June 1975 A.E. Res. 75-7

DAIRY FARM MANAGEMENT
BUSINESS SUMMARY

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INTRODUCTION

Farm business management projects are a basic part of the management extension program in New York State. The College and the County Extension staffs cooperate in sponsoring these projects. In 1974, about 750 dairymen participated in these 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.

The Extension agents were responsible for organization of local groups and collection of the records. Regional summary reports were prepared for use by the agents in winter meetings with farmers. Each cooperator received a summary and analysis of his business and a regional report for use in studying his operation. The aim of these extension activities was to help the dairyman develop his managerial skills and solve his business management problems.

The records from all regions of the State have been combined for use in an applied research study of the 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.

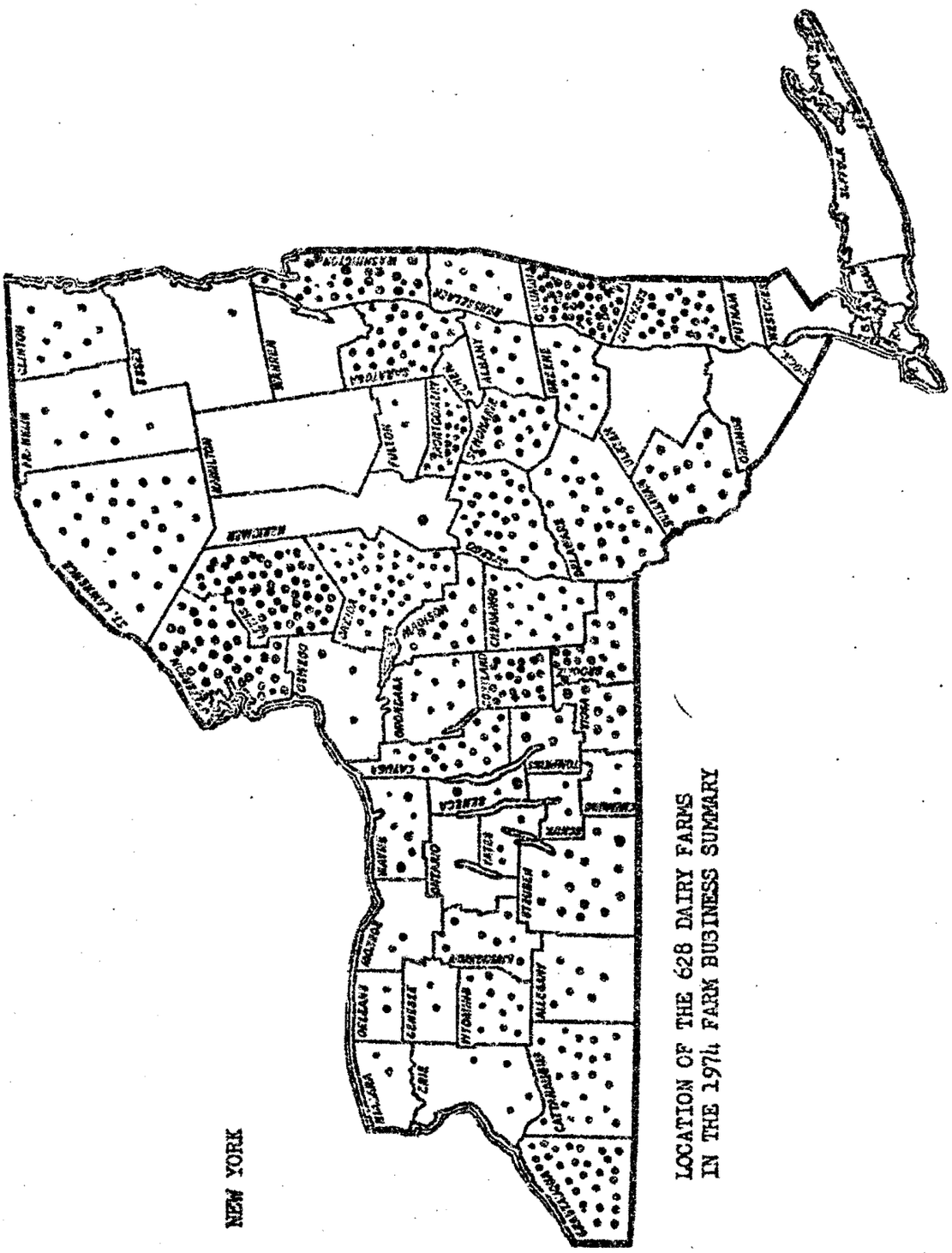
A total of 628 farm business records have been included in the general dairy summary and analysis for 1974. These 628 farms do NOT represent the "average" for all dairy farms in the State. Participation was on a voluntary basis so not all areas were equally represented (see page 2). The 628 farms do represent a cross section of better than average commercial operators in the State.

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.

The 10 Regional Summary Publications Were:

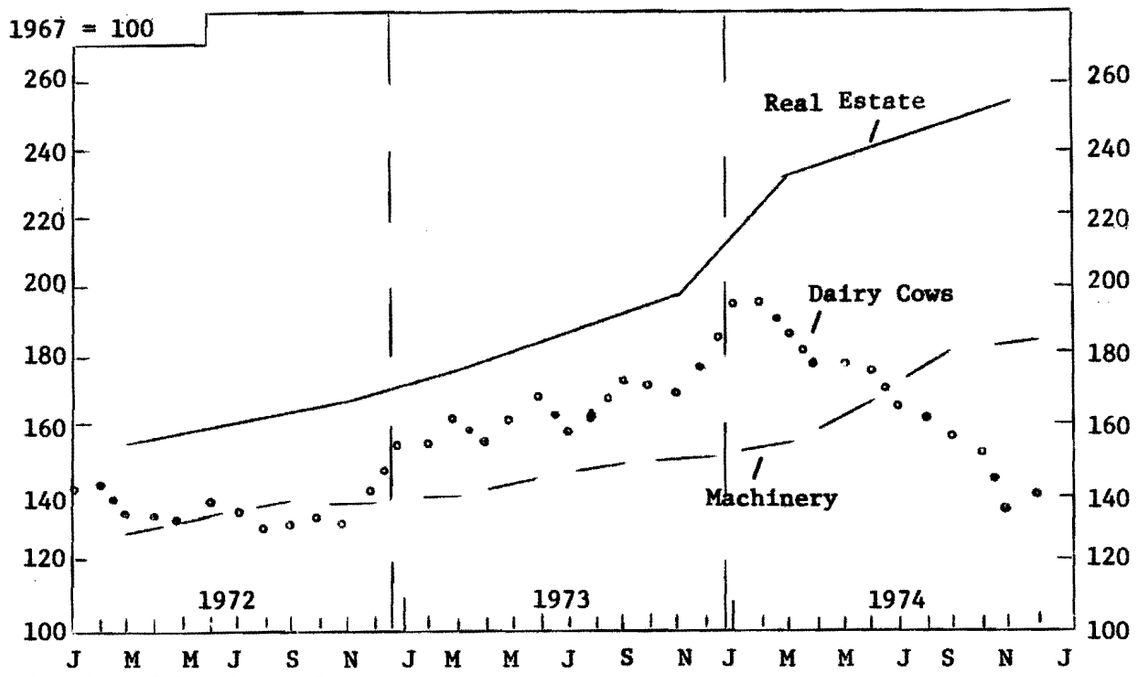
Region	Publication	Author(s)
Western Plateau	A.E. Ext. 75-11	Casler
Eastern Plateau	A.E. Ext. 75-3	Conneman & S. F. Smith
Western Plains	A.E. Ext. 75-7	LaDue
Central Plain	A.E. Ext. 75-10	Loomis
Central New York	A.E. Ext. 75-13	R. S. & S. F. Smith
Oneida-Mohawk	A.E. Ext. 75-12	S. F. Smith
Lewis County	A.E. Ext. 75-4	Bratton
Northern New York	A.E. Ext. 75-6	Bratton
Northern Hudson	A.E. Ext. 75-8	S. F. Smith
Columbia & Dutchess Counties	A.E. Ext. 75-9	S. F. Smith



