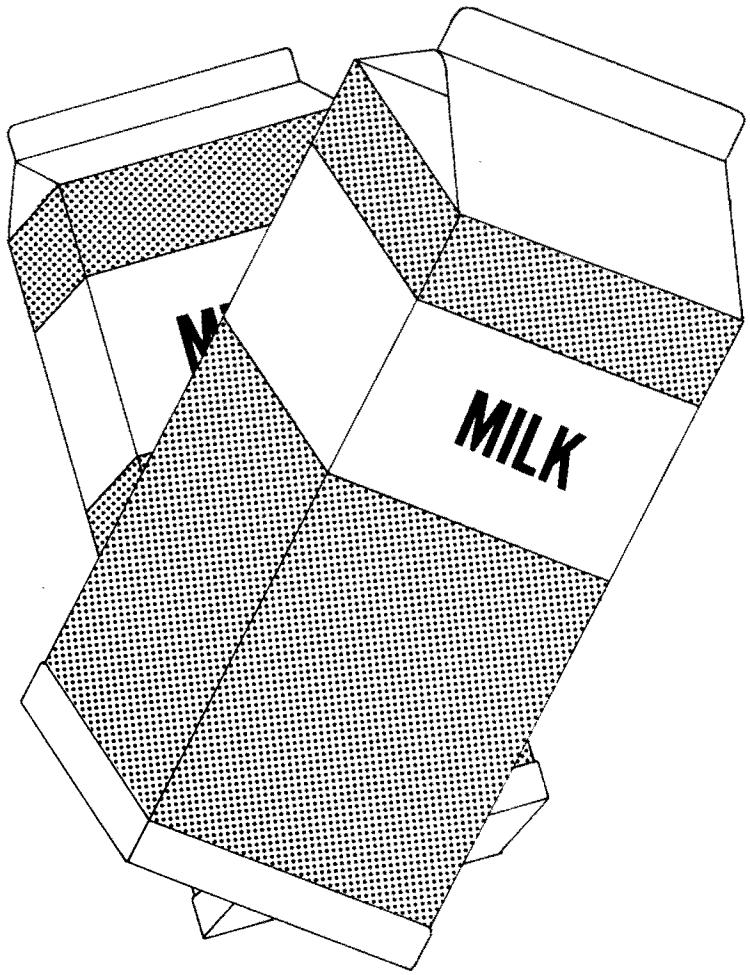
August 1974 A.E. Res. 74-9

DAIRY FARM MANAGEMENT

BUSINESS SUMMARY NEW YORK 1973



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INTRODUCTION

Farm business management projects are a basic part of the management extension program in New York State. In 1973, more than 700 dairymen participated in College sponsored management projects. Each dairyman kept farm business records which were submitted to the College for summary and analysis. These projects provide the basis for extension educational programs and also data for applied research studies.

Extension agents cooperated in the organization of local groups and in collection of the data. Regional summary reports were prepared for use by the agents in winter meetings with farmers. The aim of these extension activities was to help the dairymen develop their managerial skills and solve business management problems. The records from all regions of the state have been combined for use in a continuing research study of factors affecting dairy farm incomes. This research provides current farm business data for use by dairymen, extension agents, teachers, agribusinessmen, policy makers, and others concerned with the New York dairy industry.

A total of 609 farm business records have been included in the general dairy summary and analysis for 1973. This study does NOT represent the "average" for all dairy farms in the state. Participation was on a voluntary basis so not all areas were represented (see page 2). The 609 farms do represent a cross section of better than average commercial operators in the state.

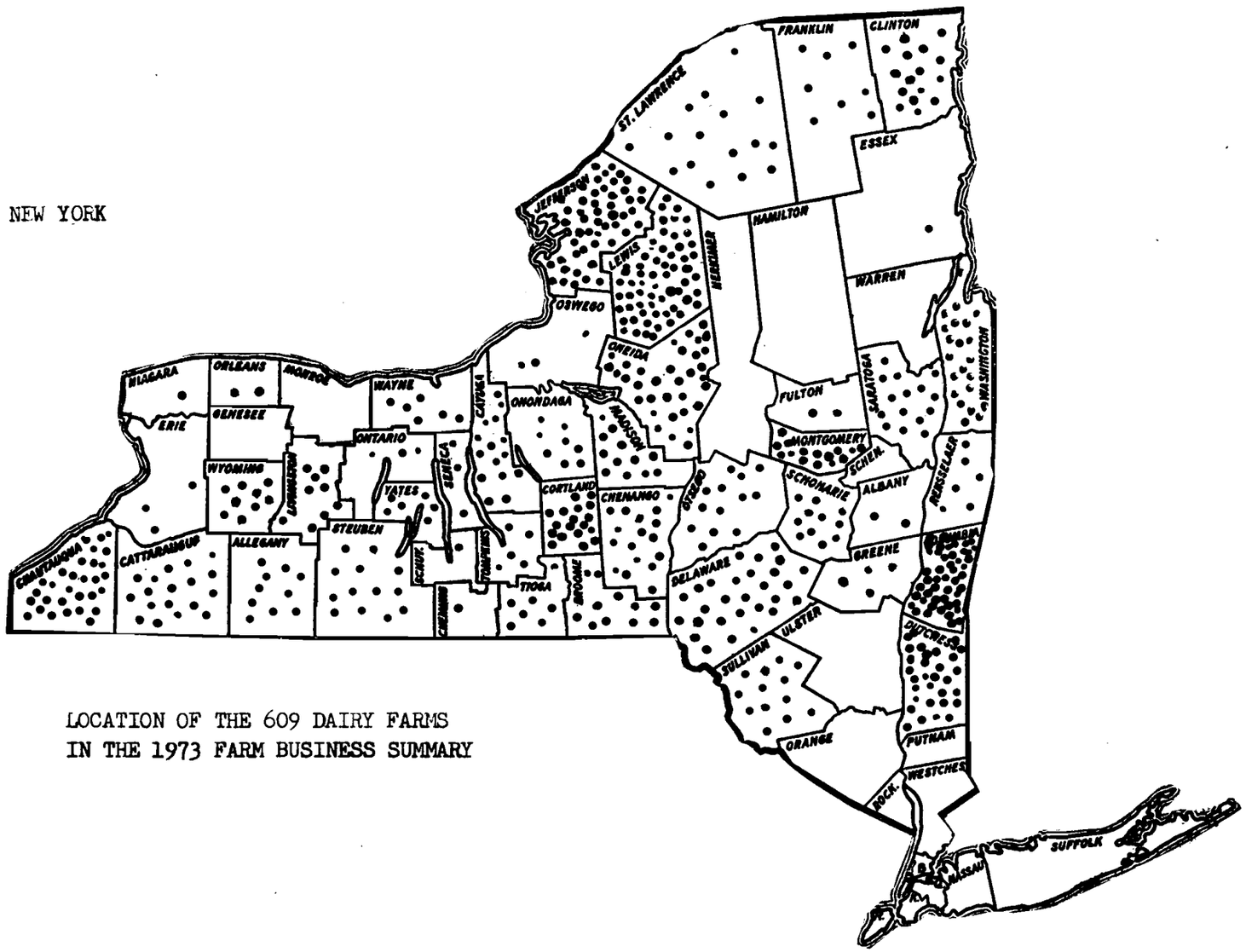
A few changes were made in summary procedures this year. Interest paid on debts was included as a cash farm expense. A 7 percent interest charge was figured on the "farm net worth" or equity capital and included along with building depreciation in the total farm expenses.

Farm real estate values have been rising each year. For the 1973 summary, farmers were asked to estimate how much their farm real estate appreciated during the year. This appreciation is not included in "labor and management income" but is in a new measure called OPERATOR'S LABOR, MANAGEMENT, AND OWNERSHIP INCOME (see page 13).

Acknowledgements

C. A. Bratton, G. L. Casler, G. J. Conneman, E. L. LaDue, C. W. Loomis, A. C. Lowry, R. S. Smith, and S. F. Smith with the assistance of the Cooperative Extension Agents supervised the farm business management projects and the records which made this summary possible. Summarization and tabulation of the records and all machine operations were completed under the supervision of Myrtle Voorheis and the typing was done by Angelina Torchia.

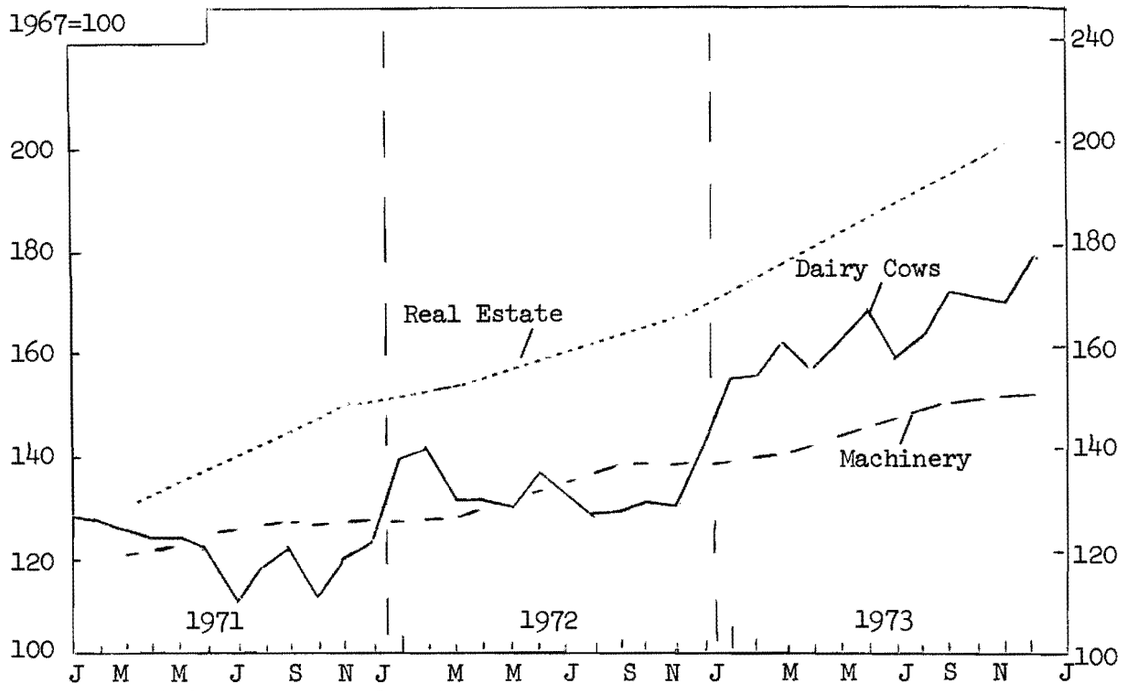
NEW YORK



LOCATION OF THE 609 DAIRY FARMS
IN THE 1973 FARM BUSINESS SUMMARY

Prices

VALUES OF N.Y. FARM REAL ESTATE, DAIRY COWS, & MACHINERY, 1971-73



SOURCE: USDA Agricultural Prices
Farm Real Estate Market Developments

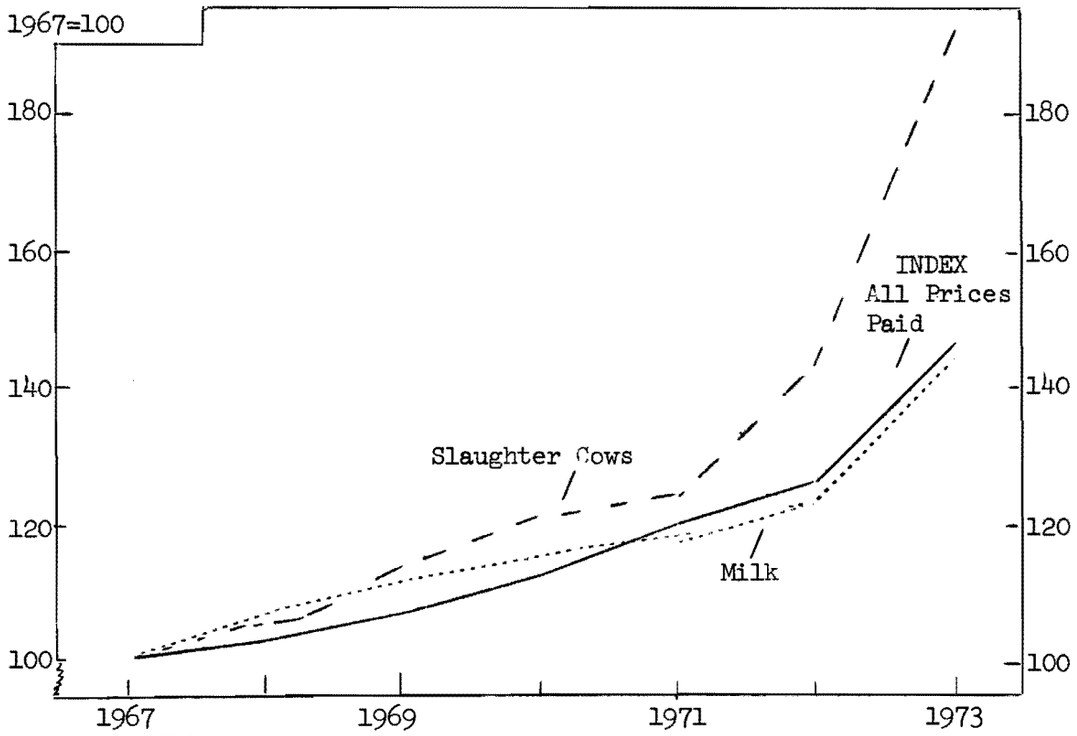
The reported prices of common inventory items on New York dairy farms have risen considerably in recent years with the largest increases occurring in 1973. From 1963 to 1973, dairy cow prices increased from $234 to $550 per head or an average of 13 percent per year, but from December 1972 to December 1973, prices jumped from $435 to $550, or a 26 percent increase. The reported farm real estate prices rose 19 percent from November 1972 to November 1973. Farm machinery prices increased by 7 percent in 1972 and 9 percent in 1973. These changes have an influence on the farm inventories of these dairymen since it is suggested that current market prices be used in estimating inventory values.

