$204,181	
Plus cost of new real estate	$+16,290		
Less lost capital	- 2,575		
Value Added		+ 13,715	
Less depreciation	- 5,319		
Less real estate sold	- 346		
Value Deducted		- 5,665	
Net End Investment			212,231
Appreciation			$ 5,875

Receipts

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

Table 9. FARM RECEIPTS
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms Per Farm	Average 553 Farms Per Cow	Percent
Milk sales	$_____	$156,043	$1,975	90
Crop sales	_____	1,823	23	1
Dairy cattle sold	_____	11,008	139	6
Other livestock sales	_____	2,757	35	2
Gas tax refunds	_____	254	3	-
Government payments	_____	348	5	-
Custom machine work	_____	218	3	-
Miscellaneous	_____	1,659	21	1
Total Cash Receipts	$_____	$174,110	$2,204	100
Increase in livestock inventory*	_____	4,294	54	
Increase in feed & supply inventory	_____	1,310	17	
Total Farm Receipts Excluding Appreciation	$_____	$180,336	$2,283	
Livestock appreciation	_____	- 1,565	- 20	
Machinery appreciation	_____	4,805	61	
Real estate appreciation	_____	5,875	74	
Total Farm Receipts	$_____	$188,829	$2,390	

*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 1981. Nearly 90 percent of all farm receipts can be attributed to the production, growth, and increase in value of the dairy herd.

Table 10. INCOME ANALYSIS
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms	Top 10%*
Average price per cwt. milk sold	$_____	$13.66	$13.76
Milk sales per cow	$_____	$1,975	$2,117
Milk and cattle sales per cow	$_____	$2,149	$2,306
Total cash receipts per worker	$_____	$63,313	$80,130

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

The average price received for milk sold on all the farms was $13.66 per hundredweight in 1981, $.85 above the 1980 average. The average price received for milk increased $.91 per hundredweight in 1980, $1.39 in 1979, and $.75 in 1978. Milk sales averaged $1,975 per cow in 1981 compared to $1,838 in 1980.

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 553 farms was $13.66 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	14	3
$12.50 to 12.99	28	5
13.00 to 13.49	180	32
13.50 to 13.99	218	40
14.00 to 14.49	73	13
14.50 to 14.99	22	4
15.00 and over	17	3
Total	553	100

Seventy-two percent of the farms received from $13.00 to $13.99 per hundredweight of milk sold. Twelve percent of the farms received $14.00 or more per hundredweight while only eight percent got less than $12.50 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 553 farms in 1981 is shown below.

DISTRIBUTION OF FARMS BY TOTAL FARM RECEIPTS

Total Farm Receipts	Farms	
	Number	Percent
Under $ 50,000	10	2
$ 50,000 to 99,999	116	21
100,000 to 149,999	151	27
150,000 to 199,999	100	18
200,000 to 249,999	53	10
250,000 to 299,999	40	7
300,000 to 349,999	19	3
350,000 to 399,999	25	5
400,000 and over	39	7
Total	553	100

One-half of the 553 farms had total farm receipts of less than $150,000 but only two percent fell below $50,000. The remaining 276 farms had total receipts ranging from $150,000 to over $400,000 in 1981.

Expenses

Total cash farm expenses for the 553 farms averaged $375 per day or $4.75 per cow per day. Total farm expenses averaged more than $500 per day. The average expenses per farm and per cow for each item are shown below.

Table 11. FARM EXPENSES
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms Per Farm	Per Cow	Percent
Hired Labor	$_____	$ 13,639	$ 173	10
Feed				
Dairy concentrate	_____	40,130	508	29
Other feed	_____	1,196	15	1
Machinery				
Machine hire	_____	1,383	18	1
Machinery repairs	_____	7,863	100	6
Auto expense (farm share)	_____	445	6	--
Gas & oil	_____	7,081	90	5
Livestock				
Replacement livestock	_____	2,619	33	2
Breeding fees	_____	2,058	26	2
Veterinary & medicine	_____	3,240	41	2
Milk marketing	_____	4,566	58	3
Other livestock expense	_____	5,545	70	4
Crops				
Lime & fertilizer	_____	8,245	104	6
Seeds & plants	_____	2,617	33	2
Spray & other crop expense	_____	2,340	30	2
Real Estate				
Land, building, fence repair	_____	2,461	31	2
Taxes	_____	3,937	50	3
Insurance	_____	2,617	33	2
Rent	_____	2,340	34	2
Other				
Telephone (farm share)	_____	561	7	--
Electricity (farm share)	_____	3,118	39	2
Interest paid	_____	16,302	206	12
Miscellaneous	_____	2,309	29	2
Total Cash Expenses	$_____	$136,974	$1,734	100
Expansion livestock	_____	2,108	27	
Machinery depreciation	_____	12,508	158	
Building depreciation	_____	5,319	67	
Unpaid labor	_____	1,606	20	
TOTAL FARM EXPENSES EXCLUDING INTEREST ON EQUITY CAPITAL	$_____	$158,515	$2,007	
Interest on equity capital @ 9%	_____	27,178	344	
TOTAL FARM EXPENSES	$_____	$185,693	$2,351	

The cash expense classifications used on page 10 have been used to summarize New York dairy farms for many years. Total cash expenses increased 14 percent per farm in 1981 when data from these 553 farms is compared to 1980 data collected from 600 dairy farms.

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 and livestock that increase herd size are classified as expansion livestock and are excluded from cash 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.

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

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

Fixed (overhead) Costs		Variable Costs	
Land & building repairs	$ 2,461	Labor	$ 13,639
Real estate taxes	3,937	Feed	41,326
Insurance	2,617	Machinery repairs	7,863
Rent	2,708	Gas & oil	7,081
Interest paid	16,304	Machine hire	1,383
Fixed Cash Expenses	$28,027	Auto	445
Depreciation	17,827	Livestock purchased	4,727
Unpaid labor	1,606	Livestock expenses	15,409
Interest on equity capital	27,178	Fertilizer & lime	8,245
Total Fixed Costs	$74,638	Other crop expenses	4,957
		Electricity	3,118
		Telephone	561
		Miscellaneous	2,309
		Total Variable Costs	$111,063

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

Financial Summary of Year's Business

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

Table 12. NET CASH FARM INCOME
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms	
		Per Farm	Per Cow
Cash Farm Receipts	$_____	$174,110	$2,204
Cash Farm Expenses	_____	136,974	1,734
NET CASH FARM INCOME	$_____	$ 37,136	$ 470

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

Table 13. LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms	
		Per Farm	Per Cow
Total Farm Receipts Excluding Appreciation	$_____	$180,367	$2,283
Total Farm Expenses	_____	185,693	2,351
LABOR & MANGEMENT INCOME	$_____	$- 5,326	$- 68
Number of operators per farm	_____	1.25	1.25
LABOR & MANAGEMENT INCOME PER OPERATOR	$_____	$- 4,261	$- 54

Labor and management income measures the return to the operator for his or her efforts in operating the business. A nine percent charge for the use of equity capital (see explanation on page 11) is included as a farm expense. Labor and management income per operator is the measure generally used for comparing farm businesses. There were 691 operators on the 553 farms in 1981, for an average of 1.25 operators per farm.

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

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

Labor and management income per operator averaged -$4,261 on these 553 dairy farms in 1981 but the range was from less than -$50,000 to more than $40,000. Returns to labor and management were negative on more than one-half of the farms. Labor and management income per operator ranged from $0 to $19,999 on 34 percent of the farms while only seven 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	15	3
-$50,000 to - 40,001	14	2
- 40,000 to - 30,001	30	5
- 30,000 to - 20,001	43	8
- 20,000 to - 10,001	83	15
- 10,000 to - 1	142	26
0 to 9,999	123	22
10,000 to 19,999	65	12
20,000 to 29,999	18	3
30,000 to 39,999	9	2
40,000 or more	11	2

Labor, management, and ownership income per operator reflects the combined return to the farmer for his triple role of worker-manager, financier, and owner. This measure includes appreciation and interest on equity capital, as returns to ownership. This measure of farm profit includes the operator's gain in net worth as well as net farm income. The average labor, management, and ownership income per operator was $24,251 in 1981.

Table 14. LABOR, MANAGEMENT, AND OWNERSHIP INCOME
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms	
		Per Farm	Per Cow
Total Farm Receipts	$_____	$188,829	$2,390
Total Farm Expenses Excluding Interest on Equity Capital	_____	158,515	2,007
LABOR, MANAGEMENT & OWNERSHIP INCOME	$_____	$ 30,314	$ 383
Number of Operators	_____	1.25	1.25
LABOR, MANAGEMENT & OWNERSHIP INCOME PER OPERATOR	$_____	$ 24,251	$ 306

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

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

Table 15. RETURN ON EQUITY CAPITAL
553 New York Dairy Farms, 1981

Item	My Farm		Average 553 Farms
	Including Real Estate Appreciation		
Labor, Management, & Ownership Income (pg. 13)	$_____		$ 30,314
Value of Operator's Labor & Management (pg. 5)	_____	(1.25)	19,441
RETURN ON EQUITY CAPITAL	$_____		$ 10,873
Amount of Equity Capital	$_____		$301,975
RATE OF RETURN ON EQUITY CAPITAL*	_____ %		3.6%
	Excluding Real Estate Appreciation		
Return on Equity Capital (from above)	$_____		$ 10,873
Appreciation	_____		14,783
RETURN ON EQUITY CAPITAL	$_____		$ 18,074
Amount of Equity Capital	$_____		$288,022
RATE OF RETURN ON EQUITY CAPITAL	_____ %		0.8%

*The rate of return on all capital was 5.6 percent.

The operators were asked to estimate the value of their labor and management on the basis of what they might be able to earn if they were to work for someone else in a similar position. The average estimated by the 691 operators was $15,500. This is somewhat less than the value determined by using $750 per month for the labor plus a management charge based on five percent of the cash receipts per operator ($9,000 + $8,705 = $17,706). The value estimated by the farm operators is the one used in Table 15.

Returns Per Unit of Input

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

Returns To All Labor and Management	
Labor & management income per farm	-$ 5,326
Cost of hired labor	13,639
Value of unpaid labor	1,606
Total Returns to Labor & Management	$ 9,919
Average worker equivalent	2.75
Returns per worker equivalent	$ 3,607
Returns per hour (3,000 hours/worker/year)	$ 1.20

Farm and Farm Family Financial Situation

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

Table 16. FARM AND FARM FAMILY FINANCIAL SITUATION
553 New York Dairy Farms, January 1, 1982

Item	My Farm	Average 553 Farms Amount		Percent
Assets				
Livestock	$_____	$121,534		24
Feed & supplies	_____	32,831		7
Machinery & equipment	_____	87,290		17
Land & buildings	_____	218,106		43
Co-op investment	_____	5,777		1
Accounts receivable	_____	13,272		2
Cash & checking accounts	_____	2,328		1
Total Farm Assets	$_____		$481,138	95
Savings accounts	$_____	$ 3,354		1
Cash value life insurance	_____	2,861		1
Stocks & bonds	_____	2,682		1
Nonfarm real estate	_____	5,282		1
Auto (personal share)	_____	1,528		--
All other	_____	5,555		1
Total Nonfarm Assets	$_____		$ 21,262	100
TOTAL ASSETS	$_____		$502,400	
Liabilities				
Real estate mortgage	$_____	$ 95,397		53
Liens on cattle & equipment	_____	56,765		32
Installment contracts	_____	6,616		4
Loans: More than 10 years	_____	7,751		4
1 to 10 years	_____	4,602		2
Less than 1 year	_____	3,299		2
Other	_____	4,733		3
Total Farm Liabilities	$_____		$179,163	
Nonfarm Liabilities	_____		876	
TOTAL LIABILITIES	$_____		$180,039	
Farm Net Worth (equity capital)	$_____		$301,975	
Family Net Worth	$_____		$322,361	

Total farm assets accounted for 95 percent of the total assets. Real estate mortgages and other long term loans were the largest liability and accounted for 57 percent of all debts. Intermediate debt, including secured liens, installment contracts, and one to 10 year loans, accounted for 38 percent of all liabilities. Equity capital for the 553 farms averaged $301,975 and the total family net worth exceeded $322,000.

The ability to service debt is the most important consideration in determining if and how proposed investments can be financed. Debt payment capacity based on 1981 income is compared with debt service planned for 1982 in Table 17.