LOCATION OF THE 628 DAIRY FARMS
IN THE 1974 FARM BUSINESS SUMMARY

Prices

VALUE OF N.Y. FARM REAL ESTATE, DAIRY COWS & MACHINERY, 1972-74



SOURCE: USDA Agricultural Prices
Farm Real Estate Market Developments

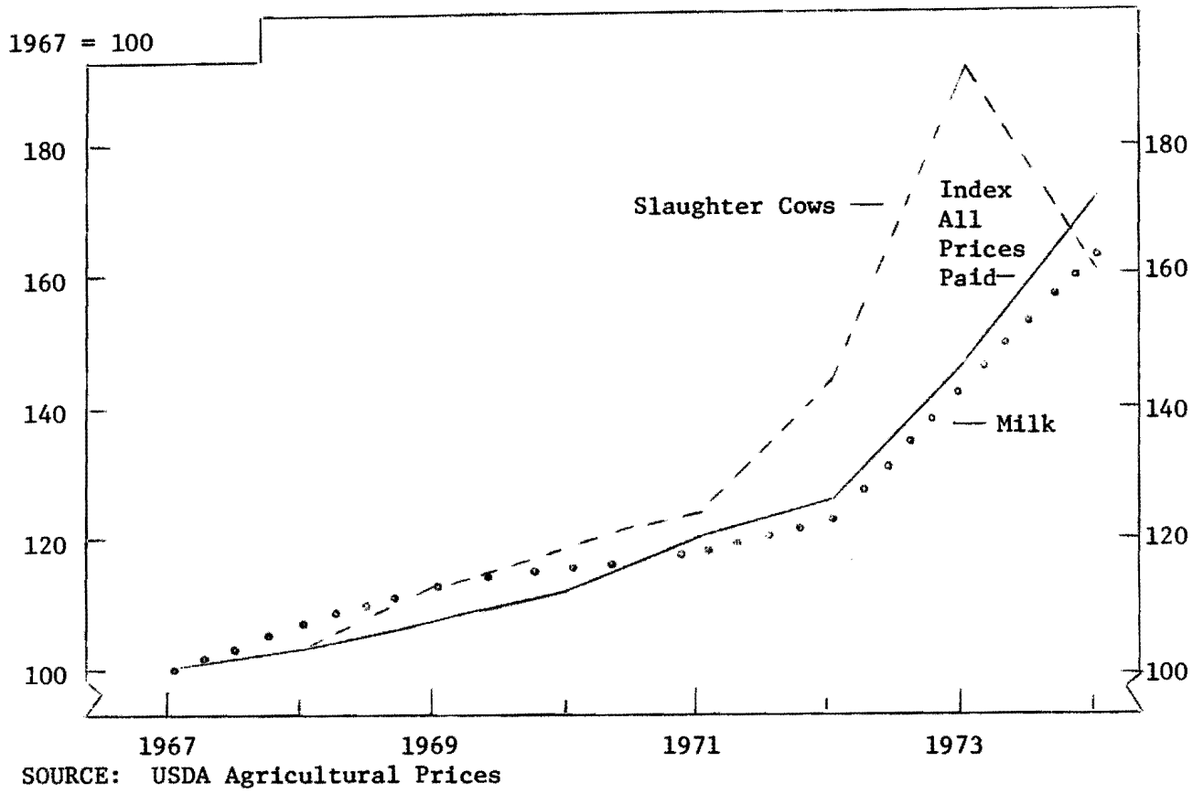
Prices of common inventory items on New York dairy farms have been rising steadily for several years but larger increases occurred in 1973 and 1974. From 1964 to 1973, dairy cow prices increased from $230 to $550 per head. From December 1972 to December 1973, prices jumped from $435 to $550 or 26% but they dropped back to $435 again in 1974. Farm machinery prices increased by 9% in 1973 but 23% in 1974. The reported farm real estate prices rose 28% from November 1973 to November 1974. These changes affect the farm inventories since it is suggested that current market prices be used as the basis for inventory values.

Table 1. REPORTED VALUES OF DAIRY FARM INVENTORY ITEMS, 1964-1974

Year	N.Y. Dairy Cows		Machinery		N.Y. Farm Real Estate	
	Value/Head	1967=100	1967=100		Value/Acre	1967=100
1964	$230	76		94	$175	83
1969	345	114		116	257	121
1972*	(Dec.) 435	140	(Dec.)	137	(Nov.) 371	167
1973*	(Dec.) 550	177	(Dec.)	150	(Nov.) 442	199
1974*	(Dec.) 435	140	(Dec.)	185	(Nov.) 564	254
Percent change:						
'64 to '74 (Av./yr.)		+ 9%		+10%		+22%
'72 to '73		+26%		+ 9%		+19%
'73 to '74		-21%		+23%		+28%

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

PRICES RECEIVED AND PAID BY N.Y. DAIRY FARMERS, 1967-1974



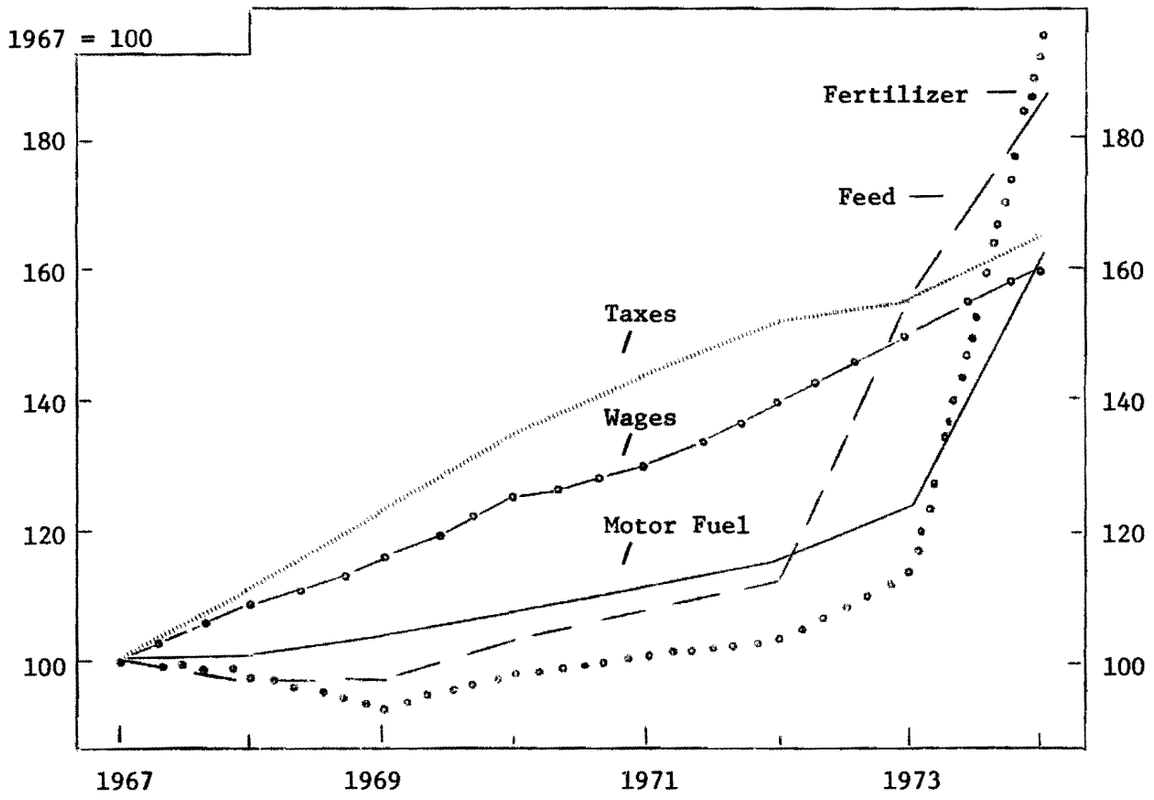
SOURCE: USDA Agricultural Prices

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, milk prices have lagged behind prices paid. Slaughter cow prices were unusually high in 1973 but dropped sharply in 1974.