Table 1. REPORTED VALUES OF DAIRY FARM INVENTORY ITEMS, 1963-1973

Year	N.Y. Dairy Cows		Machinery	N.Y. Farm Real Estate	
	Value/head	1967=100	1967=100	Value/acre	1967=100
1963	$234	77	88	$169	76
1968	320	106	105	240	108
1971*	(Dec.) 380	123	(Dec.) 128	(Nov.) 333	150
1972*	(Dec.) 435	140	(Dec.) 137	(Nov.) 371	167
1973*	(Dec.) 550	177	(Dec.) 150	(Nov.) 442	199
Percent change:					
Av. '63 to '73		+ 13%	+ 6%		+ 16%
'71 to '72		+ 14%	+ 7%		+ 11%
'72 to '73		+ 26%	+ 9%		+ 19%

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

PRICES RECEIVED AND PAID BY N.Y. DAIRY FARMERS, 1967-1973



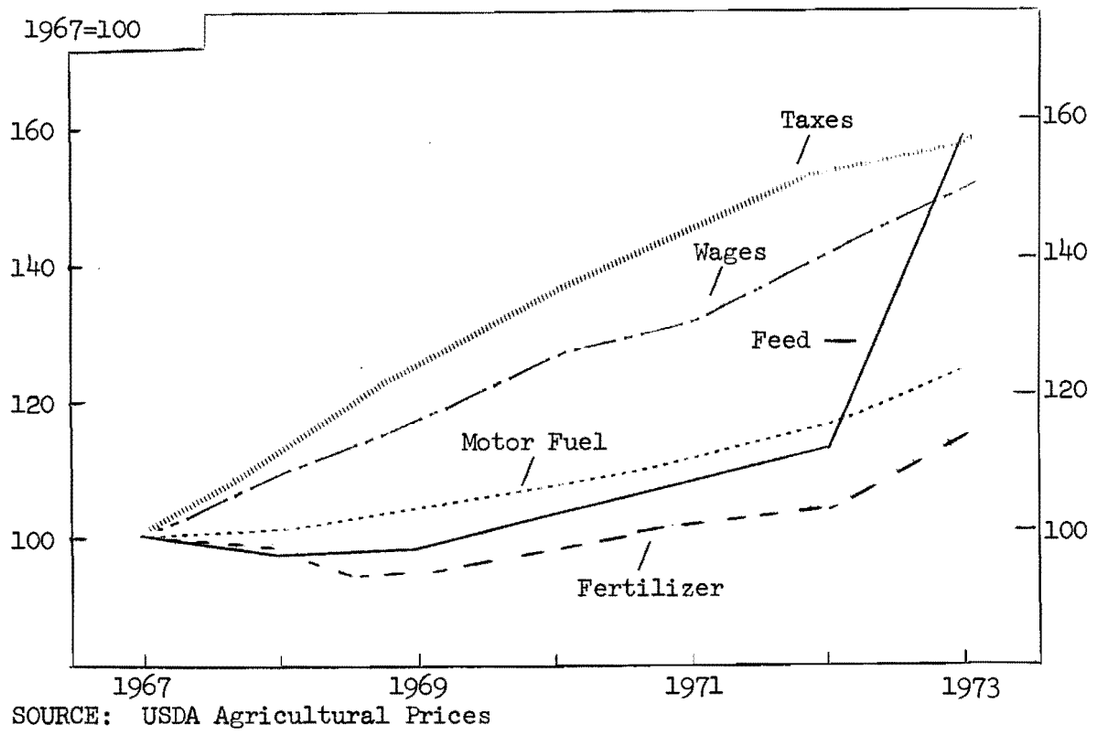
SOURCE: USDA Agricultural Prices

The relationship of prices received to prices paid determines the general level of incomes. The graph above shows the trend in prices since 1967 for milk, cull cows, and the index of all prices paid by New York dairy farmers. Since 1971, prices paid have been relatively higher than milk prices. Slaughter cow prices were unusually high in 1973 but cattle sales account for only a small portion of the income on New York dairy farms.

Table 2. PRICES RECEIVED AND PAID BY NEW YORK DAIRY FARMERS, 1963-1973

Year	Milk 3.5% B.F. (cwt.)	Slaughter cows (cwt.)	Prices paid by New York dairy farmers	Monthly farm price/100 lbs. of milk, 1973	
1963	$4.15	$14.01	92	January	$6.80
1964	4.21	13.17	92	February	6.85
1965	4.27	13.91	93	March	6.60
1966	4.79	17.35	96	April	6.35
1967	5.07	17.10	100	May	6.30
1968	5.43	17.60	103	June	6.30
1969	5.66	19.30	107	July	6.90
1970	5.89	20.70	112	August	7.80
1971	5.98	21.20	120	September	8.50
1972	6.25	24.48	126	October	8.75
1973	7.32	32.80	146	November	8.90
				December	8.70

PRICES PAID BY FARMERS FOR SELECTED ITEMS, 1967-1973



SOURCE: USDA Agricultural Prices

In recent years, all prices paid by New York dairy farmers have risen but some items have changed more than others. From 1967 to 1973, farm taxes rose 56 percent, wages rose 50 percent, fuel rose 24 percent, and fertilizer rose 14 percent. Feed prices jumped drastically in 1973 with an average index for the year of 157 compared with 112 for 1972.

Feed is the largest expense item on a dairy farm. The sharp rise in feed prices which occurred in mid-1973 presented dairymen with management questions on such things as kinds of feed to use and levels of feeding. These decisions affected the results of the year's operation.

Table 3. PRICES PAID BY FARMERS FOR SELECTED ITEMS, 1963-1973

Year	Index 1967 = 100				
	Feed	Fertilizer	Fuel	Wages	Taxes
1963	98	100	96	81	81
1967	100	100	100	100	100
1968	97	98	101	109	111
1969	97	94	104	116	124
1970	103	98	107	126	135
1971	108	101	111	130	144
1972	112	103	115	140	152
1973	157	114	124	150	156

SUMMARY OF THE FARM BUSINESS

Resources

A look at the resources (things to work with) is the first step in any systematic summary and analysis of a farm business. Information on several features of the 609 businesses are shown on this page.

Table 4. KIND OF BUSINESS, RECORDS, LABOR FORCE, AND LAND USED
609 New York Dairy Farms, 1973

Item	Number	Percent	Item	Number	Percent
Type of Business			Barn Type		
Individual	501	82%	Stanchion	403	66%
Partnership	96	16	Free stall	197	32
Corporation	12	2	Other	9	2
Business Records			Labor Force	Average	Percent
CAMIS	148	24%	Operator	14 mo.	53%
Account Book	293	48	Family paid	2 "	8
Agrifax	101	17	Family unpaid	2 "	8
Farm Bureau	25	4	Hired	8 "	31
Other	42	7	Total	26 "	100
Dairy Records			Land Used	Farms	Acres
D.H.I.C.	339	56%	Acres owned	609	285
Owner Sampler	104	17	Acres rented	457	88
Other	42	7	Total crop acres	609	198
None	124	20	Crop acres rented	432	62

The dairymen operated an average of 373 acres, with 198 acres in crops. Three-fourths of these operators rented some land and nearly one-third of the crop acres were rented.

The average total farm inventory increased from $183,000 to $207,600 or 13 percent during 1973. The increase reflects both growth in the businesses and inflation. The rise in prices of major inventory items is shown on page 3.

Table 5. CAPITAL INVESTMENT - FARM INVENTORY VALUES

Item	My Farm 1/1/73	My Farm 1/1/74	Average 609 Farms 1/1/73	Average 609 Farms 1/1/74	Percent increase
Livestock	$_____	$_____	$ 43,974	$ 50,897	16%
Feed & supplies	_____	_____	9,578	13,565	42
Machinery & equipt.	_____	_____	33,388	36,385	9
Land & buildings	_____	_____	96,107	106,751	11
Total	$_____	$_____	$183,047	$207,598	13%

Machinery and Real Estate Calculations

Investments in machinery and buildings usually involve a large capital outlay which is used over a number of years. The capital cost is an expense which must be spread over the life of the item. Depreciation is the amount of the capital cost allocated for this year's use of the investment. Machinery and building depreciations are included in the expenses on page 10.

Table 6. MACHINERY DEPRECIATION
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
Beginning Inventory	$_____	$33,388
Purchases	_____	7,837
Total (1)	$_____	$41,225
End Inventory	$_____	$36,385
Sales	_____	186
Total (2)	_____	36,571
DEPRECIATION (1 minus 2)	$_____	$ 4,654
Percent Depreciation	_____%	11%

Real estate appreciation was estimated by each farm operator. This appreciation includes the increase in market value and the building depreciation for the beginning package of real estate. It averaged about 9 percent of the beginning real estate inventory. This is probably underestimated since farmers find it difficult to realize how much values have risen.

Building depreciation was reported by the farmer and included the 1972 income tax depreciation plus the estimated depreciation on any new building in 1973.

Lost capital represents the difference between the cost of real estate improvements during the year and the amount these improvements added to the value of the real estate. It is not included in farm expenses since building depreciation is based on the full cost of new buildings and will account for the lost capital over the life of the building.

Table 7. REAL ESTATE CALCULATIONS
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
Beginning Inventory	$_____	$ 96,107
Real Estate Purchases	_____	5,734
Estimated Appreciation	_____	8,599
Total (1)	$_____	$110,440
End Inventory	$_____	$106,751
Real Estate Sold	_____	721
Building Depreciation	_____	2,138
Total (2)	_____	109,610
LOST CAPITAL (1 minus 2)	$_____	$ 830

Receipts

A successful business must produce enough receipts to cover the operating and overhead costs and leave a return for the operator's labor and management. Here we look at sources and amounts of receipts for this group of farms.

Table 8. FARM RECEIPTS
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms Amount	Percent
Milk sales	$_____	$62,179	84.3
Crop sales	_____	485	0.7
Dairy cattle sold	_____	6,785	9.1
Other livestock sales	_____	1,516	2.0
Gas tax refunds	_____	127	0.2
Government payments	_____	400	0.6
Work off farm	_____	74	0.1
Custom machine work	_____	90	0.1
Miscellaneous	_____	2,116*	2.9
Total Cash Receipts	$_____	$73,772	100.0
Increase in livestock inventories	_____	6,923	
Increase in feed and supplies	_____	3,987	
TOTAL FARM RECEIPTS	$_____	$84,682	

* Includes 1972 flood disaster grants.

Three special items influenced the total farm receipts for 1973. The 1972 disaster grants which amounted to $5,000 on some farms were received in 1973 and account for the large miscellaneous item. The 1973 crop season was better than 1972 so this contributed to the increase in the feed and supply inventory of $3,987. The increase in livestock inventories reflects both increase in numbers of animals and higher dairy cattle prices. As shown on page 3, dairy cow prices in December 1973 were $115 more than in December 1972. In general, these dairy farmers were conservative and only reflected part of this price increase in their end-of-year inventory values.

Table 9. INCOME ANALYSIS

Item	My Farm	Average 609 Farms
Average price per cwt. milk sold	$_____	$7.30
Milk sales per cow	$_____	$901
Total cash receipts per man	$_____	$34,000

The average price per hundredweight of milk sold by the 609 farms in 1973 was $7.30. The average price is calculated by dividing the gross milk receipts for the year by the total pounds of milk sold. The variation in average price received is shown below.

Variation in Average Milk Price

Average Price Received for Milk	Number of Farms	Percent of Farms
Below $7.00	133	22
$7.00 - 7.24	246	40
7.25 - 7.49	109	18
7.50 - 7.74	65	10
7.75 - 7.99	28	5
Over $8.00	28	5
Total	609	100

Dairymen often say there is nothing they can do about the price received for milk. This may be true as it pertains to the price at a particular time, but the variation shown here does indicate that the average annual prices received for milk by farmers do vary. Management practices account for some of the differences. Seasonality of production and butterfat test are two management items that affect the average price for the year.