Table 17. DEBT PAYMENT CAPACITY AND SCHEDULED COMMITMENTS
553 New York Dairy Farms, January 1, 1982

Item	My Farm	Average 553 Farms Per Farm	Average 553 Farms Per Cow[1]
Net cash farm income	$_____	$37,136	$458
Interest paid	_____	16,302	201
Off-farm income	_____	1,227	15
CASH AVAIL. FOR DEBT PYMT. & LIVING	$_____	$54,665	$675
Estimated family living expense[2]	_____	18,964	234
CASH AVAIL. FOR DEBT PYMT. & CAP. PURCH.	$_____	$35,701	$441
Debt payments planned	$_____	$38,649	$472
Debt pymts. planned as % of milk sales	_____ %	25%	
Cash flow coverage ratio	_____	0.92	

[1]Based on 81 end of year cows per farm.
[2]Calculated at $9,600 per family plus four percent of cash receipts.

Cash available for debt service and living is the net cash farm income plus interest paid, plus off-farm income contributed to family living. Average family living expenses have been estimated as indicated. Subtracting family living expenses from total cash available leaves cash available for debt payments and capital purchases made with cash.

Debt payments planned represent the outstanding commitments as of January 1, 1982. 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 1982 repayment schedules.

Table 18. MEASURES OF DEBT STRUCTURE
553 New York Dairy Farms, January 1, 1982

Measure	My Farm	Average 553 Farms
Percent equity	_____	64%
Debt/asset ratio - long term	_____	0.47
Debt/asset ratio - intermediate and short term	_____	0.28
Debt per cow	_____	$2,212

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

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

The Farm Finance checklist is designed to help focus on financial management practices in use by all 553 New York dairyfarmers as compared to those used on the most profitable farms in 1981.

Table 19. A FARM FINANCE CHECKLIST
553 New York Dairy Farms, 1981

	My Farm	1981 Ave. 553 New York Farms	1981 Ave. Top 10% Farms[1]
A. How farm assets are being used:			
1. Total inventory (capital) per cow	$_____	$5,676	$4,895
2. Farm assets in livestock	_____ %	25%	29%
3. Farm assets in farm real estate	_____ %	45%	42%
4. Farm assets in machinery	_____ %	18%	16%
5. Farm assets in cash & checking accts.	_____ %	<1%	<1%
B. Characteristics of the debt structure:			
1. Long-term debt as % of total	_____ %	58%	55%
2. Intermediate-term debt as % of total	_____ %	38%	39%
3. Short-term debt as % of total	_____ %	2%	6%
C. Have you borrowed to the limit?			
1. Equity in the business	_____ %	64%	65%
2. Farm debt per cow	$_____	$2,212	$1,876
3. Long-term debt/asset ratio[2]	_____	0.47	0.48
4. Intermediate debt/asset ratio[2]	_____	0.28	0.28
D. How is your debt repayment schedule?			
1. Cash flow coverage ratio[3]	$_____	$0.92	$1.42
2. Scheduled debt payments per cow	$_____	$472	$412
3. Scheduled debt payments as % of milk check	_____ %	25%	20%
E. What financial progress did you make last year?		Average of same 416 Farms 1980 and 1981 Amount	Percent
1. Change in farm assets	$_____	+ $28,245	+ 6%
2. Change in farm debts	$_____	+ $13,679	+ 9%
3. Change in farm net worth	$_____	+ $14,566	+ 5%

[1]Fifty-five farms with highest returns to labor and management per operator.
[2]Long or intermediate debt divided by long or intermediate assets.
[3]Estimated amount available for debt service divided by planned debt payments.

The most profitable farms carried $336 less debt per cow and a greater ability to make 1982 debt payments although their equity in their business was not significantly above average.

Farm debt grew faster than farm assets between 1980 and 1981 and net worth increased less than our annual rate of inflation.

ANALYSIS OF THE FARM BUSINESS

A systematic analysis of the operation helps to determine strengths and weaknesses in the business. In this section, five business factors are examined: size of business, rates of production, labor efficiency, capital efficiency, and cost control. The 1981 averages of selected measures for these factors for the 553 farms, and the average for the 10 percent with the highest labor and management incomes per operator, are reported along with general relationships of factors to labor income. Since the measures examined are interrelated, all factors should be studied before arriving at major conclusions.

Size of Business

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

Table 20. MEASURES OF SIZE OF BUSINESS
553 New York Dairy Farms, 1981

Measure	My Farm	Average 553 Farms	Average Top 10% Farms
Number of cows	_____	79	128
Number of heifers	_____	59	99
Worker equivalent	_____	2.75	3.75
Total tillable acres	_____	257	350
Pounds of milk sold	_____	1,142,000	1,970,400
Total work units	_____	869	1,376
Total cash receipts	$_____	$174,110	$300,489
Total investment (end inventory)	$_____	$459,761	$646,124

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 1981 year. It includes cropland pasture and idle cropland.

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

Total work units represents the number of productive worker days that would be required under average conditions to care for the acreage of crops grown and the number of livestock handled. One worker unit is the average amount of productive work accomplished in 10 hours of work.

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

Table 21. COWS PER FARM AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

Number of Cows	Ave. Number of Cows	Number of Farms	Percent of Farms	Labor & Mgmt. Income Per Operator
Under 40	34	82	16	-$ 4,300
40 to 54	47	130	25	- 6,077
55 to 69	61	110	21	- 1,204
70 to 84	77	74	13	- 5,284
85 to 99	90	38	6	- 3,648
100 to 114	106	26	4	- 5,677
115 to 129	121	25	4	- 15,635
130 to 149	139	16	3	- 11,780
150 to 179	163	23	4	- 4,577
180 to 199	187	8	2	3,497
200 & over	267	21	2	11,178

Number of cows is a good measure of size on the dairy farm because it measures the variability in the key source of production, the dairy herd. As size of herd varied from less than 40 cows to 200 and more in 1981, labor and management income increased from -$4,300 per operator to more than $11,178.

There is a stronger 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 630 percent while labor, management, and ownership income per operator jumped 850 percent as herd size increased from less than 40 to over 200 cows per farm.

Table 22. FAPM SIZE AND FARM INCOME MEASURES
553 New York Dairy Farms, 1981

Number of Cows	Number of Farms	Worker Equivalent	Net Cash Farm Income	Labor, Management & Ownership Income Per Operator
Under 40	82	1.6	$16,333	$ 9,125
40 to 54	130	2.1	22,287	14,718
55 to 69	110	2.3	32,662	22,121
70 to 84	74	2.8	36,932	22,525
85 to 99	38	3.3	47,296	27,166
100 to 114	26	3.4	49,670	24,688
115 to 129	25	3.9	38,306	24,612
130 to 149	16	4.2	64,819	35,614
150 to 179	23	4.3	68,648	37,439
180 to 199	8	5.5	99,644	65,474
200 & over	21	6.9	119,642	86,659

Rates of Production

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

Table 23. MEASURES OF RATES OF PRODUCTION
553 New York Dairy Farms, 1981

Item	My Farm Acres	My Farm Yield	553 Farms Farms Reporting	553 Farms Average* Acres	553 Farms Average* Yield	Ave. Yield Top 10% Farms
Milk sold per cow (lbs.)	_____	_____	553		14,456	15,394
All hay crops (tons dry matter/acre)	_____	_____	552	131	2.5	2.7
Corn silage (tons/acre)	_____	_____	506	59	14.9	16.1
All forage crops (tons dry matter/acre)	_____	_____	553	188	3.3	3.6
Grain corn (bu./acre)	_____	_____	324	71	91	100
Oats (bu. per acre)	_____	_____	148	26	51	66

*Average for farms reporting the crop.

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

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

Studies have shown repeatedly that farms with higher rates of production tend to have higher profits. In 1981, the farms that sold more than 15,000 pounds of milk per cow had substantially higher profit margins with slightly higher than average herd sizes.

Table 24. MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Labor & Mgmt. Income/Oper.	Labor, Mgmt., & Ownership Income/Operator
Under 11,000	50	50	-$ 8,642	$ 5,165
11,000 to 11,999	30	67	- 5,687	13,593
12,000 to 12,999	48	76	- 17,052	9,159
13,000 to 13,999	96	78	- 5,925	20,818
14,000 to 14,999	117	83	- 6,178	26,893
15,000 to 15,999	109	89	302	32,468
16,000 to 16,999	52	82	2,142	30,451
17,000 to 17,999	28	78	1,716	27,606
18,000 & over	23	89	1,861	45,290

Labor Efficiency

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

Table 25. MEASURES OF LABOR EFFICIENCY
553 New York Dairy Farms, 1981

Measure	My Farm	Average 553 Farms	Average Top 10% Farms
Number of cows per worker	_____	29	34
Pounds of milk sold per worker	_____	415,273	525,440
Work units per worker	_____	316	367
Tillable acres per worker	_____	94	91

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 10 percent of the farms with the highest labor and management incomes per operator were considerably above the average of all 553 farms in the four measures of labor efficiency. The top 10 percent sold 27 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 553 farms. The higher output per worker was achieved by more and better cows.

Table 26. MILK SOLD PER WORKER AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

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	68	44	11,609	-$9,348	$ 5,325
250,000 to 299,999	58	53	13,185	- 7,361	12,436
300,000 to 349,999	77	62	14,060	- 6,337	19,102
350,000 to 399,999	91	67	14,178	- 3,738	19,365
400,000 to 449,000	81	77	14,849	- 1,350	24,137
450,000 to 499,999	60	93	14,799	- 5,635	30,006
500,000 to 599,999	79	108	15,500	1,741	39,315
600,000 & over	39	158	15,461	- 3,751	54,391

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 $459,761 per farm on the 553 farms. This includes both owned and borrowed capital for all farms. The use of borrowed capital or credit is part of capital management.

Table 27. MEASURES OF CAPITAL EFFICIENCY
553 New York Dairy Farms, 1981

Measure	My Farm	Average 553 Farms	Average Top 10% Farms
Total capital per worker	$_____	$167,186	$172,300
Total capital per cow	$_____	$5,676	$4,895
Total capital per cwt. milk sold	$_____	$39	$31
Machinery & equipment per cow	$_____	$1,078	$809
Land & building inventory per cow	$_____	$2,693	$2,164
Land & building inventory per tillable acre owned	$_____	$1,246	$1,366
Capital turnover (capital ÷ receipts)	_____	2.4	1.9

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

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

Table 28. CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

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	9	111	$3,369	$104,662	$ 22,725
1.5 to 1.99	87	114	4,565	151,288	8,817
2.0 to 2.49	183	82	5,406	167,094	-2,990
2.5 to 2.99	143	67	6,262	172,843	-6,860
3.0 to 3.49	73	69	7,014	190,300	-11,341
3.5 & over	58	52	7,344	182,757	-18,611

Cost Control

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

Feed Costs

Feed is the largest single expense item on New York dairy farms. Purchased dairy concentrates accounted for 29 percent of all cash operating expenses on the 553 dairy farms in 1981.

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

Table 29. ITEMS RELATED TO FEED COSTS
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms	Average Top 10% Farms
Feed bought per cow	$_____	$508	$527
Crop expense per cow	$_____	$167	$162
Feed bought per cwt. milk	$_____	$3.51	$3.42
Feed & crop expense per cwt. milk	$_____	$4.67	$4.47
Percent feed is of milk sales	_____%	26%	25%
Forage dry matter harvested per cow	_____T	7.8T	7.5T
Tillable acres per cow	_____	3.3	2.1
Fertilizer & lime per crop acre	$_____	$32	$38
Heifers as percent of cow numbers	_____%	75%	76%

The average cost of feed bought per cow in 1981 was $508 while in 1980 it was $497. The percent that feed bought is of milk sales was 26 percent in 1981, down one percent from 1980.

The 1981 forage crop supply was down four percent from 1980. Dry matter produced per cow was 7.8 tons from 2.4 acres in 1981. In 1980, 8.1 tons of forage dry matter were produced from 2.5 acres.

Feed costs include all feed for cows and heifers. Per cow costs are influenced markedly by the number of replacements on hand. Heifers as percent of cow numbers must be considered when evaluating most of the per cow factors. There were 75 percent as many heifers as cows in 1981 and in 1980.

The 55 farms with highest labor and management incomes spent more on purchased feed per cow, but combined feed and crop expense were 20¢ less per hundredweight of milk sold than the average of all farms.