Table 2. PRICES RECEIVED AND PAID BY NEW YORK DAIRY FARMERS, 1964-1974

Year	Milk 3.5% B.F. (cwt.)	Slaughter Cows (cwt.)	Prices Paid by New York Dairy Farmers	Monthly Farm Price/100 Lbs. of Milk, 1974	
1964	$4.21	$13.17	92	January	$8.80
1965	4.27	13.91	93	February	8.90
1966	4.79	17.35	96	March	8.90
1967	5.07	17.10	100	April	8.80
1968	5.43	17.60	103	May	8.15
1969	5.66	19.30	107	June	7.40
1970	5.89	20.70	112	July	7.70
1971	6.02	21.20	120	August	8.00
1972	6.25	24.48	126	September	8.35
1973	7.30	32.80	146	October	8.60
1974	8.24	27.40	172	November	8.65
				December	8.05

PRICES PAID BY FARMERS FOR SELECTED ITEMS, 1967-1974



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 1974, feed rose 85 percent, farm taxes rose 64 percent, wages rose 60 percent, fuel rose 62 percent, and fertilizer rose 95 percent.

Feed, fertilizer and motor fuel prices which had increased gradually over the years, rose sharply in 1973 and 1974. The average price of fertilizer in 1974 was 71% higher than for 1973 and fuel was 31%. In contrast taxes and wages for 1974 were 5% and 7% higher than the year earlier.

Table 3. PRICES PAID BY FARMERS FOR SELECTED ITEMS, 1964-1974

Year	Index 1967 = 100				
	Feed	Fertilizer	Fuel	Wages	Taxes
1964	99	99	96	81	80
1969	97	94	104	116	124
1970	103	98	107	126	135
1971	108	101	112	130	143
1972	112	103	115	140	149
1973	157	114	124	150	156
1974	185	195	162	160	164
% Increase '73 to '74	18%	71%	31%	7%	5%

SUMMARY OF THE FARM BUSINESS

Resources

The resources used has a strong influence on a farm business. Therefore, the first step in a systematic summary and analysis is to look at the resources. Information on selected features of the 628 businesses are shown on this page.

Table 4. KIND OF BUSINESS, RECORDS, LABOR FORCE, AND LAND USE
628 New York Dairy Farms, 1974

Item	Number	Percent	Item	Number	Percent
Type of Business			Barn Type		
Individual	513	82%	Stanchion	414	66%
Partnership	104	16	Free stall	200	32
Corporation	11	2	Other	14	2
Business Records			Labor Force	Average	Percent
CAMIS	135	22	Operator	14 mo.	48%
Account Book	304	48	Family paid	3	10
Agrifax	112	18	Family unpaid	3	10
Farm Bureau	18	3	Hired	9	32
Agway	14	2	Total	29	100%
Other	45	7			
Dairy Records			Land Use	Farms	Acres
D.H.I.C.	345	55	Acres owned	628	301
Owner Sampler	113	18	Acres rented	490	99
Other	31	5	Total crop acres	628	213
None	139	22	Crop acres rented	475	74

Three-fourths of the 628 operators rented some land and 74 of the 213 crop acres were rented.

The average total farm inventory increased from $212,400 to $231,550 or 9 percent during 1974. 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
628 New York Dairy Farms, 1974

	My Farm		Average 628 Farms		Percent
	1/1/74	1/1/75	1/1/74	1/1/75	Increase
Livestock	$_____	$_____	$ 50,564	$ 49,268	-3%
Feed & supplies	_____	_____	13,554	19,058	41
Machinery & equipt.	_____	_____	36,717	41,153	12
Land & buildings	_____	_____	111,559	122,074	9
Total	$_____	$_____	$212,394	$231,553	9

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 the current year's use of the investment. Machinery and building depreciations are included in the expenses on page 10.

Table 6. MACHINERY DEPRECIATION
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms
Beginning Inventory	$_____	$36,717
Purchases	_____	9,545
Total (1)	$_____	$46,262
End Inventory	$_____	$41,153
Sales	_____	188
Total (2)	_____	41,341
DEPRECIATION (1 minus 2)	$_____	$ 4,921
Percent Depreciation	_____%	11%

Lost capital represents the difference between the cost of real estate improvements during the year and the amount these improvements added to the sale 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.

Building depreciation was reported by the farmer and included the 1973 income tax depreciation plus the estimated depreciation on any new building in 1974.

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 5 percent of the beginning real estate inventory. This is probably underestimated since farmers find it difficult to realize how much values have risen.

Table 7. REAL ESTATE CALCULATIONS
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms
Beginning Inventory	$_____	$111,559
Plus Cost of Purchases	$_____	$9,034
Less Lost Capital	_____	-$1,583
Value Added	_____	7,451
Less Bldg. Depreciation	$_____	-$2,495
Less items sold	_____	-365
Value Deducted	_____	-2,860
Plus Appreciation	_____	5,924
End of Year Inventory	$_____	$122,074

Receipts

Receipts from a business should be large enough 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
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms	
		Amount	Percent
Milk sales	$_____	$77,639	90%
Crop sales	_____	829	1
Dairy cattle sold	_____	5,513	6
Other livestock sales	_____	1,270	2
Gas tax refunds	_____	137	--
Government payments	_____	222	--
Work off farm	_____	66	--
Custom machine work	_____	122	--
Miscellaneous	_____	806	1
Total Cash Receipts	$_____	$86,604	100
Increase in livestock inventories	_____	--	
Increase in feed and supplies	_____	5,504	
TOTAL FARM RECEIPTS	$_____	$92,108	

A reasonably good 1974 crop season combined with high feed prices at the end of the year resulted in an average increase in feed and supply inventories of $5,504. On the other hand, cow prices dropped sharply during the year, and even though some farms had an increase, the 628 farms had a net decrease in livestock inventories. The number of cows increased from 71 in the beginning to 74 at the end of year but the average livestock inventory value per cow (including heifers) was $712 at the beginning of the year and only $666 at the end or a decrease of $46 per cow.

The average price received for milk sold in 1974 by the 628 farms was $8.57. This is higher than the State average of $8.24 shown on page 4 and probably indicates that these cooperators had a larger proportion of their milk produced during the season of the year when prices were high. Receipts from cattle sales in 1974 were down from 1973 ($6,783 vs. $8,301) due to the drop in cull cow and calf prices.