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 609 farms in 1973 is shown below.

Distribution of Farms by Total Farm Receipts

Total Farm Receipts	Farms	
	Number	Percent
Under $ 30,000	17	3
$ 30,000 - 39,999	55	9
40,000 - 49,999	72	12
50,000 - 59,999	85	14
60,000 - 79,999	141	23
80,000 - 99,999	89	15
100,000 - 119,999	38	6
120,000 - 139,999	32	5
140,000 and Over	80	13
Total	609	100

Only seventeen of the 609 farms had receipts under $30,000. Practically all farms in this study would be classified by the census as Economic Classes I and II farms ($20,000 and over). One-fourth of the 609 farms had receipts of over $100,000 and 13 percent had receipts of $140,000 or more.

Expenses

A study of the expenses is essential in a business analysis. The expenses on these 609 farms averaged $200 per day. Expenses need to be broken down and studied in detail to be useful in making management decisions.

Table 10. FARM EXPENSES
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms Amount	Percent
Labor 8519 cwt			
Hired labor	$_____	$ 5,535	10
Feed			
Dairy concentrate	_____	19,168	34
Other feed	_____	735	1
Machinery			
Machine hire	_____	493	1
Machinery repairs	_____	2,942	5
Auto expense (farm share)	_____	284	1
Gas and oil	_____	1,846	3
Livestock			
Purchased animals	_____	3,546	6
Breeding fees	_____	768	1
Veterinary and medicine	_____	1,061	2
Milk marketing	_____	933	2
Other livestock expense	_____	2,178	4
Crops			
Lime and fertilizer	_____	3,104	6
Seeds and plants	_____	976	2
Spray, other crop expense	_____	718	1
Real Estate			
Land, building, fence repair	_____	1,283	2
Taxes	_____	1,698	3
Insurance	_____	1,188	2
Rent	_____	889	2
Other			
Telephone (farm share)	_____	258	1
Electricity (farm share)	_____	986	2
Interest paid	_____	4,489	8
Miscellaneous	_____	646	1
TOTAL CASH EXPENSES	$_____	$55,724	100
Machinery depreciation	_____	4,654	
Real estate depreciation	_____	2,138	
Unpaid labor	_____	700	
Interest on equity capital @ 7%	_____	9,354	
Decrease in livestock inventory	_____	--	
Decrease in feed & supply inventory	_____	--	
TOTAL FARM EXPENSES	$_____	$72,570	

The cash expense classifications used on page 10 are taken from the "Cornell Farm Account Book." Lists of the items included in each category are presented on the inside back cover of that account book.

Interest paid on farm indebtedness was included as a farm expense for the first time in 1973. Although debt payments usually include both interest and principal payments, only the interest portion is included here.

Machinery and real estate depreciation - 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. Machinery depreciation was calculated on page 7 and the farmers reported their building depreciation as that shown on their income tax returns.

Unpaid family labor refers to work done by members of the family who are not paid cash wages. The operator estimates the number of months of unpaid labor. This is charged to the business at $350 per month.

Interest on equity capital at 7 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 20) is used as the equity capital for computing this interest charge.

Decrease in livestock and feed inventories is the amount that the beginning inventory for these two items exceeds the end inventory. Since this indicates a "using up" of capital items, it is considered as a farm expense. Some individual farms had a decrease but the net inventory change for the 609 farms was an increase.

Farm expenses can be classified on the basis of fixed, variable, and capital items as shown below:

Overhead Expenses (Fixed)	
Land & building repairs	$ 1,283
Property taxes	1,698
Insurance	1,188
Rent	889
Electricity	986
Telephone	258
Total Fixed Overhead	$ 6,302
Capital Expenses	
Interest on equity capital	$ 9,354
Interest paid	4,489
Machinery depreciation	4,654
Real estate depreciation	2,138
Total Capital	$20,635

Operating Expenses (Variable)	
Labor	$ 5,535
Feed	19,903
Machinery repairs	2,942
Gas and oil	1,846
Machine hire	493
Auto	284
Livestock purchased	3,546
Livestock expenses	4,940
Fertilizer and lime	3,104
Other crop expenses	1,694
Unpaid labor	700
Miscellaneous	646
Total Variable	$45,633

On these farms, the variable expenses accounted for 63 percent, the fixed, 9 percent, and the capital expenses, 28 percent of the total farm expenses.

Financial Summary of Year's Business

The results of management are reflected in the net return from the business. Researchers have developed a number of ways to measure the returns from a farm business. The measure selected usually depends on the point from which the results are being studied. Several common measures are reported here.

Table 11. NET CASH FARM INCOME
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
Cash Farm Receipts	$_____	$73,772
Cash Farm Expenses	_____	55,724
NET CASH FARM INCOME	$_____	$18,048

Net cash farm income reflects the cash available from the year's operation of the business. Family living has first claim on income with the balance being available for payments on debts, and new purchases or investments. A family may have additional cash available if they have a nonfarm income. Cash flow is not a good measure of the profitableness of the business but it is an important indicator of the cash position and is useful when planning debt repayment programs.

Table 12. LABOR AND MANAGEMENT INCOME
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
Total Farm Receipts	$_____	$84,682
Total Farm Expenses	_____	72,570
LABOR & MANAGEMENT INCOME	$_____	$12,112
Number of Operators	_____	(724) 1.2
LABOR & MGT. INCOME/OPERATOR	$_____	$10,195

Labor and management income is the return to the operator for his efforts in operating the business. A 7 percent charge for the use of the operator's equity capital in the business has been included as a farm expense. This interest charge reflects what the operator could have earned from this capital had it been invested elsewhere, such as in bank certificates. Labor and management income is the measure used most commonly when comparing farm businesses.

The increase in livestock inventories due to higher cow prices is a significant item in the 1973 labor and management incomes. It is difficult to estimate how much this would be since there are also higher costs associated with the raising or purchasing of replacements.

The average labor and management income per operator for these 609 dairy farms was $10,195. In addition, the operators had the use of a house and perquisites, such as milk and meat. These should also be considered when considering the operator's net earnings. There was a wide range in the labor and management incomes as shown below.

Distribution of Labor and Management Incomes per Operator

Labor and Management Income per Operator	Farms	
	Number	Percent
Minus	106	17
$ 0 - 4,999	105	17
5,000 - 9,999	125	21
10,000 - 14,999	102	17
15,000 - 19,999	74	12
20,000 - 24,999	40	7
25,000 - or more	57	9

Seventeen percent of the farms had minus labor incomes, while nine percent had incomes of more than $25,000. Fifty-five percent had labor and management incomes of less than $10,000.

Labor, management, and ownership income per operrator is a new measure for the business management summaries. It reflects the combined return to the farmer for his triple role of worker-manager, financier, and owner. This measure includes the appreciation on real estate and the return on equity capital, and is the amount available for the operator's living and his gain in business net worth. The ownership income undoubtedly is a factor that influences some farm business management decisions.

Table 13. LABOR, MANAGEMENT, AND OWNERSHIP INCOME
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
Labor and management income/farm (p. 12)	$_____	$12,112
Real estate appreciation	_____	8,599
Interest on equity capital @ 7%	_____	9,354
Total per Farm	$_____	$30,065
Number of operators	_____	(724) 1.2
LABOR, MANAGEMENT, AND OWNERSHIP INCOME PER OPERATOR	$_____	$25,307

The average labor, management, and ownership income per operator was $25,307, or about two and a half times the labor and management income. The ownership feature explains in part how some farmers accumulate sizeable net worths with only modest labor incomes.

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 real estate appreciation, real estate appreciation must be deducted from ownership income.

Table 14. RETURN ON EQUITY CAPITAL
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
	Including Real Estate Appreciation	
Labor, Management & Ownership Income (p. 13)	$_____	$30,065
Value of Operator's Labor & Management	_____	(1.2 oprs.) 12,000
RETURN ON EQUITY CAPITAL	$_____	$18,065
Amount of Equity Capital	$_____	$133,625
RATE OF RETURN ON EQUITY CAPITAL	_____%	14%
	Excluding Real Estate Appreciation	
Return on Equity Capital (from above)	$_____	$18,065
Real Estate Appreciation	_____	8,599
RETURN ON EQUITY CAPITAL	$_____	$ 9,466
Amount of Equity Capital	$_____	$133,625
RATE OF RETURN ON EQUITY CAPITAL*	_____%	7%

* The rate of return on the average capital was 7.1%.

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 hire out in a similar position. Most operators made an estimate and the average was $10,052. This is in line with the value if determined by the value of the labor plus a management charge based on 5 percent of the cash receipts.

Returns per Unit of Input

Income from a business can also be calculated in relation to various input units. For example, since these are family-type farms, the labor and management return can be figured on a per man basis. Returns can also be figured on a per cow basis. These are shown below:

Returns to All Labor	
Labor & mgt. income per farm	$12,112
Value hired labor	5,535
Value unpaid labor	700
Total Returns to Labor	$18,347
Average man equivalent	2.2
Returns per man equivalent	$8,340
Returns per hour (3,000 hrs./yr.)	$2.78

Returns per Cow	
Net cash farm income/cow	$262
Labor & mgt. income/cow	$176
Labor, management and ownership income/cow	$436

ANALYSIS OF THE FARM BUSINESS

After summarizing the year's business, it is helpful to make a systematic analysis of the operation to determine strengths and weaknesses. In this part, five business factors are examined: size of business, rates of production, labor efficiency, use of capital, and cost control. The 1973 averages for selected measures for these factors are reported along with general relationships of factors to labor income. Since the measures examined here are interrelated, all factors should be examined before arriving at major conclusions.

Size of Business

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

Table 15. MEASURES OF SIZE OF BUSINESS
609 New York Dairy Farms, 1973

Measure	My Farm	Average 609 Farms
Number of cows	_____	69
Number of heifers	_____	46
Man equivalent	_____	2.2
Total acres in crops	_____	198
Pounds of milk sold	_____	851,900
Total work units	_____	750
Total cash receipts	$_____	$73,772
Total investment (end inventory)	$_____	$207,598

Number of cows is the average number in the herd for the year. Where available, the D.H.I.C. annual average is used.

Total acres in crops includes all acres on which crops were harvested during the 1973 year. It does not include cropland pasture or uncropped land.

Man equivalent is the amount of labor available on the farm during the year in terms of full-time man years. Work by part-time workers and family members is converted to full-time man equivalent.

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

Table 16. COWS PER FARM AND LABOR AND MANAGEMENT INCOME
609 New York Dairy Farms, 1973

Number of cows	Number of Farms	Percent of Farms	Labor & Management Income per Operator
Less than 40	92	15	$ 4,310
40 - 54	179	29	7,670
55 - 69	123	20	9,920
70 - 84	71	12	9,310
85 - 99	40	7	12,220
100 - 114	36	6	11,330
115 - 129	23	4	14,950
130 - 149	19	3	14,730
150 & Over	26	4	27,720

The relation of size of business to labor and management income was observed for size as measured by number of cows and by man equivalent. In general, the larger the businesses the higher the labor incomes per operator. This relationship is consistent with that of earlier studies. A well-managed large farm will provide the operator a higher income than a well-managed small one, but a large farm poorly managed also can lose more.

The labor and management income for the 26 farms with 150 or more cows was much higher than for any other group. These farms averaged 199 cows, sold 496,000 pounds of milk per man, 30 percent of milk check went for feed, and they received an average of $7.53 per cwt. of milk sold. All but two had free stall barns. This group ranked high in the major factors affecting incomes. The 26 farms were scattered over 13 counties in all regions of the state. For details on this group, see pages 29 and 31.

Man equivalent is often used as a measure of size. It is of interest that 77 percent of the farms had man equivalents of less than 3.0 (table 17). Forty percent of the farms had less than 2.0 men and only 7 percent had 4.0 or more. The farms with a man equivalent of 3.5 or more did have considerably higher labor and management incomes per operator.

Table 17. MAN EQUIVALENT PER FARM AND LABOR AND MANAGEMENT INCOME
609 New York Dairy Farms, 1973

Man Equivalent	Number of Farms	Percent of Farms	Number of Cows	Labor & Management Income per Operator
1.0 - 1.4	109	18	40	$ 7,220
1.5 - 1.9	134	22	48	8,820
2.0 - 2.4	155	25	60	8,830
2.5 - 2.9	71	12	73	9,490
3.0 - 3.4	65	11	95	9,280
3.5 - 3.9	29	5	119	17,750
4.0 - 4.4	15	2	131	12,280
4.5 & Over	31	5	175	22,600

Rates of Production

Production per animal and per acre are factors that affect farm incomes.