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

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

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

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

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

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

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

Table 30. PERCENT PURCHASED FEED IS OF MILK RECEIPTS AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

% Feed is of Milk	Number of Farms	Number of Cows	Dry Matter Per Cow	Lbs. Milk Per Cow	Labor & Management Income Per Operator
Over 40%	32	61	7.0	14,300	$-11,563
35 to 39	75	67	7.6	14,400	-8,798
30 to 34	108	79	7.7	14,600	-501
25 to 29	113	80	8.0	14,500	-4,169
20 to 24	99	88	7.9	14,800	-766
Under 20%	126	82	7.9	14,100	-6,155

Generally, the lower the percent of the milk check going for purchased feed, the higher the income. The 1981 data shows that it is possible to spend too little as well as too much on purchased dairy feed. Farmers spending between 20 and 35 percent of their milk receipts for purchased feed in 1981 appear to be practicing effective feed cost control.

Machinery Costs

Machinery accounted for 19 percent of the year-end farm inventory on these 553 farms and the new purchases averaged $17,180 per farm in 1981. The cost of owning and operating machinery accounted for one-fifth of the total farm expenses.

Table 31. MACHINERY COSTS
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms Amount	Average 553 Farms Percent	Average Top 10% Farms
Depreciation (from page 7)	$_____	$12,508	34	$16,406
Interest @ 9% on average inventory	_____	7,446	20	8,999
Machine hire	_____	1,383	4	2,395
Machinery repairs	_____	7,863	22	11,711
Auto expense (farm share)	_____	445	1	440
Gas & oil	_____	7,081	19	10,938
Total Machinery Costs	$_____	$36,726	100	$50,889
Machinery cost:				
per cow	$_____	$465		$398
per hundredweight of milk sold	$_____	$3.22		$2.58

Depreciation accounted for 34 percent of the total machinery costs and interest 20 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 increased 15 percent per cow in 1981 following increases of 28 percent in 1980 and 33 percent in 1979. Machinery costs averaged $465 per cow, compared to $425 in 1980 and $344 in 1979.

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

Table 32. MACHINERY COST PER COW AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

Machinery Cost Per Cow	Number of Farms	Number of Cows	Labor Cost Per Cow	Labor & Management Income Per Operator
Under $300	44	80	$298	$ 7,668
$300 to 349	62	82	314	1,273
350 to 399	71	77	320	-684
400 to 449	90	88	347	-914
450 to 499	71	75	324	-4,576
500 & over	215	76	354	-10,618

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 553 farms, the family (including paid family labor) provided 66 percent of the months of labor inputs, while hired nonfamily labor provided 33 percent (page 5). The operator's and other unpaid family labor are assigned values and included in Tables 33 and 34.

Table 33. LABOR COSTS
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms	Average Top 10% Farms
Value operator's labor (@$750/month)	$_____	$11,258	$11,700
Hired labor expense (from page 10; includes paid family labor)	_____	13,639	29,382
Unpaid family labor (@ $500/month)	_____	1,606	1,245
Total Labor Costs	$_____	$26,503	$42,327
Labor cost per cow	$_____	$335	$331
Labor cost per cwt. milk	$_____	$2.32	$2.15
Cost per month hired labor	$_____	$909	$1,088
Cost per month all labor	$_____	$803	$941

Although the top 10 percent farms paid $179 per month more for hired labor and $138 per month more for all labor than the average of the 553 farms, superior labor efficiency kept labor costs per cow and per hundredweight of milk sold well below average.

Labor and machinery operate as a "team" so the challenge is to get a combination that will give a reasonable cost per unit of milk sold. On these 553 farms the machinery costs were higher than labor costs. The labor and machinery costs for the top 10 percent farms were 81¢ per hundredweight of milk, less than the average for all farms.

Table 34. LABOR AND MACHINERY COSTS
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms	Average Top 10% Farms
Total labor costs	$_____	$26,503	$42,327
Total machinery costs	_____	36,726	50,889
Total Labor & Machinery Costs	$_____	$63,229	$93,216
Labor & machinery costs per cow	$_____	$800	$729
Labor & machinery costs per cwt. milk	$_____	$5.54	$4.73

Miscellaneous Costs

Costs in addition to feed, machinery, and labor make up a sizeable amount on a dairy farm. The "cost conscious" manager checks on all cost items both large and small. Good cost management requires careful planning and priority spending on farm inputs that will pay dividends when the checkbook is balanced at the end of the month. A number of miscellaneous cost items are reported in Table 35 to help in a detailed checkup on all farm costs.

Table 35. MISCELLANEOUS COST CONTROL MEASURES
553 New York Dairy Farms, 1981

Item	My Farm	Average 553 Farms	Average Top 10% Farms
Livestock			
Breeding fees per cow	$_____	$26	$29
Veterinary & medicine per cow	$_____	$41	$47
Other livestock expense per cow	$_____	$70	$66
Milk marketing per cow	$_____	$59	$69
Milk marketing per cwt. milk	_____¢	40¢	45¢
Real Estate			
Taxes per cow	$_____	$50	$42
Taxes per $1,000 year-end real estate value	$_____	$18	$19
Insurance paid per cow	$_____	$33	$28
Cash rent paid per cow	$_____	$34	$42
Cash rent paid per acre rented	$_____	$27	$30
Real estate expense per cow	$_____	$146	$138
Capital Cost			
Interest paid per cow	$_____	$206	$181
Interest on equity per cow	$_____	$344	$305
Interest paid as percent of year-end debt	_____%	9.0%	9.3%
Depreciation per cow	$_____	$226	$190
Fixed & Variable Costs			
Total fixed costs per cow	$_____	$945	$824
Total variable costs per cow	$_____	$1,406	$1,444
Variable costs per cwt. of milk sold	$_____	$9.73	$9.38

Nearly all capital and overhead costs on the top 10 percent farms were below the 553 farm average. Most of the livestock costs and rent paid were higher on the most profitable farms. This is related to more intensive use of cows and cropland on the top farms. Fixed costs per cow were 13 percent lower on the top farms indicating some efficiency in size and scale. 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 553 farms. They were then grouped on the basis of the number of factors better than average. The combination of factors above or below average within the three middle groups varied.

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

Table 36. COMBINATION OF FACTORS ABOVE AVERAGE* AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

Number of Factors Above Average	Number of Farms	Percent of Farms	Labor Income Per Operator
4 factors better than average	59	11	$3,600
3 factors better than average	97	18	- 4,400
2 factors better than average	160	29	- 7,200
1 factor better than average	161	29	- 6,500
0 factors better than average	76	14	- 8,000

*Factors were:

Size - number of cows - average 79.

Rates of production - pounds of milk sold per cow - average 14,456.

Labor efficiency - pounds of milk sold per worker - average 415,273.

Cost control - percent purchased feed was of milk receipts - average 26%.

Other business factors excluded from this combination have a strong affect on business profits. These include labor, machinery and crop expenses, capital efficiency, 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 553 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.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
553 New York Dairy Farms, 1981

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons D.M./ Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
5.8	204	3,081,100	18,100	4.6	21	45	662,000
3.9	121	1,795,500	16,400	3.6	19	36	538,000
3.3	91	1,364,500	15,700	3.1	17	33	482,000
3.0	77	1,111,800	15,200	2.8	16	30	442,000
2.6	67	960,800	14,600	2.6	15	28	408,000
2.3	58	850,000	14,200	2.3	15	26	377,000
2.0	52	747,000	13,700	2.1	13	24	346,000
1.9	47	641,000	13,100	1.9	12	22	310,000
1.6	40	530,000	12,100	1.7	11	20	267,000
1.3	32	381,000	9,800	1.2	7	16	194,000

Feed Bought Per Cow	% Feed is of Milk Receipts	Machinery Cost Per Cow	Labor and Machinery Cost Per Cow	Feed and Crop Expense Per Cwt. Milk
$197	11%	$251	$ 520	$2.66
313	17	334	632	3.54
387	20	373	688	3.94
440	23	408	739	4.24
485	25	437	775	4.50
533	28	469	815	4.79
583	30	513	859	5.06
635	33	552	924	5.35
699	35	611	1,002	5.75
834	40	762	1,199	6.59

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.

SUPPLEMENTAL INFORMATION

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

Age of Operators on Single Proprietorship Farms

Age of operator is a factor that affects management. Data on age of farm operators on 431 individually operated farms and related business factors are on page 31. Partnerships and corporate farms are excluded in this comparison.

Education of Operators

The 1981 records included data on years of formal education of the operators on 516 of the 553 farms. This data and related business factors are on pages 32 and 33.

Financial Situation

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

Cost of Producing Milk

The average cost of producing milk in 1981, calculated from the farm business summaries for the 553 farms, and comparisons by herd size and rates of production, are on pages 36 and 37.

Comparison by Herd Size

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

Farms With Freestall Barns

The 1981 summary reported 171 farms with freestall barns. Comparisons of the farms with freestall and stanchion barn facilities are on page 44.

Milking Systems

Cooperators report the kind of milking system they use. The 553 farms were sorted by type of milking system and factors are reported on page 45.

Type of Business Organization

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

Same Farms For 1980 and 1981

Of the 553 farms in the 1981 summary, 416 were in the 1980 summary. A 1980 and 1981 comparison of these farms is on pages 48 and 49.

Trends

One way to observe trends is to compare similar business studies that have been made. On page 50, selected farm business summary factors are given for 1961, 1971, 1976, and 1981.

Operating Statements

Operating statements for several groups of farms are on pages 51 to 56. These include: farms with over 200 cows, dairy-cash-crop farms, dairy renters, top 10 percent farms based on labor incomes, and the average of the 553 farms.

Age of Operators on Single Proprietorship Farms

Table 37. AGE OF OPERATORS AND LABOR AND MANAGEMENT INCOME
431 New York Dairy Farms, 1981

Age of Operator	Number of Farms	Number of Cows	Lbs. Milk Sold Per Cow	Lbs. Milk Sold Per Worker	Labor and Management Income Per Operator
Under 30	53	54	13,900	346,600	-$ 5,447
30 to 34	55	66	14,400	406,900	- 2,092
35 to 39	89	67	14,200	409,700	- 5,182
40 to 44	81	76	14,400	423,600	- 5,047
45 to 49	66	73	14,700	389,900	- 6,873
50 to 54	49	83	14,400	399,600	- 11,387
55 to 59	26	72	14,500	368,400	- 10,682
60 & over	12	76	13,300	327,900	- 22,677

Table 38. AGE OF OPERATOR AND RELATED BUSINESS FACTORS
431 New York Dairy Farms, 1981

Age of Operator	Percent Freestall Barns	Total Capital Per Cow	Feed Bought Per Cow	Machinery Cost Per Cow	Labor Cost Per Cow	Total Expense Per Cow
Under 30	41	$5,700	$519	$460	$326	$2,300
30 to 34	18	5,600	541	437	313	2,300
35 to 39	25	5,700	509	451	324	2,300
40 to 44	28	5,600	528	465	323	2,300
45 to 49	32	5,600	500	489	352	2,400
50 to 54	43	5,900	506	485	355	2,400
55 to 59	31	5,600	512	465	384	2,400
60 & over	33	5,600	384	542	429	2,500

Table 39. AGE OF OPERATOR AND FINANCIAL SITUATION
431 New York Dairy Farms, 1981

Age of Operator	Total Farm Inventory	Percent Equity	Debt Per Cow	% Milk For Debt Payment	Available For Debts & Living
Under 30	$313,910	54%	$2,800	27%	$35,400
30 to 34	379,120	48	3,100	30	46,000
35 to 39	394,240	57	2,600	29	46,700
40 to 44	436,800	65	2,100	25	52,400
45 to 49	419,780	67	2,000	23	49,000
50 to 54	503,450	75	1,600	22	55,400
55 to 59	412,020	78	1,400	17	43,000
60 & over	434,880	89	700	12	35,100

Education of Operators

The years of operator's education was requested again for 1981. Operators on 516 of the 553 farms reported years of formal education. The average education of all operators reporting was 13 years. In the tables below, the years of education of the senior operator on farms with partnerships or corporations was used for sorting the farms.

Table 40. EDUCATION OF OPERATOR AND LABOR AND MANAGEMENT INCOME
516 New York Dairy Farms, 1981

Years Education of Operator	Farms		Estimated Value of Operator's Labor & Management*	Labor and Management Income/Operator
	Number	Percent		
Less than 12	50	10	$12,800	-$1,938
12	244	47	14,700	- 4,092
13 to 14	112	22	15,400	- 5,796
15 to 16	95	18	17,000	- 3,691
over 16	15	3	19,200	- 1,144

*Estimates by farm operator.

Table 41. EDUCATION OF OPERATOR AND RELATED BUSINESS FACTORS
516 New York Dairy Farms, 1981

Years Education of Opeator	Average Age of Operator*	Average Number		Pounds Milk Sold	
		Operators	Cows	Per Cow	Per Worker
Less than 12	49	1.33	77	14,300	399,000
12	43	1.25	69	14,300	381,600
13 to 14	41	1.25	86	14,300	445,700
15 to 16	41	1.25	97	15,100	462,900
over 16	37	1.17	55	15,100	399,200

*Senior partner if more than one operator.