Table 9. INCOME ANALYSIS

Item	My Farm	Average 628 Farms
Average price per cwt. milk sold	$_____	$8.57
Milk sales per cow	$_____	$1,078
Total cash receipts per man	$_____	$36,087

The average price per hundredweight of milk sold by the 628 farms in 1974 was $8.57. 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 $8.00	20	3
$8.00 - 8.24	139	22
8.25 - 8.49	239	38
8.50 - 8.74	85	14
8.75 - 8.99	5	8
9.00 or over	94	15
Total	628	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 628 farms in 1974 is shown below.

Distribution of Farms by Total Farm Receipts

Total Farm Receipts	Farms	
	Number	Percent
Under $40,000	56	9
$ 40,000 - $ 49,999	79	13
50,000 - 59,999	73	12
60,000 - 69,999	70	11
70,000 - 79,999	77	13
80,000 - 89,999	40	6
90,000 - 99,999	39	6
100,000 - 119,999	62	10
120,000 - 149,999	42	6
150,000 - 199,999	41	6
200,000 or over	49	8
Total	628	100

Only 9 percent of the 628 farms had receipts under $40,000. Practically all farms in this study would be classified by the Census as Economic Class I Farms ($40,000 and over). Thirty percent of the 628 farms had receipts of over $100,000 and 8 percent had receipts of $200,000 or more.

Expenses

The farm expenses for the 628 farms averaged about $240 per day. This provides many places for dollar leaks. A careful check on expenditures is part of good management.

Table 10. FARM EXPENSES
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms Amount	Percent
Labor			
Hired labor	$_____	$ 6,389	10
Feed			
Dairy concentrate	_____	22,904	35
Other feed	_____	1,042	2
Machinery			
Machine hire	_____	637	1
Machinery repairs	_____	3,467	5
Auto expense (farm share)	_____	295	--
Gas and oil	_____	2,448	3
Livestock			
Purchased animals	_____	3,117	5
Breeding fees	_____	855	1
Veterinary and medicine	_____	1,173	2
Milk marketing	_____	1,093	2
Other livestock expense	_____	2,437	3
Crops			
Lime and fertilizer	_____	4,298	7
Seeds and plants	_____	1,177	2
Spray & other crop expense	_____	1,160	2
Real Estate			
Land, building, fence repair	_____	1,429	2
Taxes	_____	1,821	3
Insurance	_____	1,255	2
Rent	_____	1,028	2
Other			
Telephone (farm share)	_____	304	--
Electricity (farm share)	_____	1,148	2
Interest paid	_____	5,360	8
Miscellaneous	_____	801	1
TOTAL CASH EXPENSES	$_____	$65,638	100
Machinery depreciation	_____	4,921	
Building depreciation	_____	2,495	
Unpaid labor	_____	1,050	
Interest on equity capital @ 7%	_____	10,915	
Decrease in livestock inventory	_____	1,296	
Decrease in feed & supply inventory	_____	--	
TOTAL FARM EXPENSES	$_____	$86,315	

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 cash expense in these summaries for the first time in 1973. Although debt payments usually include both interest and principal, 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 each of these two items exceeds the end inventory. Since this indicates a "using up" of inventory items, it is considered as a farm expense for the year. For the 628 farms, the net inventory change was an increase for feed and supplies and a decrease for livestock.

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

Overhead Expenses (Fixed)	
Land & building repairs	$ 1,429
Property taxes	1,821
Insurance	1,255
Rent	1,028
Electricity	1,148
Telephone	304
Total Fixed Overhead	$ 6,985

Capital Expenses	
Interest on equity capital	$10,915
Interest paid	5,360
Machinery depreciation	4,921
Real estate depreciation	2,495
Decrease in livestock	*1,296
Total Capital	$24,987

Operating Expenses (Variable)	
Labor	$ 6,389
Feed	23,946
Machinery repairs	3,467
Gas and oil	2,448
Machine hire	637
Auto	295
Livesotck purchased	3,117
Livestock expenses	5,558
Fertilizer and lime	4,298
Other crop expenses	2,337
Unpaid labor	1,050
Miscellaneous	801
Total Variable	$54,343

On these farms, the variable expenses accounted for 63 percent, the fixed 8 percent, and the capital expenses 29 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. Several common measures are reported here.

Table 11. NET CASH FARM INCOME
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms
Cash Farm Receipts	$_____	$86,604
Cash Farm Expenses	_____	65,638
NET CASH FARM INCOME	$_____	$20,966

Net cash farm income reflects the cash available from the year's operation of the business. Family living has first claim on cash income followed by fixed payments on debts. 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 useful when planning debt repayment programs.

Table 12. LABOR AND MANAGEMENT INCOME
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms
Total Farm Receipts	$_____	$92,108
Total Farm Expenses	_____	86,315
LABOR & MANAGEMENT INCOME	$_____	$ 5,793
Number of Operators	_____	(746) 1.19
LABOR & MGT. INCOME/OPERATOR	$_____	$ 4,880

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 with this capital had it been invested elsewhere, such as in bank certificates. Labor and management income is the measure used most often for comparing farm businesses.

The decrease in livestock inventories due to lower cattle prices was a significant item affecting the 1974 labor and management incomes. The average livestock inventory value per cow at the end of the year was $46 less than at the beginning of the year and even though they averaged three more cows per farm at the end there was an average decrease in livestock inventory of $1,296. With the average of 74 cows at the end of year and inventoried at $46 less per cow, the net effect on the labor and management income would be $3,404 per farm.

The average labor and management income per operator for these 628 dairy farms was $4,880. In addition, the operators had the use of a house and perquisites, such as milk and meat which should be included when considering the operator's net earnings. There was a wide range in the labor and management incomes as shown below but some of the variation was due to the amount of decrease in cattle inventory values reported by the operators. Some tended to reflect the total drop in milk cow prices ($115) while others reflected only minimal changes. The average drop for all farms appears moderate but for some it was "high."

Distribution of Labor and Management Incomes Per Operator

Labor and Management Income Per Operator	Farms	
	Number	Percent
-$5,000 or more	121	19
Minus 1 - 4,999	101	16
$0 - 4,999	120	19
$ 5,000 - 9,999	122	19
10,000 - 14,999	72	12
15,000 - 19,999	44	7
20,000 - 24,999	16	3
25,000 or more	32	5

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 on real estate, and return on equity capital, and is the amount available for the operator's living and his gain in business net worth. The average labor, management, and ownership income per operator was $19,000 or about four times the labor and management income which explains in part how some farmers accumulate sizeable net worths with only modest labor incomes.

Table 13. LABOR, MANAGEMENT, AND OWNERSHIP INCOME
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms
Labor and management income/farm (p. 12)	$_____	$ 5,793
Real estate appreciation	_____	5,924
Interest on equity capital @ 7%	_____	10,915
Total Per Farm	$_____	$22,632
Number of operators	_____	(746) 1.19
LABOR, MANAGEMENT, AND OWNERSHIP INCOME PER OPERATOR	$_____	$19,067

Management income is another measure used in studying farm businesses. From labor and management income, the value of operator's labor is subtracted to get management income. In this study, operator's labor was valued at $6,000. This gives a management income per operator of minus $1,120 ($4,880 -$6,000). If appreciation were included, the management income per operator would be $3,858.