Table 18. MEASURES OF RATES OF PRODUCTION
609 New York Dairy Farms, 1973

Measure	My Farm	Average 609 Farms
Pounds of milk sold per cow	_____	12,300
Tons hay crops per acre	_____	2.6 = 2.3 DM
Tons corn silage per acre	_____	13 = 4.55 DM
Tons of hay equivalent per acre of all roughages	_____	3.2
Bushels grain corn per acre	_____	68
Bushels of oats per acre	_____	55

Pounds of milk sold per cow is calculated by dividing the total pounds of milk sold by the average number of cows.

Tons of hay crops per acre is calculated by adding the hay equivalent of grass silage and green chop to the dry hay and dividing by the total acres used for hay crops.

Tons of hay equivalent per acre of all roughages is determined by adding tons of hay equivalent of corn silage to the tons of hay crops and dividing the total tons of hay equivalent from all roughage by the total acres used for roughages. This measure indicates how intensively the roughage land is used.

Studies have shown repeatedly that farms with higher rates of production tend to have higher labor incomes. In 1973, the farms with the higher rates of production tended to be larger, bought more feed per cow, and in general had higher incomes. The 15,000 - 15,999 pound group was an exception.

Table 19. MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
609 New York Dairy Farms, 1973

Pounds of Milk Sold per Cow	Number of Farms	Number of Cows	Feed Bought per Cow	Labor & Management Income per Operator
Under 10,000	89	59	$199	$ 3,625
10,000 - 10,999	77	60	244	6,667
11,000 - 11,999	111	68	264	7,845
12,000 - 12,999	119	75	279	10,920
13,000 - 13,999	105	76	307	13,369
14,000 - 14,999	64	72	325	14,945
15,000 - 15,999	35	73	329	13,633
16,000 and Over	9	77	289	18,863

Labor Efficiency

Accomplishments per worker are used to measure labor efficiency. This is an important factor affecting labor incomes.

Table 20. MEASURES OF LABOR EFFICIENCY
609 New York Dairy Farms, 1973

Measure	My Farm	Average 609 Farms
Number of cows per man	_____	32
Pounds of milk sold per man	_____	392,600
Work units per man	_____	346
Crop acres per man	_____	90

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

Labor accomplishments (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 relationship of labor efficiency to labor income was positive on the 609 farms. The higher output per man was achieved by more and better cows (table 21).

Table 21. MILK SOLD PER MAN AND LABOR AND MANAGEMENT INCOME
609 New York Dairy Farms, 1973

Pounds of Milk Sold per Man	Number of Farms	Number of Cows	Lbs. Milk per Cow	Labor & Management Income per Operator
Under 250,000	81	45	10,000	$ 1,730
250,000 - 299,999	119	54	11,400	5,790
300,000 - 349,999	99	67	11,900	7,040
350,000 - 399,999	95	66	12,400	10,290
400,000 - 449,999	92	78	13,000	12,880
450,000 - 499,999	50	87	13,300	14,620
500,000 - 599,999	55	104	13,600	19,330
600,000 and Over	18	115	13,500	29,510

Use of Capital

The average end-of-year inventory on the 609 farms was $207,598. This includes both owned and borrowed capital for all farms. About one-third was borrowed. The use of credit is part of capital management. Since capital is a key input item, it is important to analyze the use of capital in the business. The analysis in this section examines how the capital is used and the financial situation of the farm family.

Table 22. MEASURES OF CAPITAL EFFICIENCY
609 New York Dairy Farms, 1973

Measure	My Farm	Average 609 Farms
Total capital per man	$_____	$95,667
Total capital per cow	_____	3,009
Machinery and equipment per cow	_____	527
Land and building investment per cow	_____	1,547
Land and building investment/crop acre owned	_____	785
Total capital per cwt. milk sold	_____	24
Capital turnover (capital ÷ receipts)	_____	2.5

Capital efficiency is often associated with size of herd. For this reason, the 609 farms were sorted on the basis of number of cows and the capital efficiency measures were calculated. There seemed to be a relationship between size and capital efficiency for machinery but not real estate nor the total. The farms with over 130 cows did have considerably lower investments per cow.

Table 23. SIZE OF HERD AND CAPITAL EFFICIENCY
609 New York Dairy Farms, 1973

Number of Cows	Number of Farms	Capital Investment per Cow		
		Total	Real Estate	Machinery
Under 40	92	$3,589	$2,041	$630
40 - 54	179	3,055	1,552	600
55 - 69	123	3,035	1,563	550
70 - 84	71	3,109	1,633	552
85 - 99	40	2,891	1,421	521
100 - 114	36	3,115	1,592	527
115 - 129	23	3,166	1,673	476
130 - 149	19	2,579	1,281	423
150 & Over	26	2,535	1,251	369

Table 24. FARM FAMILY FINANCIAL SITUATION
547 New York Dairy Farms, January 1, 1974

Item	My Farm	Farms Reporting Number	Farms Reporting Percent	Av. 547 Farms Amount	Av. 547 Farms Percent
Assets					
Farm land & buildings	$_____	547	100	$106,816	46
Livestock	_____	547	100	50,854	22
Machinery	_____	547	100	36,061	16
Feed & supplies	_____	547	100	13,657	6
Co-op investment	_____	435	80	3,195	1
Accounts receivable	_____	365	67	4,702	2
Cash & checking accounts	_____	479	88	1,784	1
Savings accounts	_____	299	55	2,313	1
Cash value life insurance	_____	349	64	2,811	1
Stocks & bonds	_____	196	36	1,613	1
Nonfarm real estate	_____	70	13	3,247	2
Auto (personal share)	_____	410	75	980	--
All other	_____	164	30	2,229	1
TOTAL ASSETS	$_____	547	100	$230,262	100
Liabilities					
Real estate mortgage	$_____	459	84	$ 40,864	53
Liens on cattle & equipment	_____	389	71	24,018	32
Installment contracts	_____	189	35	2,582	4
Secured notes	_____	152	28	4,017	5
Unsecured notes	_____	152	28	2,418	3
Store accounts	_____	277	51	2,175	3
TOTAL FARM LIABILITIES	$_____	523	96	$ 76,636	100
Nonfarm liabilities	_____	72	13	562	
TOTAL LIABILITIES	$_____			$ 77,198	
EQUITY CAPITAL	$_____			$130,752	
FAMILY NET WORTH	$_____			$153,064	

The financial situation is an important part of a farm business analysis. This indicates how credit is being used and the condition of the operation as it relates to expansion possibilities. In the 609 records for 1973, a total of 547 submitted financial situation statements.

The four farm inventory items accounted for 90 percent of the total assets. Real estate mortgages were the largest liability and accounted for 53 percent of all debts. The percent of farms reporting gives an indication of the frequency of each item. For example, 55 percent of the families reported savings accounts and 84 percent reported real estate mortgages.

Table 25. FINANCIAL MEASURES AND DEBT COMMITMENTS
547 New York Dairy Farms, January 1, 1974

Measure	My Farm	Average 547 Farms
Percent equity	_____%	67%
Farm debt per cow	$_____	$1,103
Available for debt service and living	$_____	$22,495
Scheduled annual debt payments	$_____	$13,652
Scheduled debt payment per cow	$_____	$198
Scheduled debt payment as % milk check	_____%	22%

Equity capital, or farm net worth, is the difference between the total farm inventory and the total farm liabilities. It represents the amount of farm capital provided by the operator.

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

Farm debt per cow is total farm liabilities divided by number of cows. It indicates the relative debt load per production unit.

Available for debt service and living is the net cash farm income plus the interest paid. In planning debt repayments, subtract the expected family living expenses to determine the amount available for debts.

Scheduled annual debt payments represent the commitments outstanding as of January 1, 1974. When figured on a per cow or percent of milk check basis, the reasonableness of the debt commitment can be appraised.

As shown in table 26, there did not appear to be any definite relationship between herd size and percent equity or debt per cow.

Table 26. FINANCIAL SITUATION BY SIZE OF HERD
609 New York Dairy Farms, January 1, 1974

Herd Size (Cows)	Number of Farms	Number of Cows	Total Farm Assets	Farm* Liabilities	Farm Equity Capital	Percent Equity	Debt per Cow
Under 40	92	33	$115,938	$ 36,859	$ 79,079	68%	$1,117
40 - 54	179	46	141,530	50,081	91,449	65	1,089
55 - 69	123	61	184,774	62,442	122,332	66	1,024
70 - 84	71	75	234,425	90,607	143,818	61	1,208
85 - 99	40	91	263,098	90,130	172,968	66	990
100 - 114	36	107	331,563	103,077	228,486	69	963
115 - 129	23	121	383,704	145,210	238,494	62	1,200
130 - 149	19	138	356,959	137,968	218,991	61	1,000
150 & Over	26	200	499,586	204,082	295,504	59	1,020

* For the 62 farms not submitting financial statements, liabilities were estimated by dividing the amount of interest paid by seven percent.

Cost Control

Cost control is a big factor in the success of modern dairy operations. Feed, machinery, labor and capital costs are major items and are examined in detail. It is important to check all cost items both large and small. Profitable businesses usually maintain a "tight" control on all costs.

Feed Costs

Feed is the largest single expense item on most New York dairy farms. For the 609 farms in 1973, dairy concentrate accounted for 34 percent of the cash operating expenses so feed is the first item examined.

Dairy feed costs are affected by many things. In 1973, feed prices rose to record highs. There is no satisfactory single measure of feed cost control so the feed situation is examined in the business analysis of feed costs. Below are some measures related to feed costs on a dairy farm.

Table 27. ITEMS RELATED TO FEED COSTS
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
Feed bought per cow	$_____	$278
Crop expense per cow	$_____	$70
Feed bought per cwt. milk	$_____	$2.25
Feed & crop expense per cwt. milk	$_____	$2.81
% Feed is of milk sales	_____%	31%
Hay equivalent per cow	_____ T.	7.8 T.
Crop acres per cow	_____	2.9
Fertilizer & lime per crop acre	$_____	$16
Heifers as % of cow numbers	_____%	67%

The average cost of feed bought per cow in 1973 was $278 while in 1972 it was $206. Likewise, the percent that feed bought is of milk sales was 31 percent in 1973 and 25 percent in 1972. The poor crop season in 1972 with resulting smaller amounts of only fairy quality roughage contributed to these higher costs. Another factor was the big jump in feed prices in mid-1973.

The crop situation in 1973 was much better. Tons of hay equivalent produced per cow was 7.8 tons compared with the low of 6.5 in 1972. This will help the feed situation for the 1973-74 barn feeding season.

Feed costs include all feed for cows and heifers. Per cow costs are influenced markedly by the number of replacements on hand. Heifers as % of cow numbers must be considered when evaluating most of the per cow factors.

Feed cost is influenced by a number of factors. On the production side, it is affected by the amount of home-grown grains, 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.

Feed bought per cow is calculated by dividing the total expense 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. This represents the direct cash costs for growing feed.

Feed purchased as percent of milk receipts is calculated by dividing feed purchased by milk receipts. This measure can be used to determine whether the feed costs are in line. The amount of home-grown grain must be considered as you evaluate this measure. Milk prices also influence this factor.

Hay equivalent per cow is calculated by converting all hay crop silage, green chop, and corn silage to a dry hay equivalent and adding it to the tons of dry hay harvested. Total tons of hay equivalent is divided by the average number of cows.

Crop acres per cow is the total acres of cropland harvested divided 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 28. PERCENT PURCHASED FEED IS OF MILK RECEIPTS AND LABOR AND MANAGEMENT INCOME
609 New York Dairy Farms, 1973

% Feed is of Milk	Number of Farms	Number of Cows	H.E. per Cow	Lbs. Milk per Cow	Labor and Management Income per Operator
Over 40%	94	67	7.0	11,800	$ 4,400
35 - 39	102	69	7.5	12,300	8,100
30 - 34	157	70	7.8	12,200	10,300
25 - 29	128	67	7.8	12,000	10,400
20 - 24	85	70	8.2	12,400	12,500
Under 20%	43	80	8.3	12,200	17,700

In general, the lower the percent of the milk check going for purchased feed, the higher the income (table 28). Farms with a lower percent of the milk check going for purchased feed had more tons of hay equivalent per cow. There seemed to be no relationship with size of herd or production per cow.

Machinery Costs

Machinery accounted for 18 percent of the farm inventory on these 609 farms farms and the new purchases in 1973 averaged nearly $8,000 per farm. The cost of owning and operating this machinery accounted for one-sixth of the total farm expenses. An examination of the machinery costs is a key part of a systematic analysis of a dairy farm business.