Table 42. EDUCATION OF OPERATOR AND FINANCIAL SITUATION
516 New York Dairy Farms, 1981

Years Education of Operator	Total Farm Inventory 1/82	Percent Equity	Farm Debt Per Cow	Debt Payment As Percent of Milk Receipts
Less than 12	$467,440	68%	$2,000	25%
12	406,110	66	2,100	24
13 to 14	479,480	61	2,300	27
15 to 16	569,380	63	2,300	24
over 16	362,290	63	2,648	25

There is no strong correlation between years of education and labor and management income, farm productivity or financial management on these farms. However, operators with 13 or more years of education had more cows, more capital invested, and higher debt loads.

Table 43. OPERATOR'S AGE AND EDUCATION AND RELATED FACTORS
516 New York Dairy Farms, 1981

Operator's Age & Years of Education	Operators		Cows Per Farm	Lbs. Milk Sold		Labor & Mgt. Income Per Operator
	Number	Percent		Per Cow	Per Worker	
Under 40						
Less than 12	8	2%	59	13,800	374,500	-$9,778
12	91	18	59	14,200	372,100	- 3,100
13 or more	121	23	84	14,400	453,600	- 2,817
40 to 49						
Less than 12	19	4	71	14,600	388,300	- 5,316
12	81	16	74	14,600	405,200	- 3,246
13 or more	59	11	93	15,200	435,100	- 4,821
50 & over						
Less than 12	23	4	87	14,300	404,600	2,179
12	72	14	74	14,300	363,200	- 5,944
13 or more	42	8	98	14,400	444,400	- 8,619

The amount of formal education has increased over the years, therefore, the younger farmers have more years of education. Fifty-five percent of the 220 operators under 40 years of age have some college education, but, only 31 percent of the 37 farmers 50 years of age and older have had some college training. In the 40 to 49 year age group, 37 percent of the operators reported 13 or more years of formal education.

Farms owned by operators under age 40 showed a dramatic increase in herd size as years of education moved from 12 to 13 or more. This group of 121 young farmers also excels in labor efficiency, has the greatest capital investment, highest debt load, and lowest equity position.

Table 44. OPERATOR'S AGE AND EDUCATION AND FINANCIAL SITUATION
516 New York Dairy Farms, 1981

Operator's Age & Years of Education	Total Farm Inventory	Percent Equity	Farm Debt Per Cow	Percent Debt Payment is of Milk	Available For Debt & Living
Under 40					
Less than 12	$396,340	64%	$2,500	29%	$36,600
12	346,740	56	2,600	28	43,100
13 or more	479,980	53	2,800	30	55,400
40 to 49					
Less than 12	432,710	58	2,600	34	51,900
12	436,900	65	2,200	24	54,100
13 or more	539,730	69	1,900	22	65,800
50 & over					
Less than 12	520,870	76	1,400	18	65,400
12	446,480	77	1,500	20	50,100
13 or more	554,900	74	1,600	21	70,100

Financial Situation

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

Table 45. FARM DEBT PER COW AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

Farm Debt Per Cow	Number of Farms	Number of Cows	Lbs. Milk Sold Per Cow	Lbs. Milk Sold Per Worker	Labor & Management Income Per Operator
None	23	53	15,000	340,100	-$ 45
$ 1 to $ 599	49	66	14,800	391,100	- 385
600 to 1,199	73	95	14,800	444,800	- 833
1,200 to 1,799	75	84	14,500	405,300	- 3,725
1,800 to 2,399	92	80	14,500	421,100	- 4,619
2,400 to 2,999	76	87	14,400	429,100	- 1,991
3,000 to 3,599	72	77	14,200	408,400	- 10,786
3,600 to 4,199	38	75	14,100	408,700	- 7,239
4,200 to 4,799	32	69	14,600	401,900	- 3,955
4,800 & over	23	57	14,300	350,600	- 13,118

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

Table 46. FARM DEBT PER COW AND RELATED BUSINESS FACTORS
553 New York Dairy Farms, 1981

Farm Debt Per Cow	Age of Operator	Percent Equity	Debt Payment Per Cow	Debt Payment % Milk	Available For Debts & Living
None	47	100%	$ 0	0%	$42,900
$ 1 to $ 599	45	95	156	8	48,200
600 to 1,199	41	83	304	15	65,300
1,200 to 1,799	44	75	364	19	57,500
1,800 to 2,399	39	64	460	24	53,800
2,400 to 2,999	36	53	532	28	60,300
3,000 to 3,599	37	50	648	34	50,600
3,600 to 4,199	35	41	740	39	50,000
4,200 to 4,799	36	37	789	43	53,200
4,800 & over	33	34	1,029	50	44,700

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

On the average, the 165 dairyfarmers with $3,000 or more debt per cow cannot meet their 1982 planned payment schedules.

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

Table 47. PERCENT EQUITY AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

Percent Equity*	Number of Farms	Number of Cows	Lbs. Milk Sold Per Cow	Lbs. Milk Sold Per Worker	Labor & Management Income Per Operator
Less than 40%	76	80	14,000	418,100	-$1,448
40 to 49	68	69	14,000	397,800	- 5,508
50 to 59	100	86	14,400	423,200	- 4,107
60 to 69	87	80	14,500	398,400	- 6,522
70 to 79	79	85	14,700	415,700	- 6,550
80 to 89	66	86	14,900	440,100	- 3,483
90 to 99	54	68	15,200	413,600	- 2,686
100	23	53	15,000	340,100	- 45

*Based on family net worth.

Seventy-six or 14 percent of the 553 farms had less than 40 percent equity and 26 percent reported less than 50 percent equity. The variation in milk output per cow and per worker was much greater within equity groups than it was between the average of each group. Equity appears to have little direct affect on labor and management income. One reason is the opportunity cost (nine percent) charged for using equity capital in the business.

Table 48. PERCENT EQUITY AND RELATED BUSINESS FACTORS
553 New York Dairy Farms, 1981

Percent Equity*	Age of Operator	Debt Per Cow	Debt Payments Per Cow	Debt Payments % Milk	Available For Debt & Living
Less than 40%	36	$3,930	$740	41%	$52,265
40 to 49	36	3,360	660	37	48,517
50 to 59	37	2,760	560	29	60,235
60 to 69	41	2,120	460	24	52,992
70 to 79	45	1,530	370	19	54,721
80 to 89	45	1,020	310	15	63,425
90 to 99	49	420	180	9	53,327
100	47	0	0	0	42,900

*Based on family net worth.

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

Farm operators with less than 60 percent equity have heavy debt commitments and on the average, will not be able to meet their 1982 debt commitments. The farmers with 70 percent or more equity appear to be in a relatively strong cash flow position.

Cost of Producing Milk

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

Table 49. FARM COST OF PRODUCING MILK
553 New York Dairy Farms, 1981

Item	Average 553 Farms		My Farm	
Total cash farm expenses (p.10)	$136,974		$_____	
Expansion livestock*	2,108		_____	
Machinery depreciation	12,508		_____	
Building depreciation	5,319		_____	
Unpaid labor	1,606		_____	
Interest on equity capital @ 9%	27,178		_____	
TOTAL FARM EXPENSES	$185,693		$_____	
Value operator's labor @ $750/mo.	11,250		_____	
TOTAL COST OF PRODUCTION (1)		$196,943		$_____
Total cash farm receipts (p.8)	$174,110		$_____	
Less: Milk sales	156,043		_____	
Nonmilk cash receipts	$ 18,067		$_____	
Increase in feed & supplies	1,310		_____	
Increase due to herd growth	4,947		_____	
TOTAL OTHER INCOME (2)		24,324		_____
COST OF PRODUCING MILK (1 minus 2)		$172,619		$_____
Hundredweights of milk sold (p.18)	$ 11,420		_____	
COST OF PRODUCING CWT. MILK		$15.12		$_____
Management charge @ 5% cash receipts	$8,706		$_____	
Management charge cwt. milk	76¢		_____¢	
COST OF PRODUCING MILK WITH MANAGEMENT CHARGE		$15.88		$_____

*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 shown in Table 49 with and without a charge for management included. The rational for including a management charge is presented at the top of page 37. The cost of producing milk, including the management fee, exceeded the price received by $2.22 or 16 percent in 1981.

Table 50. COST OF PRODUCING MILK AND PRICES RECEIVED, 1976-1981
New York State Dairy Farms

Year	Value Operator's Labor	Value Operator's Management*	Cost/Cwt. With Management Excluded	Cost/Cwt. With Management Included	Average Price Received
1976	$6,000	$5,162	$ 9.87	$10.42	$ 9.90
1977	7,200	5,212	10.55	11.09	9.76
1978	7,800	5,862	10.74	11.34	10.51
1979	7,800	7,317	12.10	12.78	11.90
1980	9,000	7,787	13.67	14.39	12.81
1981	9,000	8,706	15.12	15.88	13.66

*Estimated at five percent of cash receipts.

Farm expenses do not include any charge for management. The farm operator's labor is valued at hired worker rates. The management input is an important part of any business operation and is traditionally a part of the costs in business accounting. In this analysis, a management charge was computed on the basis of five percent of the cash receipts. In some areas, management services are provided for absentee owners on the basis of five to eight percent of the receipts. The management charge amounted to an average of 76 cents per hundredweight of milk.

Table 51. FARM COST OF PRODUCING MILK BY HERD SIZE
553 New York Dairy Farms, 1981

Number of Cows	Cost/Cwt. With Management		Average
	Excluded	Included	Price Received
Under 40	$16.67	$17.42	$13.57
40 to 54	16.17	16.92	13.50
55 to 69	15.05	15.81	13.66
70 to 84	15.30	16.06	13.66
85 to 99	15.29	16.08	13.87
100 to 114	15.10	15.87	13.77
115 to 129	15.52	16.29	13.76
130 to 149	14.90	15.65	13.49
150 & over	14.04	14.81	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 51). In general, the larger herds had lower costs. The average cost excluding management was $16.67 for herds with under 40 cows, while it was $14.04 for those with 150 and more cows, or a difference of $2.63 per hundredweight.

The level of milk production is closely related to the cost of producing milk as indicated by the data in Table 52. Farms selling less than 10,000 pounds of milk per cow had an average cost of production (excluding management) of $18.50, while those selling 15,000 pounds and over averaged approximately $14.30 for a difference of $4.20 per hundredweight.

Table 52. FARM COST OF PRODUCING MILK BY MILK SOLD PER COW
553 New York Dairy Farms, 1981

Pounds of Milk Sold Per Cow	Cost Per Cwt. With Management		Average Price Received
	Excluded	Included	
Under 11,000	$18.50	$19.27	$13.94
11,000 to 11,999	16.23	17.00	13.95
12,000 to 12,999	16.69	17.45	13.66
13,000 to 13,999	15.58	16.35	13.81
14,000 to 14,999	15.16	15.92	13.60
15,000 to 15,999	14.42	15.18	13.58
16,000 to 16,999	14.37	15.14	13.71
17,000 to 17,999	14.27	15.02	13.53
18,000 & over	14.10	14.85	13.55