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
628 New York Dairy Farms, 1974

Item	My Farm	Av. 628 Farms
	Including Real Estate Appreciation	
Labor, Management & Ownership Income (p. 13)	$_____	$22,632
Value of Operator's Labor & Management	_____	(1.19) 12,082
RETURN ON EQUITY CAPITAL	$_____	$10,550
Amount of Equity Capital	$_____	$155,929
RATE OF RETURN ON EQUITY CAPITAL	_____%	6.8%
	Excluding Real Estate Appreciation	
Return on Equity Capital (from above)	$_____	$10,550
Real Estate Appreciation	_____	5,924
RETURN ON EQUITY CAPITAL	$_____	$ 4,626
Amount of Equity Capital	$_____	$155,929
RATE OF RETURN ON EQUITY CAPITAL*	_____%	3.0%

* The rate of return on the average capital was 4.5%.

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. The average estimate for the 746 operators was $10,153. 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	$ 5,793
Value hired labor	6,389
Value unpaid labor	1,050
Total Returns to Labor	$13,232
Average man equivalent	2.4
Returns per man equivalent	$ 5,513
Returns per hour (3,000 hrs./yr.)	$1.84

Returns Per Cow	
Net cash farm income/cow	$291
Labor & mgt. income/cow	$80
Labor, management and ownership income/cow	$314

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 1974 averages of selected measures for these factors for the 628 farms and the average for the 10% with the highest labor and management incomes 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
628 New York Dairy Farms, 1974

Measure	My Farm	Av. 628 Farms	Av. Top 10% Farms
Number of cows	_____	72	124
Number of heifers	_____	50	84
Man equivalent	_____	2.4	3.5
Total acres in crops	_____	213	352
Pounds of milk sold	_____	905,800	1,741,700
Total work units	_____	792	1,347
Total cash receipts	$_____	$86,604	$167,590
Total investment (end inventory)	$_____	$231,550	$362,850

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 1974 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
628 New York Dairy Farms, 1974

Number of Cows	Number of Farms	Percent of Farms	Labor & Management Income Per Operator
Under 40	87	14%	$ 259
40 - 54	173	27	2,176
55 - 69	135	21	2,580
70 - 84	76	12	3,642
85 - 99	42	7	8,866
100 - 114	36	6	6,118
115 - 129	25	4	7,822
130 - 149	17	3	10,783
150 & over	37	6	19,679

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 37 farms with 150 or more cows was much higher than for any other group. These farms averaged 197 cows, sold 493,000 pounds of milk per man, 28 percent of milk check went for feed, and they received an average of $8.74 per cwt. of milk sold. Thirty-one had free stall barns. This group ranked high in the major factors affecting incomes. The 37 farms were scattered over 20 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). Thirty-five percent of the farms had less than 2.0 men and only 9 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
628 New York Dairy Farms, 1974

Man Equivalent	Number of Farms	Percent of Farms	Number of Cows	Labor & Management Income per Operator
1.0 - 1.4	88	14%	39	$ 2,180
1.5 - 1.9	135	21	51	2,330
2.0 - 2.4	185	30	60	2,860
2.5 - 2.9	77	12	77	4,450
3.0 - 3.4	58	9	100	2,740
3.5 - 3.9	29	5	108	12,700
4.0 - 4.4	16	3	122	5,900
4.5 & over	40	6	181	17,780

Rates of Production

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

Table 18. MEASURES OF RATES OF PRODUCTION
628 New York Dairy Farms, 1974

Item	My Farm Acres	My Farm Yield	Average 628 Farms Acres	Average 628 Farms Yield	Average Yield Top 10% Farms
Milk sold per cow (lbs.)	_____	_____	--	12,580	14,050
All hay crops (tons H.E./A.)	_____	_____	117	2.6	3.3
Corn silage (tons/A.)	_____	_____	59	13.7	15.3
All forage crops (tons H.E./A.)	_____	_____	176	3.3	4.0
Grain corn (bu./A.)	_____	_____	23	73	76
Oats (bu./A.)	_____	_____	7	61	68
Wheat (bu./A.)	_____	_____	3	46	49

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 hay crop 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 forages 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 1974, the farms with the higher rates of production tended to be larger, bought more feed per cow, and in general had higher incomes. The 16,000 and over group was an exception.

Table 19. MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
628 New York Dairy Farms, 1974

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Feed Bought Per Cow	Labor & Management Income Per Operator
Under 10,000	83	57	$229	$-3,581
10,000 - 10,999	77	62	271	572
11,000 - 11,999	97	66	307	687
12,000 - 12,999	120	76	325	5,227
13,000 - 13,999	125	78	330	8,374
14,000 - 14,999	82	80	360	9,649
15,000 - 15,999	33	90	373	15,707
16,000 and over	11	74	477	11,045

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
628 New York Dairy Farms, 1974

Measure	My Farm	Av. 628 Farms	Av. Top 10% Farms
Number of cows per man	_____	30	35
Pounds of milk sold per man	_____	374,300	497,600
Work units per man	_____	327	385
Crop acres per man	_____	89	100

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 10 percent of the farms with the highest labor and management incomes were considerably above the average of all 628 farms in the four measures of labor efficiency. The top 10 percent sold one-third more milk per man than the average of all farms.

The relationship of labor efficiency to labor income was positive on the 628 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
628 New York Dairy Farms, 1974

Pounds of Milk Sold Per Man	Number of Farms	Number of Cows	Lbs. Milk Per Cow	Labor & Management Income Per Operator
Under 250,000	92	43	10,300	-$ 2,882
250,000 - 299,999	86	56	11,700	1,172
300,000 - 349,999	109	64	11,900	3,055
350,000 - 399,999	104	70	12,600	3,530
400,000 - 449,999	93	70	11,300	5,675
450,000 - 499,999	60	98	13,300	13,062
500,000 - 599,999	66	109	13,700	11,328
600,000 and over	18	135	13,700	19,553

Use of Capital

The average end-of-year inventory on the 628 farms was $231,550. 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
628 New York Dairy Farms, 1974

Measure	My Farm	Average 628 Farms	Average Top 10% Farms
Total capital per man	$_____	$95,683	$103,672
Total capital per cow	$_____	$3,216	$2,926
Machinery & equipment per cow	$_____	$572	$525
Land & building investment per cow	$_____	$1,695	$1,350
Land & building investment/crop acre owned	$_____	$878	$801
Total capital per cwt. milk sold	$_____	$26	$21
Capital turnover (capital ÷ receipts)	$_____	2.5	2.0

Capital efficiency is often associated with size of herd. For this reason, the 628 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 the three items machinery, real estate, and total capital. The farms with over 130 cows did have considerably lower investments per cow.

Table 23. SIZE OF HERD AND CAPITAL EFFICIENCY
628 New York Dairy Farms, 1974

Number of Cows	Number of Farms	Capital Investment Per Cow		
		Total	Real Estate	Machinery
Under 40	87	$3,688	$2,160	$628
40 - 54	173	3,310	1,763	658
55 - 69	135	3,454	1,870	633
70 - 84	76	3,209	1,696	582
85 - 99	42	3,149	1,669	533
100 - 114	36	3,293	1,644	590
115 - 129	25	3,123	1,583	535
130 - 149	17	2,957	1,461	509
150 & over	37	2,898	1,468	444

Table 24. FARM FAMILY FINANCIAL SITUATION
591 New York Dairy Farms, January 1, 1975

Item	My Farm	Av. 591 Farms Amount	Av. 591 Farms Percent
Assets			
Livestock	$_____	$ 49,220	19
Feed and supplies	_____	19,146	8
Machinery & equipment	_____	41,383	16
Land and buildings	_____	123,340	48
Co-op investment	_____	3,580	1
Accounts receivable	_____	5,724	2
Cash and checking accounts	_____	1,492	1
Total Farm Assets	$_____	$243,885	95
Savings accounts	_____	2,613	1
Cash value life insurance	_____	2,278	1
Stocks and bonds	_____	1,598	1
Nonfarm real estate	_____	3,110	1
Auto (personal share)	_____	869	--
All other	_____	2,387	1
Total Nonfarm Assets	_____	12,855	___
TOTAL ASSETS	$_____	$256,740	100%
Liabilities			
Real estate mortgage	$_____	$46,051	53%
Liens on cattle & equipt.	_____	28,926	33
Installment contracts	_____	3,355	4
Notes and other farm debts	_____	8,778	10
Total Farm Liabilities	$_____	$87,110	100%
Nonfarm Liabilities	_____	672	
TOTAL LIABILITIES	$_____	$ 87,782	
Farm Net Worth (Equity Capital)	$_____	$156,775	
FAMILY NET WORTH	$_____	$168,958	

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 628 records for 1974, a total of 591 submitted financial situation statements.