Table 29. MACHINERY COST
609 New York Dairy Farms, 1973

Item	My Farm	Average of 609 Farms	Percent of Total
Depreciation (from p. 7)	$_____	$ 4,654	37
Interest @ 7% on av. inventory	_____	2,442	19
Machine hire	_____	493	4
Machinery repairs	_____	2,942	23
Auto expense (farm share)	_____	284	2
Gas and oil	_____	1,846	15
Total Machinery Costs	$_____	$12,661	100
Machinery cost:			
per cow	$_____	$183	
per cwt. milk sold	$_____	$1.49	

The machinery depreciation calculations were shown on page 7. Depreciation accounted for 37 percent of the total machinery costs and interest 19 percent. These two fixed cost items are often overlooked in a casual look at 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.

Machinery costs averaged $183 per cow but 26 farms had costs of under $100, while 31 had costs of $300 and over. In general, the lower the machinery costs per cow the higher the labor and management income per operator.

Table 30. MACHINERY COST PER COW AND LABOR AND MANAGEMENT INCOME
609 New York Dairy Farms, 1973

Machinery Cost per Cow	Number of Farms	Percent of Farms	Labor and Management Income per Operator
Under $100	26	4	$14,700
100 - 149	126	21	12,840
150 - 199	233	38	10,130
200 - 249	142	23	8,530
250 - 299	51	8	6,330
300 & Over	31	5	3,840

Labor Costs

Labor costs are often overlooked in a farm business analysis. This is understandable since the farm family often provides a large part of the labor input. On these 609 farms, the family (including paid family labor) provided 69 percent of the months of labor inputs while hired nonfamily labor provided 31 percent (page 6). Family labor does have a value and in this section an analysis is made of the cost of all labor inputs.

Table 31. LABOR COSTS
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms Amount	Percent
Value operator's labor @ $500/month	$_____	$ 7,000	53
Hired labor expense (from p. 10) (includes paid family labor)	_____	5,535	42
Unpaid family labor @ $350/month	_____	700	5
Total Labor Costs	$_____	$13,235	100
Labor cost per cow	$_____	$192	
Labor cost per cwt. milk	$_____	$1.55	
Cost per month hired labor	$_____	$554	
Cost per month all labor	$_____	$509	

The operator's labor was valued at $500 per month. This is above the reported average of all monthly hired labor for 1973 which was $413. Unpaid family labor was valued at $350 per month which is relatively low but this is usually children or wives who would find it difficult to earn more than this amount off the farm with the hours they have available for work.

Labor and machinery operate as a "team" on a modern farm. The challenge is to get a combination that will give a reasonable cost per unit of milk sold.

Table 32. LABOR AND MACHINERY COSTS
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
Total labor cost	$_____	$13,235
Total machinery cost	_____	12,661
Total Labor and Machinery Costs	$_____	$25,896
Labor and machinery cost per cow	$_____	$375
Labor and machinery cost/cwt. milk	$_____	$3.04

Are your combined labor and machinery costs under control?

Miscellaneous Cost Control Measures

Cost control applies to expenditures both large and small. Reducing various cost items to a per cow or per acre basis provides cost control measures which can be used for analyzing farms of various sizes. These factors are influenced by a number of things so must be used with that in mind.

Table 33. COST CONTROL MEASURES
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
Overhead		
Interest charge per cow	$_____	$ 201
Building depreciation per cow	_____	31
Land and building repair per cow	_____	19
Taxes per cow	_____	25
Insurance per cow	_____	17
Electricity per cow	_____	14
Machinery		
Machinery depreciation per cow	$_____	$ 67
Machinery repair per cow	_____	43
Gas and oil per cow	_____	27
Machinery cost per cow	_____	183
Dairy		
Veterinary and medicine per cow	$_____	$ 15
Breeding fees per cow	_____	11
Other livestock expense per cow	_____	45
Crops		
Fertilizer and lime per crop acre	$_____	$ 16
Seeds and plants per crop acre	_____	5
Other crop expense per crop acre	_____	4
Gas and oil per crop acre	_____	9
General		
Average rent per crop acre (62 A.)	$_____	$ 14
Total labor cost per cow	_____	192
Total feed and crop expense per cow	_____	348
Total expenses per cow	_____	1,052
Total expenses per $100 receipts	_____	86

Combination of Factors

Individual factors have been examined in the analysis up to this point. It has been suggested that these factors are interrelated. In this section, the combination of four important factors is studied. The factors used here are size, rates of production, labor efficiency, and cost control as measured by number of cows, pounds of milk sold per cow, pounds of milk sold per man, 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 609 farms. They were then grouped on the basis of the number of factors better than average. The combination of factors above or below average within the three middle groups varied.

Table 34. COMBINATION OF FACTORS ABOVE AVERAGE* AND LABOR AND MANAGEMENT INCOME
609 New York Dairy Farms, 1973

Number of Factors Above Average	Number of Farms	Percent of Farms	Labor and Management Income per Operator
4 Factors better than average	52	9	$25,100
3 Factors better than average	138	23	14,800
2 Factors better than average	179	29	8,900
1 Factor better than average	161	26	5,300
0 Factors better than average	79	13	2,800

* Factors were:
Size - number of cows - average 69.
Rates of production - pounds of milk sold per cow - average 12,350.
Labor efficiency - pounds of milk sold per man - average 392,580.
Cost control - percent purchased feed was of milk receipts - average 31%.

The relationship between the number of factors better than average and labor income is shown in table 34. As the number of factors better than average decreased, labor incomes decreased at a rapid rate. It is important in managing a farm business to give attention to all major factors affecting the business. Concentrating on only one or two factors and neglecting the others will not give the kind of net return most farmers want.

Comparison by Herd Size

In making an analysis of an individual farm business, it is helpful to compare it with businesses of similar size. On the following four pages, the business summary and business factors for the 609 farms are shown for seven herd size groups. These data also can be used to study the effect of size on the many aspects of dairy farm businesses.

Table 35. FARM BUSINESS SUMMARY BY HERD SIZE
609 New York Dairy Farms, 1973

Item	My Farm	Farms with: Less than 40 Cows	40 to 54 Cows	55 to 69 Cows
Capital Investment (end of year)				
Livestock	$_____	$ 24,408	$ 34,502	$ 45,227
Feed and supplies	_____	5,446	7,381	10,980
Machinery and equipment	_____	20,320	27,768	33,572
Land and buildings	_____	65,761	71,876	94,994
TOTAL INVESTMENT	$_____	$115,935	$141,527	$184,773
Receipts				
Milk sales	$_____	$ 27,287	$ 39,866	$ 52,838
Livestock sales	_____	4,134	5,479	7,185
Crop sales	_____	224	320	317
Miscellaneous receipts	_____	1,705	2,887	2,745
Total Cash Receipts	$_____	$ 33,350	$ 48,552	$ 63,085
Increase in livestock	_____	3,527	5,081	6,829
Increase in feed & supplies	_____	1,135	1,659	3,090
TOTAL FARM RECEIPTS	$_____	$ 38,012	$ 55,292	$ 73,004
Expenses				
Hired labor	$_____	$ 937	$ 1,994	$ 3,633
Dairy feed	_____	8,591	12,719	15,847
Other feed	_____	207	372	514
Machine hire	_____	211	415	394
Machinery repair	_____	1,269	1,997	2,350
Auto expense (farm share)	_____	241	281	304
Gas and oil	_____	939	1,225	1,625
Purchased animals	_____	2,238	2,470	2,826
Breeding fees	_____	338	507	651
Veterinary and medicine	_____	434	691	921
Other livestock expense	_____	1,416	2,057	2,423
Fertilizer and lime	_____	925	1,630	2,627
Seeds and plants	_____	329	618	862
Spray and other crop expense	_____	215	444	674
Land, bldg., fence repair	_____	633	876	1,238
Taxes and insurance	_____	1,451	1,945	2,524
Electricity & phone (farm share)	_____	701	928	1,133
Interest paid	_____	2,119	2,986	3,742
Miscellaneous expenses	_____	571	951	1,170
Total Cash Operating Exp.	$_____	$ 23,765	$ 35,106	$ 45,458
Machinery depreciation	_____	2,560	3,491	4,453
Real estate depreciation	_____	1,054	1,327	1,791
Unpaid family labor	_____	700	700	1,050
Interest on equity capital @ 7%	_____	5,536	6,402	8,563
TOTAL FARM EXPENSES	$_____	$ 33,615	$ 47,026	$ 61,315
Financial Summary				
Total Farm Receipts	$_____	$ 38,012	$ 55,292	$ 73,004
Total Farm Expenses	_____	33,615	47,026	61,315
Labor & Management Income	$_____	$ 4,397	$ 8,266	$ 11,689
Number of operators	_____	1.02	1.08	1.17
LABOR & MANAGEMENT INCOME PER OPERATOR	$_____	$ 4,307	$ 7,668	$ 9,991

Table 35 contd. FARM BUSINESS SUMMARY BY HERD SIZE
609 New York Dairy Farms, 1973

Item	Farms with: 70 to 84 Cows	85 to 99 Cows	100 to 149 Cows	150 or More Cows
Capital Investment (end of year)				
Livestock	$ 55,789	$ 67,206	$ 87,086	$137,294
Feed and supplies	13,894	19,292	27,873	44,461
Machinery and equipment	41,649	47,298	57,159	72,379
Land and buildings	123,090	129,298	181,005	245,450
TOTAL INVESTMENT	$234,422	$263,094	$353,123	$499,584
Receipts				
Milk sales	$ 66,659	$ 79,853	$115,554	$183,897
Livestock sales	8,602	8,746	15,196	25,568
Crop sales	479	702	936	1,677
Miscellaneous receipts	2,488	2,861	3,388	5,494
Total Cash Receipts	$ 78,228	$ 92,162	$135,074	$216,636
Increase in livestock	7,219	9,345	8,895	21,611
Increase in feed & supplies	4,025	5,656	9,130	16,246
TOTAL FARM RECEIPTS	$ 89,472	$107,163	$153,099	$254,493
Expenses				
Hired labor	$ 5,808	$ 7,942	$ 14,091	$ 25,058
Dairy feed	20,797	23,909	35,458	56,087
Other feed	800	900	1,546	3,291
Machine hire	445	515	717	1,923
Machinery repair	3,188	3,554	5,613	8,546
Auto expense (farm share)	290	349	280	254
Gas and oil	1,951	2,178	3,274	5,293
Purchased animals	2,996	4,203	5,366	14,019
Breeding fees	837	1,162	1,484	1,691
Veterinary and medicine	1,187	1,128	1,972	3,307
Other livestock expense	3,393	3,855	6,033	8,948
Fertilizer and lime	3,248	4,652	6,012	11,713
Seeds and plants	989	1,349	1,957	2,714
Spray and other crop expense	668	770	1,438	2,497
Land, bldg., fence repair	1,098	1,479	2,297	3,770
Taxes and insurance	3,112	3,755	5,131	7,482
Electricity & phone (farm share)	1,290	1,550	2,026	2,924
Interest paid	5,810	5,616	7,678	11,855
Miscellaneous expenses	1,456	1,494	3,222	5,905
Total Cash Operating Expenses	$ 59,363	$ 70,360	$105,595	$177,277
Machinery depreciation	5,253	5,378	7,657	9,270
Real estate depreciation	2,297	2,730	3,950	6,409
Unpaid family labor	700	700	700	350
Interest on equity capital @ 7%	10,067	12,108	16,039	20,685
TOTAL FARM EXPENSES	$ 77,680	$ 91,276	$133,941	$213,991
Financial Summary				
Total Farm Receipts	$ 89,472	$107,163	$153,099	$254,493
Total Farm Expenses	77,680	91,276	133,941	213,991
Labor & Management Income	$ 11,792	$ 15,887	$ 19,158	$ 40,502
Number of operators	1.27	1.30	1.45	1.46
LABOR & MANAGEMENT INCOME PER OPERATOR	$ 9,307	$ 12,221	$ 13,231	$ 27,722

Table 36. SELECTED BUSINESS FACTORS BY HERD SIZE
609 New York Dairy Farms, 1973

Item	My Farm	Farms with: Less than 40 Cows	40 to 54 Cows	55 to 69 Cows
Number of farms		92	179	123
Size of Business				
Number of cows	_____	32	46	60
Number of heifers	_____	20	32	41
Pounds of milk sold	_____	377,500	556,000	740,500
Man equivalent	_____	1.3	1.5	2.0
Total work units	_____	356	507	661
Crop acres	_____	100	140	177
Rates of Production				
Milk sold per cow	_____	11,800	12,100	12,300
Tons hay crops per acre	_____	2.3	2.5	2.6
Tons corn silage per acre	_____	12	12	13
Bushels of oats per acre	_____	51	54	56
Labor Efficiency				
Cows per man	_____	26	31	30
Pounds milk sold per man	_____	302,000	370,700	370,200
Work units per man	_____	285	338	331
Feed Costs				
Feed purchased per cow	$_____	$268	$277	$264
Crop expense per cow	$_____	$46	$59	$69
Feed cost per cwt. milk	$_____	$2.28	$2.29	$2.14
Feed and crop exp./cwt. milk	$_____	$2.66	$2.77	$2.70
% Feed is of milk receipts	_____%	31%	32%	30%
Hay equivalent per cow	_____	7.3	7.9	7.9
Crop acres per cow	_____	3.1	3.0	3.0
Fertilizer and lime/crop acre	$_____	$9	$12	$15
Machinery and Labor Costs				
Total machinery costs	$_____	$6,581	$9,270	$11,398
Machinery cost per cow	$_____	$206	$202	$190
Machinery cost per cwt. milk	$_____	$1.74	$1.67	$1.54
Labor cost per cow	$_____	$239	$189	$195
Labor cost per cwt. milk	$_____	$2.02	$1.56	$1.58
Capital Efficiency				
Investment per man	$_____	$92,748	$94,351	$92,387
Investment per cow	$_____	$3,623	$3,077	$3,080
Investment per cwt. milk sold	$_____	$31	$25	$25
Land and buildings per cow	$_____	$2,055	$1,563	$1,583
Machinery investment per cow	$_____	$635	$604	$560
Return on investment	_____%	1.7%	5.0%	6.9%
Other				
Price per cwt. milk sold	$_____	$7.23	$7.17	$7.14
Acres hay crops	_____	73	92	110
Acres corn silage	_____	20	34	46