Table 53. FARM BUSINESS SUMMARY BY HERD SIZE
553 New York Dairy Farms, 1981

Item	Farms with: Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows
Capital Investment (end of year)				
Livestock	$ 52,371	$ 75,220	$ 95,724	$118,244
Feed & supplies	9,261	16,472	24,160	32,895
Machinery & equipment	42,623	59,911	76,336	90,171
Land & buildings	114,121	151,096	170,733	226,394
TOTAL INVESTMENT	$218,376	$302,799	$366,953	$467,704
Receipts				
Milk sales	$ 62,378	$ 88,345	$121,644	$151,338
Dairy cattle sold	4,310	6,317	7,904	10,766
Other livestock sales	1,413	1,735	1,970	1,958
Crop sales	340	738	1,105	1,451
Miscellaneous receipts	791	1,312	2,248	2,041
Total Cash Receipts	$ 69,232	$ 98,447	$134,871	$167,554
Increase in livestock	2,226	2,540	4,226	4,527
Increase in feed & supplies	(35)	155	1,079	33
Appreciation	1,240	5,927	7,093	7,477
TOTAL FARM RECEIPTS	$ 72,663	$107,069	$147,309	$179,591
TOTAL FARM REC. EXCL. APPREC.	$ 71,423	$101,142	$140,216	$172,114
Expenses				
Hired labor	$ 2,262	$ 4,242	$ 7,009	$ 11,709
Dairy feed	18,560	24,419	30,201	37,229
Other feed	742	647	774	1,009
Machine hire	468	827	1,359	1,310
Machinery repair	2,459	4,013	5,913	8,180
Auto expense (farm share)	442	355	478	432
Gas & oil	2,660	4,045	5,453	6,706
Replacement animals	1,397	1,793	2,859	1,722
Breeding fees	918	1,108	1,740	1,919
Veterinary & medicine	1,194	1,797	2,421	2,821
Milk marketing	1,753	2,628	3,329	4,858
Other livestock expense	2,167	3,242	4,780	5,356
Fertilizer & lime	2,273	3,916	6,286	8,475
Seeds & plants	721	1,330	2,023	2,449
Spray & other crop expense	550	1,000	1,607	2,079
Land, bldg., fence repair	964	1,425	1,996	2,576
Taxes & insurance	3,005	4,165	4,847	4,200
Electricity & phone (farm share)	2,171	2,367	2,946	2,804
Interest paid	6,728	9,740	12,460	3,871
Miscellaneous expenses	1,465	3,096	3,728	4,920
Total Cash Expenses	$ 52,899	$ 76,160	$102,209	$130,617
Expansion livestock	891	713	1,723	1,234
Machinery depreciation	5,965	8,147	10,268	12,494
Building depreciation	1,534	2,861	4,048	5,375
Unpaid family labor	1,610	2,115	2,073	1,264
Interest on equity @ 9%	13,125	18,195	21,364	27,841
TOTAL FARM EXPENSES	$ 76,024	$108,191	$141,685	$178,825
Financial Summary				
NET CASH FARM INCOME	$ 16,333	$ 22,287	$ 32,662	$ 36,937
Labor & Management Income	$ -4,601	$ -7,049	$ -1,469	$ -6,711
Number of Operators	1.07	1.16	1.22	1.27
LABOR & MGT. INCOME/OPER.	$ -4,300	$ -6,077	$ -1,204	$ -5,284
LABOR, MGT. & OWNSHP. INC./OPER.	$ 9,125	$ 14,718	$ 22,121	$ 22,525

Table 53 continued — FARM BUSINESS SUMMARY BY HERD SIZE
553 New York Dairy Farms, 1981

Item	Farms with: 85 to 99 cows	100 to 114 cows	115 to 129 cows	130 to 149 cows	150 or more cows
Capital Investment (end of year)					
Livestock	$146,783	$165,777	$170,424	$215,066	$ 312,810
Feed & supplies	38,786	41,971	55,663	66,107	98,764
Machinery & equipment	105,131	112,620	121,925	150,640	183,404
Land & buildings	257,713	269,882	302,713	341,352	504,471
TOTAL INVESTMENT	$548,413	$590,250	$650,725	$773,565	$1,099,449
Receipts					
Milk sales	$182,249	$217,517	$232,247	$284,274	$426,469
Dairy cattle sold	14,671	14,782	14,947	18,841	31,336
Other livestock sales	3,944	5,842	4,900	3,864	6,455
Crop sales	2,858	3,640	3,612	3,319	5,938
Miscellaneous receipts	3,262	2,897	5,757	4,253	6,259
Total Cash Receipts	$206,984	$244,678	$261,463	$314,551	$476,457
Increase in livestock	3,455	3,600	7,395	(4,378)	20,746
Increase in feed & supplies	2,936	(2,978)	(1,166)	(450)	11,319
Appreciation	11,775	8,938	13,937	22,536	20,869
TOTAL FARM RECEIPTS	$225,150	$254,238	$281,629	$332,259	$529,391
TOT. FARM REC. EXCL. APPREC.	$213,375	$245,300	$267,692	$337,087	$508,522
Expenses					
Hired labor	$ 15,450	$ 18,923	$ 29,576	$ 34,543	$ 53,791
Dairy feed	46,227	57,012	60,101	74,456	105,499
Other feed	1,155	2,820	2,410	1,207	3,079
Machine hire	1,324	1,690	1,649	1,710	4,031
Machinery repair	9,950	9,545	13,826	16,272	21,866
Auto expense (farm share)	715	371	472	339	482
Gas & oil	9,187	10,169	12,324	12,216	18,436
Replacement animals	1,455	7,070	3,599	1,931	5,739
Breeding fees	2,406	3,006	2,882	3,323	5,592
Veterinary & medicine	3,576	4,223	4,965	5,563	10,124
Milk marketing	5,024	6,339	8,431	7,124	12,178
Other livestock expense	6,777	6,293	8,996	7,977	14,833
Fertilizer & lime	11,110	11,761	13,292	15,077	23,925
Seeds & plants	3,384	3,163	4,370	6,633	7,407
Spray & other crop expense	2,639	4,030	4,534	6,450	7,053
Land, bldg., fence repair	3,136	2,714	3,790	4,007	6,515
Taxes & insurance	8,248	8,630	10,222	9,794	15,986
Elec. & phone (farm share)	4,604	4,553	5,528	5,426	8,048
Interest paid	17,768	23,224	25,594	30,506	43,001
Miscellaneous expenses	5,553	9,472	6,595	5,178	14,860
Total Cash Expenses	$159,688	$195,008	$223,157	$249,732	$382,445
Expansion livestock	2,232	1,056	1,673	1,666	10,357
Machinery depreciation	14,583	15,239	17,254	19,083	31,290
Building depreciation	6,779	6,442	9,105	10,893	14,892
Unpaid family labor	1,934	962	660	313	760
Interest on equity @ 9%	33,521	34,788	34,761	44,763	65,653
TOTAL FARM EXPENSES	$218,737	$253,475	$286,610	$326,450	$505,397
Financial Summary					
NET CASH FARM INCOME	$ 47,296	$ 49,670	$ 38,306	$ 64,819	$ 94,012
Labor & Management Income	$ -5,362	$ -8,175	$-18,918	$-16,727	$ 3,125
Number of Operators	1.47	1.44	1.21	1.42	1.54
LABOR & MGT. INCOME/OPER.	$ -3,648	-5,677	$-15,635	$-11,780	$ 2,029
LABOR, MGT. & OWNSHP. INC./OP.	$ 27,166	$ 24,688	$ 24,612	$ 35,614	$ 58,212

Table 54. SELECTED BUSINESS FACTORS BY HERD SIZE
553 New York Dairy Farms, 1981

Item	Farms with: Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows
Number of farms	82	130	110	74
Size of Business				
Number of cows	34	47	61	77
Number of heifers	26	35	43	59
Pounds of milk sold	459,600	654,500	890,800	1,107,800
Worker equivalent	1.58	2.08	2.33	2.75
Total work units	375	528	669	858
Total tillable acres	121	177	206	264
(Tillable acres rented)	(31)	(46)	(66)	(86)
Rates of Production				
Milk sold per cow	13,518	13,926	14,603	14,387
Tons hay crop per acre	1.8	2.2	2.5	2.7
Tons corn silage per acre	13.2	13.6	14.3	14.1
Bushels of oats per acre	33.8	51.9	48.5	48.9
Labor Efficiency				
Cows per worker	22	23	26	28
Pounds milk sold per worker	290,886	314,663	382,318	402,836
Work units per worker	237	254	287	312
Feed Costs				
Feed purchased per cow	$546	$520	$495	$483
Crop expense per cow	$104	$133	$163	$169
Feed cost per cwt. milk	$4.04	$3.73	$3.39	$3.36
Feed & crop exp. per cwt. milk	$4.81	$4.69	$4.50	$4.53
% feed is of milk receipts	30%	28%	25%	25%
Hay equivalent per cow	6.7	7.9	7.7	8.0
Tillable acres per cow	3.6	3.8	3.4	3.4
Fertilizer & lime per crop acre	$19	$22	$31	$32
Machinery & Labor Costs				
Total machinery costs	$15,686	$22,504	$29,974	$36,870
Machinery cost per cow	$461	$479	$491	$479
Machinery cost per cwt. milk	$3.41	$3.44	$3.36	$3.33
Labor cost per cow	$397	$357	$328	$317
Labor cost per cwt. milk	$2.94	$2.56	$2.25	$2.20
Capital Efficiency				
Investment per worker	$138,213	$145,576	$157,491	$170,074
Investment per cow	$6,066	$6,443	$5,825	$5,920
Investment per cwt. milk	$48	$46	$41	$42
Land & buildings per cow	$3,170	$3,084	$2,710	$2,866
Machinery investment per cow	$1,254	$1,223	$1,212	$1,141
Capital turnover	3.0	2.8	2.5	2.6
Other				
Price per cwt. milk sold	$13.57	$13.50	$13.66	$13.66
Acres hay crops	80	107	108	137
Acres corn silage	17	28	40	51

Table 54 continued — SELECTED BUSINESS FACTORS BY HERD SIZE
553 New York Dairy Farms, 1981

Item	Farms with: 85 to 99 cows	100 to 114 cows	115 to 129 cows	130 to 149 cows	150 or more cows
Number of farms	38	26	25	16	52
Size of Business					
Number of cows	90	106	121	139	208
Number of heifers	70	78	94	105	158
Pounds of milk sold	1,313,900	1,580,200	1,688,400	2,106,600	3,113,000
Worker equivalent	3.25	3.42	3.92	4.17	5.58
Total work units	1,013	1,150	1,358	1,524	2,256
Total tillable acres	309	312	384	440	585
(Tillable acres rented)	(85)	(125)	(147)	(146)	(210)
Rates of Production					
Milk sold per cow	14,599	14,908	13,954	15,155	14,966
Tons hay crop per acre	2.7	2.7	2.7	2.9	2.9
Tons corn silage per acre	15.3	15.0	14.9	16.1	16.1
Bushels of oats per acre	52.1	69.0	50.1	62.1	58.7
Labor Efficiency					
Cows per worker	28	31	31	33	37
Pounds milk sold per worker	404,277	462,047	430,714	505,180	557,885
Work units per worker	312	336	346	365	404
Feed Costs					
Feed purchased per cow	$514	$538	$497	$536	$507
Crop expense per cow	$190	$179	$183	$203	$185
Feed cost per cwt. milk	$3.52	$3.61	$3.56	$3.53	$3.39
Feed & crop exp. per cwt. milk	$4.82	$4.81	$4.87	$4.87	$4.62
% feed is of milk receipts	25%	26%	26%	26%	25%
Tons forage dry matter per cow	8.4	7.5	8.3	7.9	7.8
Tillable acres per cow	3.4	2.9	3.2	3.2	2.8
Fertilizer & lime per crop acre	$36	$38	$35	$34	$41
Machinery & Labor Costs					
Total machinery costs	$44,644	$46,714	$55,791	$62,594	$91,622
Machinery cost per cow	$496	$441	$461	$450	$440
Machinery cost per cwt. milk	$3.40	$2.96	$3.30	$2.97	$2.94
Labor cost per cow	$340	$310	$340	$343	$329
Labor cost per cwt. milk	$2.33	$2.08	$2.44	$2.26	$2.20
Capital Efficiency					
Investment per worker	$168,742	$172,588	$166,001	$185,507	$197,034
Investment per cow	$5,961	$5,366	$5,164	$5,298	$5,211
Investment per cwt. milk	$42	$35	$39	$37	$35
Land & buildings per cow	$2,801	$2,453	$2,402	$2,341	$2,391
Machinery investment per cow	$1,143	$1,024	$968	$1,032	$869
Capital turnover	2.4	2.3	2.3	2.3	2.1
Other					
Price per cwt. milk sold	$13.87	$13.77	$13.76	$13.49	$13.70
Acres hay crops	157	153	173	195	248
Acres corn silage	58	69	103	97	164

Table 55 FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
553 New York Dairy Farms, January 1, 1982