The four farm inventory items accounted for 95 percent of the total assets. Real estate mortgages were the largest liability and accounted for 53 percent of all debts.

Equity capital for the 591 farms averaged $156,775 while the average equity capital for the 628 farms was $155,929 (see p. 14). The difference comes from the variation in the 37 farms that did not submit financial statements.

Table 25. **FINANCIAL MEASURES AND DEBT COMMITMENTS**
591 New York Dairy Farms, January 1, 1975

Measure	My Farm	Average 591 Farms	Average Top 10% Farms
Percent equity	_____%	66%	75%
Farm debt per cow	$_____	$1,210	$810
Available for debt service and living	$_____	$26,398	$58,194
Scheduled annual debt payments	$_____	$14,944	$19,429
Scheduled debt payment per cow	$_____	$208	$161
Scheduled debt payment as % milk check	_____%	19%	13%

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, 1975. 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

Herd Size (Cows)	Number of Farms	Number of Cows	Total Farm Assets	Farm* Liabilities	Farm Equity Capital	Percent Equity	Debt Per Cow
Under 40	87	32	$121,728	$ 36,506	$ 85,222	70%	$1,141
40 - 54	173	46	157,407	56,898	100,509	64	1,237
55 - 69	135	61	218,784	78,105	140,679	64	1,280
70 - 84	76	75	250,219	92,038	158,181	63	1,227
85 - 99	42	91	298,416	111,955	186,461	62	1,230
100 - 114	36	105	362,908	126,129	236,779	65	1,201
115 - 129	25	122	400,868	133,132	267,736	67	1,091
130 - 149	17	138	432,207	179,287	252,920	59	1,299
150 & over	37	197	606,928	208,056	398,872	66	1,056

* For the 37 farms not submitting financial statements, liabilities were estimated by dividing the amount of interest paid by 7%.

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. In times of rising prices, it is especially 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 628 farms in 1974, dairy concentrate accounted for 35 percent of the cash operating expenses so feed is the first item examined.

Dairy feed costs are affected by many things. In 1974, feed prices were at 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
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms	Average Top 10% Farms
Feed bought per cow	$_____	$318	$311
Crop expense per cow	$_____	$92	$108
Feed bought per cwt. milk	$_____	$2.53	$2.21
Feed & crop expense per cwt. milk	$_____	$3.26	$2.98
% Feed is of milk sales	_____%	30%	26%
Hay equivalent per cow	_____ T.	8.0 T.	8.3 T.
Crop acres per cow	_____	3.0	2.8
Fertilizer & lime per crop acre	$_____	$20	$24
Heifers as % of cow numbers	_____%	69%	68%

The average cost of feed bought per cow in 1974 was $318 while in 1973 it was $278. Likwise, the percent that feed bought is of milk sales was 30 percent in 1974 and 31 percent in 1973. The big jump in feed prices in 1974 was a major factor contributing to these high feed costs. Fortunately, milk prices were also higher so the percent of the milk check given for purchased feed was about the same in 1974 and 1973.

The crop situation in 1974 was good. Tons of hay equivalent produced per cow was 8.3 tons compared with 7.8 in 1973.

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.

The 10 percent of farms with highest labor and management incomes spent more for crops, had more roughage per cow, and spent less for feed bought than the 628 farm average. The top income farms also had lower costs per cwt. milk sold.

Feed cost is influenced by a number of factors. On the production side, it is affected by the amount of homegrown 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 homegrown 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
628 New York Dairy Farms, 1974

% 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%	88	66	7.6	12,100	$-3,500
35 - 39	102	66	7.6	12,300	2,700
30 - 34	136	75	7.7	11,900	3,400
25 - 29	146	74	8.0	12,400	4,700
20 - 24	80	75	8.0	12,800	11,500
Under 20%	76	77	8.3	12,400	9,100

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 628 farms and the new purchases in 1974 averaged about $9,500 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
628 New York Dairy Farms, 1974

Item	My Farm	Average of 628 Farms	Percent of Total
Depreciation (from p. 7)	$_____	$ 4,921	34
Interest @ 7% on av. inventory	_____	2,725	19
Machine hire	_____	637	4
Machinery repairs	_____	3,467	24
Auto expense (farm share)	_____	295	2
Gas and oil	_____	2,448	17
Total Machinery Costs	$_____	$14,493	100
Machinery cost:			
per cow	$_____	$201	
per cwt. milk sold	$_____	$1.60	

The machinery depreciation calculations were shown on page 7. Depreciation accounted for 34 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 $201 per cow but 19 farms had costs of under $100 while 50 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
628 New York Dairy Farms, 1974

Machinery Cost Per Cow	Number of Farms	Percent of Farms	Labor and Management Income Per Operator
Under $100	19	3	$4,880
100 - 149	107	17	7,670
150 - 199	197	31	4,420
200 - 249	167	27	4,260
250 - 299	88	14	3,030
300 & over	50	8	-1,030

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 628 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
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms Amount	Percent
Value operator's labor @ $500/month	$_____	$ 7,000	49
Hired labor expense (from p. 10) (includes paid family labor)	_____	6,389	44
Unpaid family labor @ $350/month	_____	1,050	7
Total Labor Costs	$_____	$14,439	100
Labor cost per cow	$_____	$201	
Labor cost per cwt. milk	$_____	$1.59	
Cost per month hired labor	$_____	$532	
Cost per month all labor	$_____	$498	

The operator's labor was valued at $500 per month. This is above the reported average of all monthly hired labor for 1974 which was $439. 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
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms
Total labor cost	$_____	$14,439
Total machinery cost	_____	14,493
Total Labor and Machinery Costs	$_____	$28,932
Labor and machinery cost per cow	$_____	$402
Labor and machinery cost/cwt. milk	$_____	$3.19

Miscellaneous Cost Control Measures

Cost control applies to expenditures both large and small. Computing selected cost items on 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 many things so must be used with that in mind.