Table 36 contd. SELECTED BUSINESS FACTORS BY HERD SIZE
609 New York Dairy Farms, 1973

Item	Farms with: 70 to 84 Cows	85 to 99 Cows	100 149 Cows	150 or More Cows
Number of farms	71	40	78	26
Size of Business				
Number of cows	75	91	118	199
Number of heifers	54	59	86	109
Pounds of milk sold	910,500	1,100,600	1,555,600	2,441,100
Man equivalent	2.3	2.5	3.6	4.9
Total work units	826	973	1,291	2,076
Crop acres	219	255	327	514
Rates of Production				
Milk sold per cow	12,140	12,100	13,200	12,300
Tons hay crops per acre	2.5	2.7	2.9	2.7
Tons corn silage per acre	13	14	14	13
Bushels oats per acre	49	61	57	64
Labor Efficiency				
Cows per man	32	36	33	40
Pounds milk sold per man	390,800	440,200	434,500	496,200
Work units per man	355	389	361	422
Feed Costs				
Feed purchased per cow	$277	$263	$300	$282
Crop expense per cow	$65	$74	$80	$85
Feed cost per cwt. milk	$2.28	$2.17	$2.28	$2.30
Feed & crop exp./cwt. milk	$2.82	$2.79	$2.88	$2.99
% Feed is of milk receipts	31%	30%	31%	30%
Hay equivalent per cow	7.9	7.6	8.1	7.4
Crop acres per cow	2.9	2.8	2.8	2.6
Fertilizer & lime/crop acre	$15	$18	$18	$23
Machinery and Labor Costs				
Total machinery costs	$ 13,957	$ 15,068	$ 21,414	$ 30,003
Machinery cost per cow	$186	$166	$181	$151
Machinery cost per cwt. milk	$1.53	$1.37	$1.38	$1.23
Labor cost per cow	$187	$177	$197	$170
Labor cost per cwt. milk	$1.54	$1.47	$1.50	$1.39
Capital Efficiency				
Investment per man	$100,610	$105,238	$ 98,638	$101,541
Investment per cow	$3,126	$2,891	$2,993	$2,510
Investment per cwt. milk sold	$26	$24	$23	$20
Land and buildings per cow	$1,641	$1,421	$1,534	$1,233
Machinery investment per cow	$555	$520	$484	$364
Return on investment	6.6%	8.3%	8.6%	12.5%
Other				
Price per cwt. milk sold	$7.32	$7.26	$7.43	$7.53
Acres hay crops	128	136	169	244
Acres corn silage	65	75	101	177

Farm Business Chart

The farm business chart is a tool for use in analyzing a dairy farm business. It is a series of measuring sticks combined into one tool.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
609 New York Dairy Farms, 1973*

Size of Business			Rates of Production			Labor Efficiency	
Man Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold per Cow	Tons Hay/ Acre	Tons Corn Silage per Acre	Cows per Man	Pounds Milk Sold per Man
4.7	161	2,059,900	15,400	5.1	20	44	572,700
3.3	105	1,357,600	14,200	3.6	17	38	479,500
2.8	82	1,006,800	13,500	3.2	15	35	434,000
2.4	69	843,400	13,000	2.9	14	33	399,200
2.2	61	742,500	12,400	2.7	13	30	368,600
2.0	55	663,900	12,000	2.5	12	28	335,900
1.8	49	594,900	11,400	2.3	11	26	307,000
1.5	44	508,500	10,800	2.1	10	24	281,400
1.4	39	425,000	10,000	1.9	8	22	253,300
1.2	30	307,500	8,300	1.4	5	18	189,000

* These farms are considerably above the average for all farms in New York State. For example, the median number of cows for the 609 farms was 58 compared with 39 for all farms in the State.

The Farm Business Chart is a tool which can be used in analyzing a business to determine the strong and weak points. The chart shows how far the individual farm is above or below the midpoint of the 609 farms for each factor.

The figure at the top of each column is the average of the top 10 percent of the farms for that factor. For example, the figure 4.7 at the top of the column headed "man equivalent" is the average man equivalent on the 10 percent of the farms with the most men. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. The figure at the bottom of each column (1.2 for man equivalent) is the average for the 10 percent of the farms which ranked lowest in that factor.

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.

This chart is used in analyzing a particular dairy business by drawing a line through the figure in each column which shows where the farm being analyzed stands for that factor. This helps identify the strengths and weaknesses. Summarize these and list them at the bottom of the next page.

Farm Business Chart contd.

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

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
609 New York Dairy Farms, 1973

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
$133	17	$102	$264	$1.79
189	23	132	311	2.20
215	26	149	336	2.39
238	28	162	354	2.55
261	30	176	373	2.69
279	32	188	393	2.80
299	34	203	417	2.94
325	36	223	444	3.13
358	40	246	479	3.37
432	47	315	572	3.97

Based on the analyzed results shown on the business chart, list below the strong and weak points of the business. Then identify the major problems.

STRONG POINTS:

WEAK POINTS:

MAJOR PROBLEMS:

After identifying problems, consider alternative ways of solving each problem. Each alternative should be studied in detail. A budgeting form can be used for projecting the likely results of each alternative.

SUPPLEMENTAL INFORMATION

Cost of Producing Milk

The cost of producing milk can be calculated from the farm business summary when the operations have dairy as the only principal enterprise. The average cost per hundredweight of producing milk in 1973 on the 609 farms and comparisons with earlier years is shown on page 35.

Age of Operator

Age is often considered as a factor affecting management. To test this, the 1973 farm businesses were studied on the basis of age of operator. The results are presented on pages 36 and 37.

Farms With Free Stall Barns

There has been much interest in free stall barns in recent years. In the 1973 summary, a total of 197 reported free stall facilities and were included in a special analysis which is reported on pages 38 and 39.

Type of Business Organization

Three types of business organization were included in the 609 farms. Summaries were prepared for: individual operators; partnerships; and corporations. The three summaries are compared on pages 40 and 41.

Same Farms for 1972 and 1973

There is some turnover each year in the cooperators in the business management projects. Of the 609 farms in 1973, 384 had been in the 1972 summary. A comparison of the 1972 and 1973 businesses of these same 384 farms is reported on pages 42 and 43.

Trends

A manager must keep abreast of current trends if he is to keep his business in tune with the times. Trends can be observed in different ways. One way is to compare similar business studies that have been made. On page 44, selected farm business summary factors are given for 1963, 1968, 1972, and 1973.

Operating Statements

In establishing goals, it is helpful to know what the "better" businesses do. For this purpose, an operating statement for the 10 percent of the 609 farms with the highest labor incomes is on page 47.

Operating statements are included for two groups who participated in the farm business management projects but were not in the 609 farm analysis. These are the farms that had crop sales which were equal to 10 percent or more of the milk receipts and were classified as "dairy-cash crop" operations. The other group is the "renter" operators. See pages 45 and 46.

Cost of Producing Milk

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

Table 37. FARM COST OF PRODUCING MILK
609 New York Dairy Farms, 1973

Item	My Farm	Average 609 Farms
Total cash farm expenses (p. 10)	$_____	$55,724
Machinery depreciation	_____	4,654
Building depreciation	_____	2,138
Unpaid labor	_____	700
Interest on equity capital @ 7%	_____	9,354
TOTAL FARM EXPENSES	$_____	$72,570
Value Operator's Labor @ $500/mo.	_____	7,000
TOTAL COST OF PRODUCTION (1)	$_____	$79,570
Total cash farm receipts (p. 8)	$_____	$73,772
Less: Milk sales	_____	62,179
Non-milk cash receipts	_____	$11,593
Increase feed & supplies	_____	3,987
Increase of 3 cows @ $720	_____	2,160
TOTAL OTHER INCOME (2)	_____	17,740
COST OF PRODUCING MILK (1 minus 2)	$_____	$61,830
Hundredweights of milk sold (p. 15)	_____	8,519
COST OF PRODUCING CWT. MILK	$_____	$7.26
Management charge @ 5% cash receipts	$_____	$3,689
Management charge cwt. milk	_____	43¢
COST OF PRODUCING MILK WITH MGT. CHARGE	$_____	$7.69

The sharp rise in cattle prices in 1973 inflated the increase in livestock inventories. To adjust for this, the 10-year average increase of 3 cows times the average year-end livestock inventory value per cow was used in place of the total increase. Earlier summaries did not include a charge for management. This year the cost was figured both with and without a management charge.

Table 38. COST OF PRODUCING MILK AND PRICES RECEIVED, 1969-1973

Year	Value Operator's Labor	Value Operator's Management*	Cost/cwt.-With Management Excluded	Cost/cwt.-With Management Included	Av. Price Received
1969	$5,400	$2,514	$5.41	$5.74	$5.80
1970	5,400	2,853	5.73	6.08	6.10
1971	5,400	3,037	5.84	6.19	6.21
1972	6,000	3,275	6.43	6.80	6.41
1973	6,000	3,689	7.26	7.69	7.30

* Estimated @ 5% of cash receipts.

Age of Operator

The average age of the 724 operators was 41 years. This is considerably younger than the 1969 Census average age of 51.2 years. This was expected since the business management projects tend to be of special interest to younger men getting established in farming. There were 70 farms operated by men under 30. Of the 609 farms, 105 had two or more operators.

Table 39. AGE OF OPERATOR AND FARM ORGANIZATION
609 New York Dairy Farms, 1973

Age	Number of Farms	Number of Cows	Number Heifers	No. of Crop Acres	Man Equiv-alent	Number Free Stall Barns
Under 30	70	53	33	162	1.8	10
30 - 34	100	62	45	177	2.0	25
35 - 39	101	68	49	202	2.3	34
40 - 44	100	75	48	221	2.4	39
45 - 49	71	69	46	183	2.3	25
50 - 54	80	76	47	213	2.6	29
55 & Over	87	80	58	218	2.8	35

The farms with more than one operator were classified according to the age of the senior operator. This is evident in the age groups 50-54 and 55 and over where the number of operators averaged 1.4 and 1.5 respectively. These groups also had the largest man equivalents and number of cows.

The younger operators had smaller businesses as measured by number of cows, man equivalent and receipts. The farmers under 30 had the lowest labor incomes but those 30-34 had the highest incomes. In general, however, there seemed to be no clear relationship between age of operator and income.

Table 40. AGE OF OPERATOR AND BUSINESS SUMMARY
609 New York Dairy Farms, 1973

Age	Total Receipts	Total Expenses	Number Operators	Labor and Management Income per Operator
Under 30	$62,824	$54,503	1.1	$ 8,024
30 - 34	76,521	64,970	1.1	11,071
35 - 39	85,936	74,575	1.1	10,373
40 - 44	91,517	80,888	1.1	9,815
45 - 49	83,958	74,519	1.1	8,123
50 - 54	93,053	78,118	1.4	10,963
55 & Over	99,576	83,595	1.5	9,905

Table 41. AGE OF OPERATOR AND CAPITAL INVESTMENT
609 New York Dairy Farms, 1973

Age	End Inventory Value of: Cattle	Machinery	Land & Bldgs.	Total
Under 30	$40,307	$27,644	$ 71,901	$148,849
30 - 34	47,110	34,772	91,936	184,932
35 - 39	50,000	34,957	102,897	202,811
40 - 44	51,561	39,976	124,834	231,395
45 - 49	50,781	36,471	113,491	213,925
50 - 54	54,426	40,437	116,193	226,412
55 & Over	58,533	39,012	121,330	236,675

The average total capital investment was lowest for the age group under 30. This is as expected since these young men are just getting started in farming. The largest total investment was for the age group 55 and over. In general, the older the operator the larger the capital investment per farm.