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	82	130	110	74	38
Assets					
Livestock	$ 52,371	$ 75,220	$ 95,724	$118,244	$146,783
Feed & supplies	9,261	16,572	24,160	32,895	38,786
Machinery & equipment	42,623	59,911	76,336	90,171	105,131
Land & buildings	114,121	151,096	170,733	226,394	257,713
Co-op investment	1,321	3,838	3,375	6,380	5,264
Accounts receivable	4,876	6,810	11,045	12,316	15,753
Cash & checking accounts	1,164	2,046	2,220	3,132	2,890
Total Farm Assets	$225,737	$315,493	$383,593	$489,532	$572,320
Savings accounts	3,255	2,374	2,578	4,223	3,567
Cash value life insurance	1,894	2,306	2,464	2,326	2,243
Stocks & bonds	1,440	1,377	1,755	3,655	1,121
Nonfarm real state	2,177	2,444	8,011	3,670	5,592
Auto (personal share)	1,221	1,282	1,641	1,654	2,157
All other	6,178	5,068	4,604	5,745	7,290
Total Nonfarm Assets	$ 16,165	$ 14,851	$ 21,053	$ 21,273	$ 21,970
TOTAL ASSETS	$241,902	$330,344	$404,646	$510,805	$594,290
Liabilities					
Real estate mortgage	$ 45,107	$ 60,018	$ 80,703	$105,055	$113,429
Liens on cattle & equipment	23,393	32,022	47,212	49,371	64,972
Installment contracts	2,432	3,779	5,395	8,459	4,979
Other loans over 10 years	2,518	10,297	2,425	4,160	2,605
Other loans 1 to 10 years	2,158	2,366	4,477	6,319	6,611
Other loans less than 1 year	1,680	1,423	2,228	1,464	2,074
Feed store & other accounts	2,614	3,423	3,776	5,358	5,190
Total Farm Liabilities	$ 79,902	$113,328	$146,219	$180,186	$199,860
Total Nonfarm Liabilities	676	365	390	264	1,342
TOTAL LIABILITIES	$ 80,578	$113,693	$146,219	$180,450	$201,202
Farm Net Worth (Eq. Cap.)	$145,835	$202,165	$237,374	$309,346	$372,460
FAMILY NET WORTH	$161,324	$216,651	$258,037	$330,355	$393,088
Financial Measures					
Percent equity	67%	66%	64%	65%	66%
Farm debt per cow	$2,220	$2,313	$2,321	$2,281	$2,172
Available for debt service & living	$24,730	$33,275	$46,030	$54,038	$65,197
Scheduled annual debt payment	$16,167	$23,951	$31,547	$37,419	$40,826
Scheduled debt payments/cow	$434	$479	$496	$472	$434
Payment as % of milk check	25%	27%	26%	25%	22%
Debt/Asset ratio - long term	0.42	0.47	0.49	0.48	0.45
Debt/Asset ratio - intermediate	0.28	0.25	0.29	0.26	0.25
Cash flow coverage ratio	0.72	0.76	0.92	0.94	1.05

Table 55 continued — FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
553 New York Dairy Farms, January 1, 1982

Item	Farms with: 100 to 114 cows	115 to 129 cows	130 to 149 cows	150 or more cows
Number of farms	26	25	16	52
Assets				
Livestock	$165,777	$170,424	$215,066	$ 312,810
Feed & supplies	41,971	55,663	66,107	98,764
Machinery & equipment	112,620	121,925	150,640	183,404
Land & buildings	269,882	302,713	341,752	504,471
Co-op investment	7,353	10,893	12,207	17,021
Accounts receivable	19,073	19,110	25,115	37,577
Cash & checking accounts	2,190	1,833	2,474	3,803
Total Farm Assets	$618,866	$682,561	$813,361	$1,157,850
Savings accounts	6,020	5,710	7,242	2,550
Cash value life insurance	3,117	6,255	6,592	4,923
Stocks & bonds	4,241	6,827	3,388	6,634
Nonfarm real state	2,692	9,866	19,813	8,184
Auto (personal share)	656	1,638	2,181	1,987
All other	3,439	7,350	8,000	5,709
Total Nonfarm Assets	$ 20,165	$ 37,546	$ 47,216	$ 29,987
TOTAL ASSETS	$639,031	$720,107	$860,577	$1,187,837
Liabilities				
Real estate mortgage	$119,203	$169,160	$159,605	$200,187
Liens on cattle & equipment	77,937	92,350	80,407	161,000
Installment contracts	20,229	15,710	15,709	8,454
Other loans over 10 years	642	4,635	34,847	26,495
Other loans 1 to 10 years	5,429	5,268	11,044	7,683
Other loans less than 1 year	4,212	3,610	3,241	15,727
Feed store & other accounts	4,682	7,591	11,145	8,827
Total Farm Liabilities	$232,334	$296,324	$315,998	$428,373
Total Nonfarm Liabilities	44	42	5,438	3,445
TOTAL LIABILITIES	$232,378	$296,366	$321,436	$431,818
Farm Net Worth (Equity Cap.)	$386,532	$386,237	$497,363	$729,477
FAMILY NET WORTH	$406,653	$423,741	$539,141	$756,019
Financial Measures				
Percent equity	64%	59%	63%	64%
Farm debt per cow	$2,112	$2,352	$2,164	$2,030
Available for debt service & living	$73,017	$65,960	$96,750	$139,223
Scheduled annual debt payment	$54,285	$61,515	$65,379	$98,993
Scheduled debt payments/cow	$493	$488	$445	$466
Payment as % of milk check	25%	26%	23%	23%
Debt/Asset ratio - long term	0.44	0.57	0.57	0.45
Debt/Asset ratio - intermediate	0.31	0.31	0.25	0.30
Cash flow coverage ratio	0.91	0.71	1.08	1.06

Table 56. COMPARISON OF FARMS BY TYPE OF BARN AND HERD SIZE
553 New York Dairy Farms, 1981

Item	Herd Size (number of cows)				
	Under 55	55-69	70-99	100-149	150 & Over
Number of farms					
Freestall	9	17	48	48	49
Other	203	92	64	19	3
Number of workers					
Freestall	2.2	2.5	2.8	3.8	5.6
Other	1.8	2.3	3.0	3.8	4.4
Land & bldgs. per cow					
Freestall	$2,767	$2,417	$2,813	$2,434	$2,385
Other	$3,177	$2,780	$2,855	$2,294	$2,331
Tons hay crops per acre					
Freestall	2.0	2.4	2.9	2.7	2.9
Other	2.1	2.5	2.6	2.9	2.5
Lbs. milk sold per cow					
Freestall	14,647	15,160	14,187	14,767	14,948
Other	13,671	14,456	14,590	14,093	15,472
Lbs. milk sold/worker					
Freestall	317,235	375,960	421,095	470,392	565,233
Other	313,770	378,455	389,067	428,427	553,054
Labor cost per cow					
Freestall	$404	$332	$308	$329	$329
Other	$365	$327	$337	$333	$315
Machinery cost per cow					
Freestall	$508	$508	$490	$468	$435
Other	$469	$487	$478	$402	$570
Veterinary cost per cow					
Freestall	$28	$36	$37	$41	$49
Other	$37	$40	$38	$37	$38
Feed & crop expense/cow					
Freestall	$742	$712	$676	$719	$694
Other	$643	$646	$664	$677	$649
Debt per cow					
Freestall	$1,850	$1,986	$2,202	$2,305	$2,025
Other	$2,341	$2,397	$2,263	$1,955	$1,990
Labor & management income per operator	$-2,920	$2,341	$-4,557	$-12,070	$2,287
Freestall	$-5,550	$-1,908	$-4,750	$-7,074	$-1,126
Other					

A total of 123 of the 553 farms in this study reported having freestall barns. A comparison has been made by size of herd and type of barn for selected business factors.

Table 57. SELECTED BUSINESS FACTORS BY MILKING SYSTEMS
553 New York Dairy Farms, 1981

Item	Bucket and Carry	Dumping Station	Pipe-line	Herring-bone Parlor	Other Parlors
Number of farms	11	115	253	152	22
Percent of farms	2%	21%	46%	27%	4%
Capital Investment (end of year)					
Livestock	$ 49,122	$ 67,222	$101,740	$195,341	$159,342
Feed & supplies	10,658	13,130	25,834	59,011	46,494
Machinery & equipment	33,864	48,095	78,322	134,076	98,779
Land & buildings	119,121	130,220	188,675	335,241	256,163
TOTAL INVESTMENT	$212,765	$258,667	$394,571	$723,669	$560,778
Financial Summary					
Total farm receipts	$63,206	$89,759	$145,722	$306,071	$243,065
Total farm expenses	66,645	94,297	151,338	311,859	246,894
Labor & Management Income	$-3,439	$-4,538	$ -5,616	$ -5,788	$ -3,829
Number of operators	1.0	1.2	1.2	1.4	1.2
LABOR & MANAGEMENT INCOME PER OPERATOR	$-3,439	$-3,846	$ -4,566	$ -4,225	$ -3,301
Size of Business					
Number of cows	32	46	63	130	98
Number of heifers	25	33	48	98	76
Pounds of milk sold	399,600	586,700	927,300	1,920,100	1,509,200
Worker equivalent	1.7	2.1	2.5	3.8	3.6
Crop acres	178	167	212	397	314
Rates of Production					
Milk sold per cow (lbs.)	12,488	12,754	14,719	14,770	15,400
Tons hay crops per acre	1.7	2.0	2.6	2.8	2.6
Tons corn silage per acre	10.5	12.7	14.7	15.7	14.2
Labor Efficiency					
Cows per worker	19	22	25	34	27
Lbs. milk sold per worker	239,281	282,067	370,920	501,332	421,564
Costs					
Feed purchased per cow	$380	$497	$507	$515	$546
% feed is of milk receipts	23%	29%	25%	26%	25%
Machinery cost per cow	$423	$410	$497	$459	$463
Labor cost per cow	$402	$356	$336	$328	$369
Capital Efficiency					
Investment per worker	$127,404	$124,359	$157,828	$188,948	$156,642
Investment per cow	$6,447	$5,504	$6,070	$5,401	$5,498
Land & buildings per cow	$3,610	$2,771	$2,903	$2,502	$2,511
Machinery investment per cow	$1,026	$1,023	$1,205	$1,001	$968
Other					
Price per cwt. milk sold	$13.38	$13.55	$13.69	$13.64	$13.93

Table 58.

FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
553 New York Dairy Farms, 1981

Item	Averages for: 431 Individuals		112 Partnerships		10 Corporations	
CAPITAL INVESTMENT	1/1/81	1/1/82	1/1/81	1/1/82	1/1/81	1/1/82
Livestock	$106,198	$108,157	$155,865	$161,331	$ 247,062	$ 252,384
Feed & supplies	27,115	27,980	43,796	46,604	83,921	87,685
Mach. & equipment	71,561	80,104	95,398	106,575	170,154	181,045
Land & buildings	182,051	192,721	259,102	284,432	542,832	569,320
TOTAL INVESTMENT	$386,925	$408,962	$554,161	$598,942	$1,043,969	$1,090,434
EXPENSES						
Hired Labor	$ 12,524		$ 15,731		$ 38,299	
Feed						
Dairy concentrate	35,988		54,540		57,294	
Hay & other	1,092		1,527		1,983	
Machinery						
Machine hire	1,261		1,911		745	
Machinery repair	6,790		10,776		21,495	
Auto expense	443		436		604	
Gas & oil	6,319		9,301		15,061	
Livestock						
Replacement livestock	2,568		2,963		930	
Breeding fees	1,774		2,973		4,081	
Veterinary & medicine	2,761		4,703		7,493	
Milk marketing	4,145		5,919		7,541	
Other livestock expense	4,826		7,958		9,518	
Crops						
Fertilizer & lime	7,023		11,771		21,462	
Seeds & plants	2,250		3,608		7,311	
Spray & other	1,829		3,304		13,577	
Real Estate						
Land, bldg., fence repair	2,180		3,282		5,408	
Taxes	3,462		5,000		12,509	
Insurance	2,272		3,469		7,588	
Rent	2,303		3,774		8,238	
Other						
Telephone (farm share)	554		557		924	
Elec. (farm share)	2,812		4,043		5,959	
Interest paid	14,528		21,871		30,359	
Miscellaneous	2,075		2,935		5,384	
Total Cash Expenses	$121,779		$182,352		$283,763	
Expansion livestock	1,437		4,881		0	
Machinery depreciation	11,183		16,218		28,009	
Building depreciation	4,547		7,212		17,367	
Unpaid labor ($500/mo.)	1,862		741		250	
Interest on farm equity @ 9 percent	23,882		35,520		75,774	
TOTAL FARM EXPENSES	$167,690		$246,924		$405,163	

Table 58 continued

FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
553 New York Dairy Farms, 1981