Table 33. COST CONTROL MEASURES
628 New York Dairy Farms, 1974

Item	My Farm	Av. 628 Farms	Av. Top 10% Farms
Overhead			
Interest charge/cow	$_____	$ 226	$ 212
Building depreciation/cow	_____	35	36
Land and building repair/cow	_____	20	18
Taxes per cow	_____	25	23
Insurance per cow	_____	17	14
Electricity per cow	_____	16	15
Machinery			
Machinery depreciation/cow	$_____	$ 68	$ 60
Machinery repair per cow	_____	48	51
Gas and oil per cow	_____	34	33
Machinery cost per cow	_____	201	195
Dairy			
Veterinary and medicine/cow	$_____	$ 16	$ 20
Breeding fees per cow	_____	12	12
Milk marketing per cow	_____	15	23
Other livestock expense/cow	_____	34	32
Crops			
Fertilizer and lime/crop acre	$_____	$ 20	$ 24
Seeds and plants/crop acre	_____	6	7
Other crop expense/crop acre	_____	5	7
Gas and oil per crop acre	_____	11	12
General			
Average rent/crop acre (74 A.)	$_____	$ 14	(143 A.)$ 20
Total labor cost per cow	_____	201	190
Total feed & crop expense/cow	_____	410	419
Total expenses per cow	_____	1,199	1,198
Total expenses per $100 receipts	_____	94	80
Cash expenses/$100 cash receipts	_____	76	69

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 628 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
628 New York Dairy Farms, 1974

Number of Factors Above Average	Number of Farms	Percent of Farms	Labor and Management Income Per Operator
4 Factors better than average	76	12%	$18,000
3 Factors better than average	130	21	8,400
2 Factors better than average	157	25	2,300
1 Factor better than average	170	27	700
0 Factors better than average	95	15	-2,500

* Factors were:
Size - number of cows - average 72.
Rates of production - pounds of milk sold per cow - average 12,581
Labor efficiency - pounds of milk sold per man - average 374,298
Cost control - percent purchased feed was of milk receipts - average 30%

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 628 farms are shown for nine 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
628 New York Dairy Farms, 1974

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	$ 21,278	$ 31,450	$ 42,334	$ 51,267
Feed and supplies	7,521	9,432	15,710	18,560
Machinery and equipment	20,092	30,275	38,630	43,633
Land and buildings	69,120	81,110	114,041	127,209
TOTAL INVESTMENT	$118,011	$152,267	$210,715	$240,669
Receipts				
Milk sales	$ 31,538	$ 48,189	$ 63,537	$ 79,361
Livestock sales	3,297	4,098	6,015	6,209
Crop sales	269	462	497	705
Miscellaneous receipts	777	871	1,166	1,297
Total Cash Receipts	$ 35,881	$ 53,620	$ 71,215	$ 87,572
Increase in livestock	--	--	--	--
Increase in feed & supplies	2,023	2,533	4,658	5,800
TOTAL FARM RECEIPTS	$ 37,904	$ 56,153	$ 75,873	$ 93,372
Expenses				
Hired labor	$ 1,026	$ 2,216	$ 4,114	$ 5,734
Dairy feed	9,877	14,843	18,544	24,407
Other feed	302	413	488	902
Machine hire	216	396	412	698
Machinery repair	1,340	2,134	2,821	3,396
Auto expense (farm share)	210	277	325	281
Gas and oil	1,126	1,602	2,127	2,601
Purchased animals	2,123	1,577	3,332	2,603
Breeding fees	345	556	768	857
Veterinary and medicine	421	705	973	1,091
Other livestock expense	1,359	2,352	2,824	3,502
Fertilizer and lime	1,163	2,199	3,435	4,585
Seeds and plants	420	696	1,052	1,228
Spray and other crop expense	392	668	887	1,021
Land, bldg., fence repair	565	1,021	1,321	1,407
Taxes and insurance	1,461	2,025	2,625	3,349
Electricity & phone (farm share)	741	1,023	1,253	1,564
Interest paid	2,276	3,390	4,629	5,930
Miscellaneous expenses	501	1,040	1,317	1,728
Total Cash Operating Expenses	$ 25,864	$ 39,133	$ 53,247	$ 66,884
Machinery depreciation	2,549	3,675	4,434	5,556
Real estate depreciation	1,000	1,512	2,026	2,516
Unpaid family labor	1,050	1,400	1,400	1,050
Interest on equity @ 7%	5,965	7,036	9,847	11,072
Decrease in livestock	1,208	1,097	1,921	1,552
TOTAL FARM EXPENSES	$ 37,636	$ 53,853	$ 72,875	$ 88,630
Financial Summary				
Total Farm Receipts	$ 37,904	$ 56,153	$ 75,873	$ 93,372
Total Farm Expenses	37,636	53,853	72,875	88,630
Labor & Mgt. Income	$ 268	$ 2,300	$ 2,998	$ 4,742
Number of operators	1.03	1.06	1.16	1.30
LABOR & MGT. INCOME/OPERATOR	$ 259	$ 2,176	$ 2,580	$ 3,642

Table 35 contd. FARM BUSINESS SUMMARY BY HERD SIZE
628 New York Dairy Farms, 1974

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	$ 63,035	$ 77,954	$ 84,644	$ 93,890	$131,637
Feed and supplies	23,207	33,161	37,999	42,295	62,532
Machinery and equipment	48,499	61,978	65,217	70,295	87,410
Land and buildings	151,861	172,663	193,152	201,596	289,284
TOTAL INVESTMENT	$286,602	$345,756	$381,012	$408,076	$570,863
Receipts					
Milk sales	$100,468	$120,484	$137,008	$159,490	$226,325
Livestock sales	8,345	11,963	10,849	13,348	18,940
Crop sales	696	972	1,243	1,500	4,742
Miscellaneous receipts	1,146	1,806	2,258	2,903	4,226
Total Cash Receipts	$110,655	$135,225	$151,358	$177,241	$254,233
Increase in livestock	--	--	218	327	--
Increase in feed & supplies	4,768	10,867	9,384	12,496	19,840
TOTAL FARM RECEIPTS	$115,423	$146,092	$160,960	$190,064	$274,073
Expenses					
Hired labor	$ 8,498	$ 12,760	$ 14,307	$ 17,335	$ 29,179
Dairy feed	28,028	36,015	40,502	46,982	62,516
Other feed	1,239	2,154	3,537	1,436	4,864
Machine hire	568	553	856	1,656	3,000
Machinery repair	3,892	5,646	6,582	7,595	10,597
Auto expense (farm share)	370	259	352	391	361
Gas and oil	2,807	3,467	4,300	4,900	6,592
Purchased animals	3,396	4,257	3,678	10,031	7,945
Breeding fees	1,191	1,414	1,419	1,838	2,007
Veterinary and medicine	1,360	1,779	2,163	2,763	3,827
Other livestock expense	4,076	6,294	5,342	8,303	10,053
Fertilizer and lime	5,601	7,264	8,453	10,099	14,206
Seeds and plants	1,370	1,782	2,435	2,112	3,464
Spray and other crop expense	1,194	2,434	2,165	2,297	4,076
Land, bldg., fence repair	1,699	2,718	1,853	2,209	3,603
Taxes and insurance	3,980	4,889	4,721	5,390	7,911
Electric & phone (farm share)	1,862	2,185	2,198	2,623	3,405
Interest paid	6,409	7,803	8,893	11,881	14,368
Miscellaneous expenses	2,129	2,777	3,736	4,804	6,793
Total Cash Operating Exp.	$ 79,669	$106,450	$117,492	$144,645	$198,767
Machinery depreciation	6,205	6,607	8,393	7,261	10,275
Real estate depreciation	3,401	4,506	3,982	5,175	7,056
Unpaid family labor	700	700	1,400	700	700
Interest on equity @ 7%	13,052	16,574	18,742	17,704	27,922
Decrease in livestock	577	2,929	--	--	642
TOTAL FARM EXPENSES	$103,604	$137,766	$150,009	$175,485	$245,362
Financial Summary					
Total Farm Receipts	$115,423	$146,092	$160,960	$190,064	$274,073
Total Farm Expenses	103,604	137,766	150,009	175,485	245,362
Labor & Mgt. Income	$ 11,819	$ 8,326	$ 10,951	$ 14,579	$ 28,711
Number of operators	1.33	1.36	1.40	1.35	1.46
LABOR & MGT. INCOME/OPERATOR	$ 8,866	$ 6,118	$ 7,822	$ 10,783	$ 19,679