Table 42. AGE OF OPERATOR AND EFFICIENCY FACTORS
609 New York Dairy Farms, 1973

Age	Lbs. Milk Per Cow	Per Man	Corn Tons Silage per Acre	Machinery Cost per Cow	% Feed is of Milk
Under 30	11,400	347,400	12	192	31
30 - 34	11,900	377,400	12	190	32
35 - 39	12,300	365,500	13	189	31
40 - 44	12,200	377,700	12	193	32
45 - 49	12,300	354,900	12	182	32
50 - 54	12,200	358,800	13	190	29
55 & Over	12,500	345,000	13	188	31

There did not seem to be any definite relationship between age and efficiency factors. It is of interest to observe that milk sold per man was lowest for the 55 and over age group, which may reflect some "letting up" by the older men.

In general, the businesses varied some by the age of operator, but age did not seem to be a major factor affecting the efficiency or the labor incomes of these dairy farm businesses.

Farms With Free Stall Barns

A total of 197 of the 609 farms in this study reported having free stall barns. These were separated out for analysis. The averages for the free stall operations have been compared with the other types of barns.

Table 43. COMPARISON OF FARMS WITH FREE STALL BARNS AND ALL OTHERS
609 New York Dairy Farms, 1973

Item	My Farm	Farms With Free Stall Barns	Farms With Other Types of Barns
Number of farms		197	412
Size			
Man equivalent	_____	2.9	2.0
Number of cows	_____	100	55
Lbs. milk sold	_____	1,270,600	651,700
Milk Produced			
Lbs. milk sold per cow	_____	12,600	11,900
Lbs. milk sold per man	_____	427,700	331,100
Capital Use			
Land & building value	$_____	$148,101	$86,980
Total inventory value	$_____	$292,107	$167,192
Land & building per cow	$_____	$1,552	$1,645
Total inventory per cow	$_____	$3,031	$3,130
Total inventory per man	$_____	$101,266	$85,995
Total inv. per cwt. milk	$_____	$24	$27
Cost Factors			
Total labor cost	$_____	$18,355	$11,354
Total machinery cost	$_____	$17,851	$10,183
Labor cost per cow	$_____	$187	$213
Machinery cost per cow	$_____	$186	$191
Labor & machinery cost per cwt. milk	$_____	$2.99	$3.49
Veterinary cost per cow	$_____	$15	$15
Financial Summary			
Total farm receipts	$_____	$128,117	$64,831
Total Farm Expenses	$_____	$109,557	$56,222
Labor & mgt. inc./operator	$_____	$14,591	$7,619
Receipts per cow	$_____	$1,269	$1,188
Expense per cow	$_____	$1,089	$1,029
Labor & mgt. inc./cow	$_____	$180	$159

Table 44. COMPARISON OF FARMS WITH FREE STALL AND OTHER TYPES OF BARNS BY HERD SIZE
609 New York Dairy Farms, 1973

	Herd Size				
	Less Than 60 Cows	60 to 79 Cows	80 to 99 Cows	100 to 119 Cows	120 or More Cows
Number of farms					
Free stall	30	50	35	29	53
Other	291	77	22	14	8
Number of men					
Free stall	1.8	2.2	2.6	3.3	4.3
Other	1.7	2.4	2.8	3.8	5.5
Number of cows					
Free stall	47	69	89	110	163
Other	44	67	87	105	143
Land & bldgs./cow					
Free stall	$1,742	$1,673	$1,510	$1,528	$1,372
Other	$1,686	$1,570	$1,384	$1,755	$1,382
Lbs. milk sold/cow					
Free stall	12,500	12,200	12,600	13,100	12,800
Other	11,800	11,700	11,600	13,300	12,100
Lbs. milk sold/man					
Free stall	336,300	397,700	441,100	447,700	487,900
Other	321,000	349,100	363,900	389,200	332,900
Labor cost/cow					
Free stall	$213	$178	$179	$196	$180
Other	$218	$200	$189	$215	$231
Machinery cost/cow					
Free stall	$218	$193	$183	$178	$169
Other	$198	$179	$157	$184	$170
Veterinary cost/cow					
Free stall	$14	$14	$15	$17	$16
Other	$14	$16	$12	$22	$14
Labor & mgt. inc./operator					
Free stall	$6,893	$12,972	$11,496	$12,219	$23,819
Other	$6,759	$9,630	$9,125	$11,244	$9,035

In general, for each herd size, the free stall farms had fewer men but more cows, higher machinery but lower labor cost per cow, and (except for less than 60 cows) higher labor incomes per operator than the other farms.

Table 45. FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
609 New York Dairy Farms, 1973

	Averages for:					
	501 Individuals		96 Partnerships		12 Corporations	
CAPITAL INVESTMENT	1/1/73	1/1/74	1/1/73	1/1/74	1/1/73	1/1/74
Livestock	$ 39,709	$ 46,011	$ 57,880	$ 66,840	$110,788	$127,319
Feed & supplies	8,467	11,782	13,137	18,904	27,499	45,276
Machinery & equipment	31,252	34,171	41,593	44,729	56,938	62,077
Land & buildings	89,257	99,562	111,163	122,323	261,646	282,317
TOTAL INVESTMENT	$168,685	$191,526	$223,773	$252,796	$456,871	$516,989
EXPENSES						
Labor						
Hired		$ 5,239		$ 5,267		$ 20,030
Feed						
Dairy concentrate		17,389		24,453		51,150
Hay and other		723		617		2,209
Machinery						
Machine hire		476		602		343
Machinery repair		2,608		3,944		8,883
Auto expense		288		247		425
Gas and oil		1,642		2,393		5,996
Livestock						
Purchased animals		3,313		3,647		12,441
Breeding fees		679		1,108		1,759
Veterinary, medicine		952		1,417		2,753
Milk marketing		784		1,359		3,782
Other livestock expense		1,924		2,930		6,745
Crops						
Fertilizer and lime		2,649		4,452		11,307
Seeds and plants		865		1,355		2,558
Spray and other		645		984		1,653
Real Estate						
Land, building, fence repair		1,199		1,522		2,917
Taxes		1,523		2,182		5,168
Insurance		1,097		1,460		2,819
Rent		681		1,531		4,424
Other						
Telephone (farm share)		239		320		541
Electricity (farm share)		903		1,257		2,271
Interest paid		4,306		4,166		14,725
Miscellaneous		564		802		2,828
TOTAL CASH EXPENSES		$50,688		$68,015		$167,727
Machinery depreciation		$ 4,279		$ 6,016		$ 9,428
Building depreciation		1,914		2,625		7,580
Unpaid labor		1,050		350		0
Interest on farm equity @ 7%		8,475		12,714		19,162
TOTAL FARM EXPENSES		$66,406		$89,720		$203,897

Table 45 contd.

FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
609 New York Dairy Farms, 1973

	Averages for:		
	501 Individuals	96 Partnerships	12 Corporations
RECEIPTS			
Milk sales	$55,940	$ 80,479	$176,270
Crop sales	441	722	449
Dairy cattle sold	6,123	8,597	19,921
Livestock sales	1,246	2,127	7,907
Gas tax refund	109	189	391
Government payments	398	365	754
Work off farm	75	74	46
Custom machine work	94	77	13
Miscellaneous	2,003	2,537	3,477
TOTAL CASH RECEIPTS	$66,429	$ 95,167	$209,228
Increase in livestock	6,302	8,960	16,531
Increase in feed & supplies	3,315	5,767	17,777
TOTAL FARM RECEIPTS	$76,046	$109,894	$243,536
FINANCIAL SUMMARY			
Total Cash Receipts	$66,429	$ 95,167	$209,228
Total Cash Expenses	50,688	68,015	167,727
NET FARM CASH FLOW	$15,741	$ 27,152	$ 41,501
Total Farm Receipts	$76,046	$109,894	$243,536
Total Farm Expenses	66,406	89,720	203,897
LABOR & MGT. INCOME/FARM	$ 9,640	$ 20,174	$ 39,639
Number of operators (501)	1.0	(196) 2.0	(27) 2.3
LABOR & MGT. INCOME/OPERATOR	$ 9,640	$ 9,884	$ 17,617
BUSINESS FACTORS			
Man equivalent	2.0	2.8	4.5
Number of cows	63	86	182
Number of heifers	41	65	101
Acres of hay crops	109	139	243
Acres of corn silage	51	72	151
Total acres of crops	181	253	482
Lbs. of milk sold	769,400	1,096,700	2,335,800
Lbs. of milk sold/cow	12,200	12,800	12,800
Tons hay crops/acre	2.6	2.7	2.9
Tons corn silage/acre	13	13	13
Cows per man	32	30	40
Lbs. of milk sold/man	384,700	387,500	519,067
% Feed is of milk sales	31%	30%	29%
Feed & crop exp./cwt. milk	$2.80	$2.85	$2.85
Fertilizer & lime/crop acre	$15	$18	$23
Machinery cost/cow	$184	$189	$161
Av. price/cwt. milk	$7.27	$7.34	$7.55

Table 46. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1972 AND 1973
Same 384 New York Dairy Farms

	Averages 1972		Averages 1973	
CAPITAL INVESTMENT				
	1/1/72	1/1/73	1/1/73	1/1/74
Livestock	$ 39,682	$ 42,764*	$ 46,547*	$ 53,300
Feed & supplies	11,012	10,407	10,518	14,875
Machinery & equipment	31,934	34,169	34,364	37,458
Land & buildings	84,842	87,543*	99,370*	110,226
TOTAL INVESTMENT	$167,470	$174,883	$190,799	$215,859
EXPENSES				
Labor				
Hired		$ 5,666		$ 6,419
Feed				
Dairy concentrate		14,976		20,507
Hay and other		601		894
Machinery				
Machine hire		713		557
Machinery repair		2,922		3,237
Auto expense		289		293
Gas and oil		1,564		1,997
Livestock				
Purchased animals		2,707		2,991
Breeding fees		744		839
Veterinary, medicine		1,055		1,126
Milk marketing		2,546		995
Other livestock expense				2,406
Crops				
Fertilizer and lime		2,567		3,399
Seeds and plants		823		1,056
Spray and other		636		779
Real Estate				
Land, building, fence repair		1,248		1,391
Taxes		1,709		1,838
Insurance		1,174		1,269
Rent		861		1,008
Other				
Telephone (farm share)		248		275
Electricity (farm share)		1,036		1,046
Interest paid		4,206		4,311
Miscellaneous		820		663
TOTAL CASH EXPENSES		$49,111		$59,296
Machinery depreciation		4,800		4,720
Building depreciation		356		2,306
Unpaid labor		720		700
Interest on farm equity @ 7%		7,776		10,110
TOTAL FARM EXPENSES		$62,763		$77,132

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

Table 46 contd.

COMPARISON OF FARM BUSINESS SUMMARIES FOR 1972 AND 1973
Same 384 New York Dairy Farms

		Averages 1972		Averages 1973
RECEIPTS				
Milk sales		$58,897		$67,268
Crop sales		376		526
Dairy cattle sold	)	6,954		7,371
Livestock sales	)			1,607
Gas tax refund		111		150
Government payments		558		443
Work off farm		47		51
Custom machine work		85		106
Miscellaneous		875		2,196
TOTAL CASH RECEIPTS		$67,903		$79,718
Increase in livestock	)	2,477		6,753
Increase in feed & supplies	)			4,357
TOTAL FARM RECEIPTS		$70,380		$90,828
FINANCIAL SUMMARY				
Total Cash Receipts		$67,903		$79,718
Total Cash Expenses		49,111		59,296
NET FARM CASH FLOW		$18,792		$20,422
Total Farm Receipts		$70,380		$90,828
Total Farm Expenses		62,763		77,132
LABOR & MGT. INCOME/FARM		$ 7,617		$13,696
Number of operators	(459)	1.2	(459)	1.2
LABOR & MGT. INCOME/OPERATOR		$ 6,401		$11,442
BUSINESS FACTORS				
Man equivalent		2.3		2.3
Number of cows		71		73
Number of heifers		48		50
Acres of hay crops		110		119
Acres of corn silage		60		61
Total acres of crops		193		206
Lbs. of milk sold		916,500		918,500
Lbs. of milk sold/cow		12,900		12,600
Tons hay crops/acre		2.4		2.6
Tons corn silage/acre		11		13
Cows per man		31		32
Lbs. of milk sold/man		398,500		408,200
% Feed is of milk sales		25%		30%
Feed & crop exp./cwt. milk		$2.07		$2.80
Fertilizer & lime/crop acre		$13		$17
Machinery cost/cow		$177		$182
Av. price/cwt. milk		$6.43		$7.32

Table 47. SELECTED FARM BUSINESS SUMMARY FACTORS
New York Dairy Farms, Selected Years 1963-1973

Item	Year			
	1963	1968	1972	1973
Number of farms	468	568	571	609
Financial Summary				
Average capital invested	$55,304	$107,854	$173,780	$195,322
Total farm receipts	$23,891	$53,247	$68,376	$84,682
Total farm expenses	$17,278	$37,717	$49,636	$72,570*
Labor income per operator	$3,492	$8,724	$5,835	$10,178
Size of Business				
Number of cows	39	58	70	69
Pounds of milk sold	427,000	715,200	887,500	851,900
Crop acres	105	155	188	198
Man equivalent	1.7	2.1	2.3	2.2
Total work units	527	692	754	750
Rates of Production				
Milk sold per cow	10,950	12,300	12,700	12,350
Tons hay per acre	2.3	2.8	2.4	2.6
Tons corn silage per acre	12	14	11	13
Labor Efficiency				
Cows per man	23	28	30	32
Pounds milk sold per man	251,200	340,600	385,900	392,600
Work units per man	310	330	328	346
Cost Control Factors				
Machinery cost per cow	$108	$151	$177	$183
Machinery cost/cwt. milk	$.99	$1.22	$1.40	$1.49
Feed bought per cow	$150	$163	$206	$278
Feed bought/cwt. milk	$1.37	$1.32	$1.62	$2.25
Feed & crop expense/cwt. milk	$1.64	$1.69	$2.06	$2.81
% Feed is of milk receipts	32%	24%	25%	31%
Capital Efficiency				
Total investment per man	$33,258	$53,302	$75,560	$95,667
Total investment per cow	$1,450	$1,930	$2,480	$3,009
Machinery investment/cow	$304	$435	$489	$527
Total investment/cwt. milk	$13	$16	$20	$24
Other				
Price per cwt. milk sold	$4.31	$5.52	$6.41	$7.30
Acres hay crops	73	90	156	116
Acres corn silage	14	41	57	57
Total acres in crops/cow	2.7	2.7	2.7	2.9
Fertilizer & lime expense per crop acre	$8	$11	$13	$16
Farm income per cow	$170	$268	$268	$262
Labor income per cow	$99	$175	$99	$176

* Includes interest paid, interest on equity capital, and building depreciation which were not included in total farm expenses in earlier years.