Item	Averages for: 431 Individuals	112 Partnerships	10 Corporations
RECEIPTS			
Milk sales	$137,470	$212,588	$323,222
Crop sales	1,456	2,627	8,648
Dairy cattle sold	9,570	15,564	21,936
Livestock sales	2,277	4,149	7,842
Gas tax refund	214	363	753
Government payments	350	361	109
Custom machine work	195	309	159
Miscellaneous	1,416	2,169	6,427
Total Cash Receipts	$152,948	$238,130	$369,096
Increase in livestock	3,990	8,434	7,140
Increase in feed & supplies	865	2,808	3,764
Appreciation	7,002	12,524	25,925
TOTAL FARM RECEIPTS	$164,805	$261,896	$405,925
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$157,803	$249,372	$380,000
FINANCIAL SUMMARY			
Total Cash Receipts	$152,948	$238,130	$369,096
Total Cash Expenses	121,779	182,352	283,763
NET CASH FARM INCOME	$ 31,169	$ 55,778	$ 85,333
Total Farm Receipts Excluding Appreciation	$157,803	$249,372	$380,000
Total Farm Expenses	164,690	$246,924	$405,163
LABOR & MGMT. INCOME PER FARM	$ -6,887	$ 2,448	$-25,163
Number of Operators	(458) 1.04	(223) 1.98	(21) 2.03
LABOR & MGMT. INCOME PER OPER.	$ -6,622	$ 1,236	$-12,396
BUSINESS FACTORS			
Worker equivalent	2.6	3.4	4.4
Number of cows	70	104	162
Number of heifers	52	79	134
Acres of hay crops	124	154	215
Acres of corn silage	53	76	99
Total tillable acres	234	321	518
Pounds of milk sold	1,007,500	1,551,900	2,350,100
Pounds of milk sold per cow	14,393	14,922	14,507
Tons hay crops per acre	2.5	2.7	3.2
Tons corn silage per acre	14.5	15.9	17.1
Cows per worker	27	30	37
Lbs. of milk sold per worker	390,504	453,772	531,697
% feed is of milk receipts	26%	26%	18%
Feed & crop expense per cwt. milk	$4.67	$4.72	$4.24
Fertilizer & lime per crop acre	$30	$37	$41
Machinery cost per cow	$469	$459	$504
Average price per cwt. milk	$13.64	$13.70	$13.75

Table 59. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1980 & 1981
Same 416 New York Dairy Farms

Item	Averages 1980		Averages 1981	
CAPITAL INVESTMENT	1/1/80	1/1/81	1/1/81	1/1/82
Livestock	$103,748	$119,038	$118,744	$119,770
Feed & supplies	25,692	30,256	30,537	31,950
Machinery & equipment	68,155	78,293	78,392	87,168
Land & buildings	181,260	198,481	201,150	213,159
TOTAL INVESTMENT	$378,855	$426,068[1]	$428,823[1]	$452,047
EXPENSES				
Hired Labor	$ 12,017		$ 13,661	
Feed				
Dairy concentrate	37,668		40,026	
Hay & other	1,305		1,246	
Machinery				
Machine hire	1,271		1,422	
Machinery repair	6,959		7,720	
Auto expense	414		459	
Gas & oil	5,802		6,931	
Livestock				
Purchased animals	2,811		2,560	
Breeding fees	1,767		2,037	
Veterinary & medicine	2,710		3,110	
Milk marketing	3,612		4,262	
Other livestock expense	5,087		5,541	
Crops				
Fertilizer & lime	7,252		7,802	
Seeds & plants	2,218		2,550	
Spray & other	1,762		2,266	
Real Estate				
Land, building, fence repair	2,363		2,424	
Taxes	3,332		3,885	
Insurance	2,466		2,565	
Rent	2,164		2,589	
Other				
Telephone (farm share)	492		563	
Electricity (farm share)	2,517		3,066	
Interest paid	12,269		15,366	
Miscellaneous	1,883		2,263	
Total Cash Expenses	$120,141		$134,314	
Expansion livestock	1,491		2,009	
Machinery depreciation	10,946		12,489	
Building depreciation	4,433		5,123	
Unpaid labor @ $500 per month	1,500		1,502	
Interest on farm equity @ 9%	26,223		27,534	
TOTAL FARM EXPENSES	$164,734		$182,971	

[1]Operators often make adjustments in values "between" years.

Table 59
continued COMPARISON OF FARM BUSINESS SUMMARIES FOR 1980 & 1981
Same 416 New York Dairy Farms

Item	Averages 1980	Averages 1981
RECEIPTS		
Milk sales	$139,084	$154,037
Crop sales	1,826	1,684
Dairy cattle sold	10,904	11,003
Livestock sales	2,855	2,818
Gas tax refund	139	225
Government payments	445	341
Custom machine work	172	215
Miscellaneous	1,414	1,461
Total Cash Receipts	$156,839	$171,784
Increase in livestock	6,112	3,826
Increase in feed & supplies	4,564	1,413
Appreciation	24,420	7,121
TOTAL FARM RECEIPTS	$191,935	$184,144
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$167,515	$177,023
FINANCIAL SUMMARY		
Total Cash Receipts	$156,839	$171,784
Total Cash Expenses	120,141	134,314
NET CASH FARM INCOME	$ 36,698	$ 37,470
Total Farm Receipts Excluding Appreciation	$167,515	$177,023
Total Farm Expenses	164,734	182,971
LABOR & MGMT. INCOME PER FARM	$ 2,781	$ -5,948
Number of Operators	(537) 1.3	(537) 1.3
LABOR & MGMT. INCOME PER OPER.	$ 2,225	$ -4,758
BUSINESS FACTORS		
Worker equivalent	2.6	2.8
Number of cows	75	78
Number of heifers	57	60
Acres of hay crops	128	131
Acres of corn silage	60	57
Total tillable acres	244	254
Pounds of milk sold	1,087,300	1,129,200
Pounds of milk sold per cow	14,400	14,477
Tons hay crop dry matter per acre	2.5	2.5
Tons corn silage per acre	14.7	15.1
Cows per worker	29	28
Lbs. of milk sold per worker	421,400	410,618
% feed is of milk receipts	27%	26%
Feed & crop expense per cwt. milk	$4.50	$4.66
Fertilizer & lime per crop acre	$30	$31
Machinery cost per cow	$426	$468
Average price per cwt. milk	$12.79	$13.64

Table 60. SELECTED FARM BUSINESS SUMMARY FACTORS
New York Dairy Farms, Selected Years, 1961-1981

Item	Year			
	1961	1971	1976	1981
Number of farms	490	569	615	553
Financial Summary				
Total capital investment	$55,113	$147,378	$251,830	$459,761
Total farm receipts	$22,505	$64,682	$108,876	$188,829
Total farm expenses*	$18,811	$55,173	$99,037	$185,693
Labor & mgmt. income/operator	$3,352	$8,127	$7,973	$-4,261
Size of Business				
Number of cows	38	67	71	79
Pounds of milk sold	378,684	861,700	950,600	1,142,000
Tillable acres	99	185	209	257
Worker equivalent	1.8	2.2	2.5	2.75
Total work units	516	729	784	869
Rates of Production				
Milk sold per cow, lbs.	9,970	12,900	13,400	14,500
Tons hay crops/acre (dry matter)	2.3	2.4	2.8	2.5
Tons corn silage per acre	12	16	13	14.9
Labor Efficiency				
Cows per worker	21	30	28	29
Pounds milk sold per worker	210,380	391,700	380,240	415,300
Work units per worker	287	331	314	309
Cost Control Factors				
Machinery cost per cow	$107	$173	$243	$465
Machinery cost per cwt. milk	$1.07	$1.34	$1.82	$3.22
Feed bought per cow	$125	$194	$363	$508
Feed bought per cwt. milk	$1.25	$1.51	$2.71	$3.51
Feed & crop expense/cwt. milk	$1.53	$1.95	$3.47	$4.67
% feed is of milk receipts	28%	24%	27%	26%
Capital Efficiency				
Total investment per worker	$30,618	$69,680	$105,258	$167,186
Total investment per cow	$1,450	$2,290	$3,706	$5,676
Machinery investment per cow	$291	$478	$694	$1,078
Land & buildings per cow	$680	$1,125	$1,964	$2,693
Capital turnover (years)	2.4	2.4	2.4	2.4
Other				
Price per cwt. milk	$4.47	$6.21	$9.90	$13.66
Acres hay crops	70	155	117	131
Acres corn silage	15	51	59	59
Total tillable acres per cow	2.6	2.8	2.9	3.3
Fert. & lime exp./tillable acre	$7	$13	$22	$32
Net cash farm income per cow	$204	$319	$361	$470
Labor & mgmt. income per cow	$97	$142	$138	$-67

*Includes an interest charge on average farm capital of five percent in 1961, seven percent in 1971, interest paid, plus interest on equity capital at seven percent in 1976, and interest paid plus interest on equity capital at nine percent in 1981.

Table 61. BUSINESS SUMMARY OF FARMS WITH OVER 200 COWS
21 New York Dairy Farms, 1981

CAPITAL INVESTMENT

	1/1/81	1/1/82
Livestock	$ 384,135	$410,311
Feed & supplies	115,528	134,062
Machinery & equipment	180,649	206,198
Land & buildings	615,525	681,462
TOTAL INVESTMENT	$1,295,835	$1,432,033

EXPENSES

Labor	
Hired	$ 76,939
Feed	
Dairy concentrate	140,923
Hay & other	2,383
Machinery	
Machine hire	4,801
Machinery repair	27,773
Auto expense	593
Gas & oil	23,065
Livestock	
Replacement livestock	5,450
Breeding fees	7,393
Veterinary, medicine	15,020
Milk marketing	13,375
Other livestock expense	18,736
Crops	
Lime & fertilizer	32,795
Seeds & plants	9,410
Spray & other	10,516
Real Estate	
Land, building, fence repair	8,548
Taxes	12,577
Insurance	8,421
Rent	10,012
Other	
Telephone (farm share)	1,171
Electricity (farm share)	8,699
Interest paid	60,143
Miscellaneous	7,132
TOTAL CASH EXPENSES	$505,875
Expansion livestock	22,038
Machinery depreciation	37,576
Building depreciation	19,044
Unpaid labor	595
Interest on farm equity @ 9%	81,173
TOTAL FARM EXPENSES	$666,301

RECEIPTS

Milk sales	$556,821
Crop sales	11,257
Dairy cattle sold	39,598
Livestock sales	9,954
Gas tax refund	1,321
Government payments	44
Custom machine work	394
Miscellaneous	6,128
TOTAL CASH RECEIPTS	$625,517
Increase in livestock	37,340
Increase in feed & supplies	18,534
Appreciation	20,727
TOTAL FARM RECEIPTS	$702,118
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$681,391

FINANCIAL SUMMARY

Total Cash Receipts	$625,517
Total Cash Expenses	505,875
NET CASH FARM INCOME	$119,642
Total Farm Receipts Excluding Appreciation	$681,391
Total Farm Expenses	666,301
LABOR & MGMT. INCOME PER FARM	$ 15,090
Number of operators (31)	1.35
LABOR & MGMT. INCOME PER OPER.	$ 11,178

BUSINESS FACTORS

Worker equivalent	6.9
Number of cows	264
Number of heifers	206
Acres of hay crops	270
Acres of corn silage	228
Total tillable acres	728
Pounds of milk sold	4,079,900
Pounds of milk sold per cow	15,454
Tons hay crops per acre	3.0
Tons corn silage per acre	16.1
Lbs. of milk sold per worker	589,581
Cows per worker	38
% feed is of milk receipts	25%
Feed & crop expense per cwt. milk	$4.75
Fertilizer & lime/tillable acre	$45
Machinery cost per cow	$421
Average price per cwt. milk	$13.65

Table 62. FARM BUSINESS SUMMARY
30 New York Dairy-Cash Crop Farms,* 1981

CAPITAL INVESTMENT

	1/1/81	1/1/82
Livestock	$121,957	$130,370
Feed & supplies	57,874	53,335
Machinery & equipment	121,695	137,294
Land & buildings	296,412	334,360
TOTAL INVESTMENT	$597,938	$655,359

EXPENSES

Labor	
Hired	$ 22,523
Feed	
Dairy concentrate	30,444
Hay & other	2,231
Machinery	
Machine hire	4,695
Machinery repair	11,029
Auto expense	346
Gas & oil	10,705
Livestock	
Replacement livestock	2,413
Breeding fees	1,868
Veterinary, medicine	3,339
Milk marketing	4,600
Other livestock expense	6,294
Crops	
Lime & fertilizer	17,124
Seeds & plants	6,397
Spray & other	6,260
Real Estate	
Land, building, fence repair	2,469
Taxes	5,445
Insurance	3,532
Rent	4,688
Other	
Telephone (farm share)	485
Electricity (farm share)	3,630
Interest paid	20,808
Miscellaneous	2,512
TOTAL CASH EXPENSES	$173,837
Expansion livestock	4,991
Machinery depreciation	19,947
Building depreciation	6,885
Unpaid labor	767
Interest on farm equity @ 9%	39,766
TOTAL FARM EXPENSES	$246,193

RECEIPTS

Milk sales	$172,459
Crop sales	37,032
Dairy cattle sold	11,837
Livestock sales	3,118
Gas tax refund	231
Government payments	1,701
Custom machine work	609
Miscellaneous	3,623
TOTAL CASH RECEIPTS	$230,660
Increase in livestock	10,312
Increase in feed & supplies	(4,539)
Appreciation	23,483
TOTAL FARM RECEIPTS	$259,916
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$236,433

FINANCIAL SUMMARY

Total Cash Receipts	$230,660
Total Cash Expenses	173 837
NET CASH FARM INCOME	$ 56,823
Total Farm Receipts Excluding Appreciation	$236,433
Total Farm Expenses	246,193
LABOR & MGMT. INCOME PER FARM	$ -9,760
Number of operators (43)	1.42
LABOR & MGMT. INCOME PER OPER.	$ -6,873

BUSINESS FACTORS

Worker equivalent	3.4
Number of cows	85
Number of heifers	65
Acres of hay crops	142
Acres of corn silage	57
Total tillable acres	452
Pounds of milk sold	1,274,100
Pounds of milk sold per cow	14,989
Tons hay crops per acre	2.8
Tons corn silage per acre	15.2
Lbs. of milk sold per worker	372,544
Cows per worker	25
% feed is of milk receipts	18%
Feed & crop expense per cwt. milk	$4.73
Fertilizer & lime/tillable acre	$38
Machinery cost per cow	$687
Average price per cwt. milk	$13.54

*Farms where crop sales amounted to 10 percent or more of milk sales.