FARM BUSINESS SUMMARY
35 New York Dairy-Cash Crop Farms,* 1973

CAPITAL INVESTMENT

	1/1/73	1/1/74
Livestock	$ 38,752	$ 47,189
Feed & supplies	13,101	18,967
Machinery & equip.	38,791	41,812
Land & buildings	115,765	129,104
TOTAL INVESTMENT	$206,409	$237,072

EXPENSES

Labor	
Hired	$ 7,046
Feed	
Dairy concentrate	12,205
Hay and other	37
Machinery	
Machine hire	579
Machinery repair	4,026
Auto expense	298
Gas and oil	2,335
Livestock	
Purchased animals	2,135
Breeding fees	731
Veterinary, medicine	837
Milk marketing	924
Other livestock expense	2,317
Crops	
Fertilizer and lime	5,031
Seeds and plants	1,613
Spray and other	1,291
Real Estate	
Land, building, fence repair	867
Taxes	1,917
Insurance	982
Rent	1,487
Other Cash Expense	
Telephone (farm share)	234
Electricity (farm share)	957
Interest paid	4,308
Miscellaneous	860
TOTAL CASH EXPENSES	$53,017
Machinery depreciation	4,655
Building depreciation	2,156
Unpaid labor	700
Interest on farm equity @ 7%	11,733
TOTAL FARM EXPENSES	$72,261

RECEIPTS

Milk sales	$49,699
Crop sales	11,529
Dairy cattle sold	5,694
Other livestock sales	1,429
Gas tax refund	135
Government payments	997
Work off farm	85
Custom machine work	316
Miscellaneous	3,470
TOTAL CASH RECEIPTS	$73,354
Increase in livestock	8,437
Increase in feed & supplies	5,866
TOTAL FARM RECEIPTS	$87,657

FINANCIAL SUMMARY

Total Cash Receipts	$73,354
Total Cash Expenses	53,017
NET FARM CASH FLOW	$20,337
Total Farm Receipts	$87,657
Total Farm Expenses	72,261
LABOR & MGT. INCOME/FARM	$15,396
Number of operators (44)	1.3
LABOR & MGT. INCOME/OPER.	$12,248

BUSINESS FACTORS

Man equivalent	2.4
Number of cows	59
Number of heifers	45
Acres of hay crops	108
Acres of corn silage	49
Total acres of crops	269
Lbs. of milk sold	687,500
Lbs. milk sold/cow	11,650
Tons hay crops/acre	3.0
Tons corn silage/acre	14
Cows per man	24
Lbs. of milk sold/man	284,100
% Feed is of milk receipts	25%
Feed & crop exp./cwt. milk	$2.93
Fertilizer & lime/crop acre	$19
Machinery cost/cow	$249
Av. price/cwt. milk	$7.23

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

FARM BUSINESS SUMMARY
37 New York Dairy-Renter Farms,* 1973

CAPITAL INVESTMENT

	1/1/73	1/1/74
Livestock	$38,184	$ 42,940
Feed & supplies	9,217	11,972
Machinery & equipment	24,154	26,450
Land & buildings	10,797	13,801
TOTAL INVESTMENT	$82,352	$95,163

EXPENSES

Labor	
Hired	$ 4,513
Feed	
Dairy concentrate	17,095
Hay and other	556
Machinery	
Machine hire	425
Machinery repair	2,418
Auto expense	211
Gas and oil	1,553
Livestock	
Purchased animals	2,818
Breeding fees	762
Veterinary, medicine	935
Milk marketing	313
Other livestock expense	2,187
Crops	
Fertilizer and lime	2,412
Seeds and plants	680
Spray and other	417
Real Estate	
Land, building, fence repair	570
Taxes	431
Insurance	781
Rent	4,973
Other Cash Expense	
Telephone (farm share)	223
Electricity (farm share)	892
Interest paid	2,554
Miscellaneous	621
TOTAL CASH EXPENSES	$48,340
Machinery depreciation	4,138
Building depreciation	207
Unpaid labor	700
Interest on farm equity @ 7%	3,377
TOTAL FARM EXPENSES	$56,762

RECEIPTS

Milk sales	$54,092
Crop sales	661
Dairy cattle sold	6,462
Other livestock sales	721
Gas tax refund	91
Government payments	377
Work off farm	71
Custom machine work	95
Miscellaneous	1,165
TOTAL CASH RECEIPTS	$63,735
Increase in livestock	4,756
Increase in feed & supplies	2,755
TOTAL FARM RECEIPTS	$71,246

FINANCIAL SUMMARY

Total Cash Receipts	$63,735
Total Cash Expenses	48,340
NET FARM CASH FLOW	$15,395
Total Farm Receipts	$71,246
Total Farm Expenses	56,762
LABOR & MGT. INCOME/FARM	$14,484
Number of operators (40)	1.1
LABOR & MGT. INCOME/OPERATOR	$13,399

BUSINESS FACTORS

Man equivalent	2.0
Number of cows	59
Number of heifers	40
Acres of hay crops	100
Acres of corn silage	51
Total acres of crops	167
Lbs. of milk sold	730,600
Lbs. milk sold/cow	12,400
Tons hay crops/acre	2.4
Tons corn silage/acre	12
Cows per man	30
Lbs. of milk sold/man	365,300
% Feed is of milk sales	32%
Feed & crop exp./cwt. milk	$2.82
Fertilizer & lime/crop acre	$14
Machinery cost/cow	$178
Av. price/cwt. milk	$7.40

* A farm was classified as a renter if he owned no real estate or if he rented all his cropland.

FARM BUSINESS SUMMARY
Top 10 Percent of the Farms by Labor & Management Income
609 New York Dairy Farms, 1973

CAPITAL INVESTMENT

	1/1/73	1/1/74
Livestock	$ 69,155	$ 86,818
Feed & supplies	19,674	31,785
Machinery & equipment	51,094	57,835
Land & buildings	134,856	153,749
TOTAL INVESTMENT	$274,779	$330,187

EXPENSES

Labor	
Hired	$ 13,345
Feed	
Dairy concentrate	30,638
Hay and other	1,121
Machinery	
Machine hire	1,079
Machinery repair	5,036
Auto expense	320
Gas and oil	3,081
Livestock	
Purchased animals	7,200
Breeding fees	1,227
Veterinary, medicine	2,013
Milk marketing	1,870
Other livestock expense	3,376
Crops	
Fertilizer and lime	6,839
Seeds and plants	2,133
Spray and other	1,676
Real Estate	
Land, building, fence repair	2,327
Taxes	2,546
Insurance	1,796
Rent	1,841
Other Cash Expense	
Telephone (farm share)	342
Electricity (farm share)	1,393
Interest paid	7,413
Miscellaneous	1,058
TOTAL CASH EXPENSES	$ 99,670
Machinery depreciation	7,044
Building depreciation	4,347
Unpaid labor	700
Interest on farm equity @ 7%	14,565
TOTAL FARM EXPENSES	$126,326

RECEIPTS

Milk sales	$113,439
Crop sales	1,243
Dairy cattle sold	12,980
Other livestock sales	3,564
Gas tax refund	786
Government payments	210
Work off farm	31
Custom machine work	210
Miscellaneous	3,741
TOTAL CASH RECEIPTS	$136,204
Increase in livestock	17,663
Increase in feed & supplies	12,111
TOTAL FARM RECEIPTS	$165,978

FINANCIAL SUMMARY

Total Cash Receipts	$136,204
Total Cash Expenses	99,670
NET FARM CASH FLOW	$ 36,534
Total Farm Receipts	$165,978
Total Farm Expenses	126,326
LABOR & MGT. INCOME/FARM	$ 39,652
Number of operators (70)	1.1
LABOR & MGT. INCOME/OPERATOR	$ 34,570

BUSINESS FACTORS

Man equivalent	3.0
Number of cows	116
Number of heifers	75
Acres of hay crops	160
Acres of corn silage	100
Total acres of crops	338
Lbs. of milk sold	1,551,600
Lbs. of milk sold/cow	13,400
Tons hay crops/acre	3.1
Tons corn silage/acre	14
Cows per man	39
Lbs. of milk sold/man	517,200
% Feed is of milk receipts	27%
Feed & crop exp./cwt. milk	$2.66
Fertilizer & lime/crop acre	$20
Machinery cost/cow	$176
Av. price/cwt. milk	$7.31

FARM BUSINESS SUMMARY
Average of 609 New York Dairy Farms, 1973

CAPITAL INVESTMENT

	1/1/73	1/1/74
Livestock	$ 43,974	$ 50,897
Feed & supplies	9,578	13,565
Machinery & equipment	33,388	36,385
Land & buildings	96,107	106,751
TOTAL INVESTMENT	$183,047	$207,598

EXPENSES

Labor	
Hired	$ 5,535
Feed	
Dairy concentrate	19,168
Hay and other	735
Machinery	
Machine hire	493
Machinery repair	2,942
Auto expense	284
Gas and oil	1,846
Livestock	
Purchased animals	3,546
Breeding fees	768
Veterinary, medicine	1,061
Milk marketing	933
Other livestock expense	2,178
Crops	
Fertilizer and lime	3,104
Seeds and plants	976
Spray and other	718
Real Estate	
Land, building, fence repair	1,283
Taxes	1,698
Insurance	1,188
Rent	889
Other	
Telephone (farm share)	258
Electricity (farm share)	986
Interest paid	4,489
Miscellaneous	646
TOTAL CASH EXPENSES	$55,724
Machinery depreciation	4,654
Building depreciation	2,138
Unpaid labor	700
Interest on farm equity @ 7%	9,354
TOTAL FARM EXPENSES	$72,570

RECEIPTS

Milk sales	$62,179
Crop sales	485
Dairy cattle sold	6,785
Other livestock sales	1,516
Gas tax refund	127
Government payments	400
Work off farm	74
Custom machine work	90
Miscellaneous	2,116
TOTAL CASH RECEIPTS	$73,772
Increase in livestock	6,923
Increase in feed & supplies	3,987
TOTAL FARM RECEIPTS	$84,682

FINANCIAL SUMMARY

Total Cash Receipts	$73,772
Total Cash Expenses	55,724
NET FARM CASH FLOW	$18,048
Total Farm Receipts	$84,682
Total Farm Expenses	72,570
LABOR & MGT. INCOME/FARM	$12,112
Number of operators (724)	1.2
LABOR & MGT. INCOME/OPERATOR	$10,195

BUSINESS FACTORS

Man equivalent	2.2
Number of cows	69
Number of heifers	46
Acres of hay crops	116
Acres of corn silage	57
Total acres of crops	198
Lbs. of milk sold	851,900
Lbs. of milk sold/cow	12,350
Tons hay crops/acre	2.6
Tons corn silage/acre	13
Cows per man	32
Lbs. of milk sold/man	392,580
% Feed is of milk sales	31%
Feed & crop exp./cwt. milk	$2.81
Fertilizer & lime/crop acre	$16
Machinery cost/cow	$183
Av. price/cwt. milk	$7.30