57 New York Dairy-Renter Farms,* 1981

CAPITAL INVESTMENT

	1/1/81	1/1/82
Livestock	$103,457	$106,809
Feed & supplies	27,130	28,438
Machinery & equipment	54,093	59,057
Land & buildings	13,057	17,212
TOTAL INVESTMENT	$197,737	$211,516

EXPENSES

Labor	
Hired	$ 10,231
Feed	
Dairy concentrate	41,382
Hay & other	3,381
Machinery	
Machine hire	1,385
Machinery repair	6,040
Auto expense	225
Gas & oil	6,545
Livestock	
Replacement livestock	4,130
Breeding fees	2,288
Veterinary, medicine	3,010
Milk marketing	5,973
Other livestock expense	6,272
Crops	
Lime & fertilizer	7,491
Seeds & plants	1,841
Spray & other	1,735
Real Estate	
Land, building, fence repair	1,837
Taxes	1,750
Insurance	1,970
Rent	11,206
Other	
Telephone (farm share)	399
Electricity (farm share)	2,782
Interest paid	8,933
Miscellaneous	2,684
TOTAL CASH EXPENSES	$133,490
Expansion livestock	2,603
Machinery depreciation	8,944
Building depreciation	1,266
Unpaid labor	982
Interest on farm equity @ 9%	13,275
TOTAL FARM EXPENSES	$160,560

RECEIPTS

Milk sales	$147,179
Crop sales	1,205
Dairy cattle sold	9,934
Livestock sales	2,423
Gas tax refund	240
Government payments	265
Custom machine work	150
Miscellaneous	2,552
TOTAL CASH RECEIPTS	$163,948
Increase in livestock	5,788
Increase in feed & supplies	1,308
Appreciation	51
TOTAL FARM RECEIPTS	$171,095
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$171,044

FINANCIAL SUMMARY

Total Cash Receipts	$163,948
Total Cash Expenses	133,490
NET CASH FARM INCOME	$ 30,458
Total Farm Receipts Excluding Appreciation	$171,044
Total Farm Expenses	160,560
LABOR & MGMT. INCOME PER FARM	$ 10,484
Number of operators (82)	1.44
LABOR & MGMT. INCOME PER OPER.	$ 7,281

BUSINESS FACTORS

Worker equivalent	2.6
Number of cows	72
Number of heifers	53
Acres of hay crops	115
Acres of corn silage	49
Total tillable acres	188
Pounds of milk sold	1,059,400
Pounds of milk sold per cow	14,714
Tons hay crops per acre	2.5
Tons corn silage per acre	14.6
Lbs. of milk sold per worker	410,620
Cows per worker	28
% feed is of milk receipts	28%
Feed & crop expense per cwt. milk	$3.91
Fertilizer & lime/tillable acre	$40
Machinery cost per cow	$392
Average price per cwt. milk	$13.89

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

Table 64. FARM BUSINESS SUMMARY
Top 10 Percent of the Farms by Labor & Management Income Per Operator
55 New York Dairy Farms, 1981

CAPITAL INVESTMENT	1/1/81	1/1/82
Livestock	$182,385	$195,366
Feed & supplies	46,222	58,423
Machinery & equipment	93,244	106,743
Land & buildings	261,016	285,592
TOTAL INVESTMENT	$582,867	$646,124

EXPENSES	
Labor	
Hired	$ 29,382
Feed	
Dairy concentrate	67,421
Hay & other	1,989
Machinery	
Machine hire	2,395
Machinery repair	11,711
Auto expense	440
Gas & oil	10,938
Livestock	
Replacement livestock	1,651
Breeding fees	3,650
Veterinary, medicine	5,993
Milk marketing	8,838
Other livestock expense	8,504
Crops	
Lime & fertilizer	13,465
Seeds & plants	3,696
Spray & other	3,561
Real Estate	
Land, building, fence repair	3,424
Taxes	5,404
Insurance	3,545
Rent	5,338
Other	
Telephone (farm share)	678
Electricity (farm share)	4,503
Interest paid	23,104
Miscellaneous	2,891
TOTAL CASH EXPENSES	$222,521
Expansion livestock	3,189
Machinery depreciation	16,406
Building depreciation	7,955
Unpaid labor	1,245
Interest on farm equity @ 9%	39,027
TOTAL FARM EXPENSES	$290,343

RECEIPTS	
Milk sales	$271,030
Crop sales	1,754
Dairy cattle sold	19,483
Livestock sales	4,652
Gas tax refund	333
Government payments	396
Custom machine work	170
Miscellaneous	2,671
TOTAL CASH RECEIPTS	$300,489
Increase in livestock	17,663
Increase in feed & supplies	12,201
Appreciation	9,743
TOTAL FARM RECEIPTS	$340,096
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$330,353

FINANCIAL SUMMARY	
Total Cash Receipts	$300,489
Total Cash Expenses	222,521
NET CASH FARM INCOME	$ 77,968
Total Farm Receipts Excluding Appreciation	$330,353
Total Farm Expenses	290,343
LABOR & MGMT. INCOME PER FARM	$ 40,010
Number of operators (72)	1.30
LABOR & MGMT. INCOME PER OPER.	$ 30,777

BUSINESS FACTORS	
Worker equivalent	3.8
Number of cows	128
Number of heifers	97
Acres of hay crops	163
Acres of corn silage	105
Total tillable acres	350
Pounds of milk sold	1,970,400
Pounds of milk sold per cow	15,394
Tons hay crops per acre	2.7
Tons corn silage per acre	16.1
Lbs. of milk sold per worker	525,440
Cows per worker	34
% feed is of milk receipts	25%
Feed & crop expense per cwt. milk	$4.47
Fertilizer & lime/tillable acre	$38
Machinery cost per cow	$398
Average price per cwt. milk	$13.76

Table 65. FARM BUSINESS SUMMARY
Average 553 New York Dairy Farms, 1981

CAPITAL INVESTMENT	1/1/81	1/1/82
Livestock	$118,805	$121,534
Feed & supplies	31,521	32,831
Machinery & equipment	78,172	87,290
Land & buildings	204,181	218,106
TOTAL INVESTMENT	$432,679	$459,761

EXPENSES	
Labor	
Hired	$ 13,639
Feed	
Dairy concentrate	40,130
Hay & other	1,196
Machinery	
Machine hire	1,383
Machinery repair	7,863
Auto expense	445
Gas & oil	7,081
Livestock	
Replacement livestock	2,619
Breeding fees	2,058
Veterinary, medicine	3,240
Milk marketing	4,566
Other livestock expense	5,545
Crops	
Lime & fertilizer	8,245
Seeds & plants	2,617
Spray & other	2,340
Real Estate	
Land, building, fence repair	2,461
Taxes	3,937
Insurance	2,611
Rent	2,708
Other	
Telephone (farm share)	561
Electricity (farm share)	3,118
Interest paid	16,302
Miscellaneous	2,309
TOTAL CASH EXPENSES	$136,974
Expansion livestock	2,108
Machinery depreciation	12,508
Building depreciation	5,319
Unpaid labor	1,606
Interest on farm equity @ 9%	27,178
TOTAL FARM EXPENSES	$185,693

RECEIPTS	
Milk sales	$156,043
Crop sales	1,823
Dairy cattle sold	11,008
Livestock sales	2,757
Gas tax refund	254
Government payments	348
Custom machine work	218
Miscellaneous	1,659
TOTAL CASH RECEIPTS	$174,110
Increase in livestock	4,947
Increase in feed & supplies	1,310
Appreciation	8,462
TOTAL FARM RECEIPTS	$188,829
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$180,367

FINANCIAL SUMMARY	
Total Cash Receipts	$174,110
Total Cash Expenses	136,974
NET CASH FARM INCOME	$ 37,136
Total Farm Receipts Excluding Appreciation	$180,367
Total Farm Expenses	185,693
LABOR & MGMT. INCOME PER FARM	$ -5,326
Number of operators (712)	1.25
LABOR & MGMT. INCOME PER OPER.	$ -4,261

BUSINESS FACTORS	
Worker equivalent	2.8
Number of cows	79
Number of heifers	59
Acres of hay crops	131
Acres of corn silage	59
Total tillable acres	257
Pounds of milk sold	1,142,000
Pounds of milk sold per cow	14,456
Tons hay crops per acre	2.5
Tons corn silage per acre	14.9
Lbs. of milk sold per worker	415,273
Cows per worker	29
% feed is of milk receipts	26%
Feed & crop expense per cwt. milk	$4.67
Fertilizer & lime/tillable acre	$32
Machinery cost per cow	$465
Average price per cwt. milk	$13.66

Table 66. FARM BUSINESS SUMMARY
Average Per Cow, 553 New York Dairy Farms, 1981

CAPITAL INVESTMENT	1/1/81	1/1/82
Livestock	$1,504	$1,538
Feed & supplies	399	416
Machinery & equipment	990	1,105
Land & buildings	2,585	2,761
TOTAL INVESTMENT	$5,478	$5,820

EXPENSES	
Labor	
Hired	$ 173
Feed	
Dairy concentrate	508
Hay & other	15
Machinery	
Machine hire	18
Machinery repair	100
Auto expense	6
Gas & oil	90
Livestock	
Replacement livestock	33
Breeding fees	26
Veterinary, medicine	41
Milk marketing	58
Other livestock expense	70
Crops	
Lime & fertilizer	104
Seeds & plants	33
Spray & other	30
Real Estate	
Land, building, fence repair	31
Taxes	50
Insurance	33
Rent	34
Other	
Telephone (farm share)	7
Electricity (farm share)	39
Interest paid	206
Miscellaneous	29
TOTAL CASH EXPENSES	$1,734
Expansion livestock	27
Machinery depreciation	158
Building depreciation	67
Unpaid labor	20
Interest on farm equity @ 9%	344
TOTAL FARM EXPENSES	$2,351

RECEIPTS	
Milk sales	$1,975
Crop sales	23
Dairy cattle sold	139
Livestock sales	35
Gas tax refund	3
Government payments	4
Custom machine work	3
Miscellaneous	21
TOTAL CASH RECEIPTS	$2,204
Increase in livestock	63
Increase in feed & supplies	17
Appreciation	107
TOTAL FARM RECEIPTS	$2,390
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$2,283

FINANCIAL SUMMARY	
Total Cash Receipts	$2,204
Total Cash Expenses	1,734
NET CASH FARM INCOME	$ 470
Total Farm Receipts Excluding Appreciation	$2,283
Total Farm Expenses	2,351
LABOR & MGMT. INCOME PER FARM	$ -67
Number of operators	(712) 1.25
LABOR & MGMT. INCOME PER OPER.	$ -54

BUSINESS FACTORS	
Worker equivalent	.035
Number of cows	(79)
Number of heifers	.8
Acres of hay crops	1.7
Acres of corn silage	.7
Total tillable acres	3.3
Pounds of milk sold	14,456
Tons hay crops	4.2
Tons corn silage	11.1
Feed & crop expense	$675
Lime & fertilizer	$104
Machinery cost	$465
Total debt	$2,212
Debt payment	$472