Table 36. SELECTED BUSINESS FACTORS BY HERD SIZE
628 New York Dairy Farms, 1974

Item	Farms with: Less Than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows
Number of farms	87	173	135	76
Size of Business				
Number of cows	32	46	61	75
Number of heifers	22	33	43	56
Pounds of milk sold	375,000	567,800	751,600	928,600
Man equivalent	1.5	1.8	2.2	2.4
Total work units	364	516	681	842
Crop acres	102	140	192	234
Rates of Production				
Milk sold per cow	11,700	12,300	12,300	12,400
Tons hay crops per acre	2.3	2.4	2.4	2.4
Tons corn silage per acre	13.4	13.2	13.3	12.9
Bushels of oats per acre	57	58	56	56
Labor Efficiency				
Cows per man	21	25	28	31
Pounds milk sold per man	250,000	310,300	346,400	383,700
Work units per man	243	282	314	348
Feed Costs				
Feed purchased per cow	$309	$323	$304	$325
Crop expense per cow	$62	$77	$88	$91
Feed cost per cwt. milk	$2.63	$2.61	$2.47	$2.63
Feed & crop exp./cwt. milk	$3.16	$3.24	$3.18	$3.36
% Feed is of milk receipts	31%	31%	29%	31%
Hay equivalent per cow	7.4	7.9	8.2	8.0
Crop acres per cow	3.2	3.0	3.1	3.1
Fertilizer & lime/crop acre	$11	$16	$18	$20
Machinery and Labor Costs				
Total machinery costs	$6,796	$10,099	$12,691	$15,465
Machinery cost per cow	$212	$220	$208	$206
Machinery cost/cwt. milk	$1.81	$1.78	$1.69	$1.67
Labor cost per cow	$252	$220	$205	$190
Labor cost per cwt. milk	$2.15	$1.78	$1.66	$1.54
Capital Efficiency				
Investment per man	$78,674	$83,206	$97,104	$99,450
Investment per cow	$3,688	$3,310	$3,454	$3,209
Investment per cwt. milk	$31	$27	$28	$26
Land & buildings per cow	$2,160	$1,763	$1,870	$1,696
Machinery investment/cow	$628	$658	$633	$582
Capital turnover	3.1	2.7	2.8	2.6
Other				
Price per cwt. milk sold	$8.41	$8.49	$8.45	$8.55
Acres hay crops	71	89	112	136
Acres corn silage	20	36	52	65
Inventory changes 1974:*				
Number of cows	+1	+2	+2	+5
Inv. value per cow**	-$55	-$53	-$53	-$67

* Change from 1/1/74 to 1/1/75.
** Livestock inventory includes heifers.

Table 36 contd. SELECTED BUSINESS FACTORS BY HERD SIZE
628 New York Dairy Farms, 1974

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	42	36	25	17	37
Size of Business					
Number of cows	91	105	122	138	197
Number of heifers	63	82	85	95	126
Pounds of milk sold	1,176,400	1,393,900	1,588,900	1,812,800	2,590,400
Man equivalent	2.8	3.3	3.8	3.8	5.3
Total work units	973	1,179	1,329	1,487	2,122
Crop acres	237	318	340	379	551
Rates of Production					
Milk sold per cow	12,900	13,300	13,000	13,100	13,100
Tons hay crops per acre	3.3	2.9	3.0	3.0	3.1
Tons corn silage/acre	13.9	15.1	12.8	14.9	13.7
Bushels oats/acre	64	60	62	75	73
Labor Efficiency					
Cows per man	32	32	33	36	38
Pounds milk sold/man	415,700	418,589	423,700	473,300	493,400
Work units per man	344	354	354	388	404
Feed Costs					
Feed purchased per cow	$308	$343	$332	$340	$317
Crop expense per cow	$90	$109	$107	$105	$110
Feed cost per cwt. milk	$2.38	$2.58	$2.55	$2.59	$2.41
Feed & crop exp./cwt. milk	$3.08	$3.41	$3.37	$3.39	$3.25
% Feed is of milk receipts	28%	30%	30%	29%	28%
Hay equivalent per cow	8.0	8.6	8.0	8.5	7.8
Crop acres per cow	2.6	3.0	2.8	2.7	2.8
Fertilizer & lime/crop acre	$24	$23	$25	$27	$26
Machinery and Labor Costs					
Total machinery costs	$17,082	$20,622	$24,746	$26,409	$36,415
Machinery cost per cow	$188	$196	$203	$191	$185
Machinery cost/cwt. milk	$1.45	$1.48	$1.56	$1.46	$1.41
Labor cost per cow	$189	$204	$198	$189	$195
Labor cost/cwt. milk	$1.46	$1.54	$1.52	$1.44	$1.48
Capital Efficiency					
Investment per man	$101,273	$103,831	$101,603	$106,547	$108,736
Investment per cow	$3,149	$3,293	$3,123	$2,957	$2,898
Investment/cwt. milk	$24	$25	$24	$23	$22
Land & buildings/cow	$1,669	$1,644	$1,583	$1,461	$1,468
Machinery investment/cow	$533	$590	$535	$509	$444
Capital turnover	2.5	2.4	2.4	2.1	2.1
Other					
Price per cwt. milk sold	$8.54	$8.64	$8.62	$8.80	$8.74
Acres hay crops	124	162	163	174	234
Acres corn silage	69	86	111	131	181
Inventory changes 1974:*					
Number of cows	+3	+4	+8	+7	+7
Inv. value per cow**	-$29	-$55	-$43	-$32	-$27

* Change from 1/1/74 to 1/1/75.
** Livestock inventory includes heifers.

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
628 New York Dairy Farms, 1974*

Size of Business			Rates of Production			Labor Efficiency	
Man Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crops Per Acre	Tons Corn Silage Per Acre	Cows Per Man	Pounds Milk Sold Per Man
5.0	171	2,282,600	15,500	4.7	22	46	592,200
3.3	108	1,400,700	14,300	3.8	17	38	491,600
2.8	85	1,085,000	13,700	3.2	16	35	441,900
2.4	71	901,900	13,200	2.9	15	33	406,500
2.2	63	775,900	12,700	2.7	14	30	374,000
2.0	57	687,800	12,200	2.5	13	29	346,100
1.9	50	608,800	11,700	2.3	12	26	318,200
1.6	46	534,300	11,000	2.0	10	24	287,300
1.4	40	448,100	10,200	1.8	9	22	249,200
1.2	31	314,500	8,300	1.4	6	17	183,500

* These farms are considerably above the average for all farms in New York State. For example, the median number of cows for the 628 farms was 60 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 628 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 5.0 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
628 New York Dairy Farms, 1974

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
$136	14%	$101	$273	$2.03
205	21	139	320	2.51
240	25	160	348	2.72
269	27	177	371	2.93
298	29	190	391	3.12
323	31	206	414	3.30
353	34	223	440	3.50
382	36	243	469	3.71
423	39	269	509	4.00
518	47	355	617	4.70

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 1974 on the 628 farms and comparisons with earlier years is shown on page 35.

Farms With Free Stall Barns

There has been much interest in free stall barns in recent years. In the 1974 summary, a total of 200 reported free stall facilities and were included in a special analysis which is reported on pages 36 and 37.

Type of Business Organization

Three types of business organization were included in the 628 farms. Summaries were prepared for: individual operators; partnerships; and corporations. The three summaries are compared on pages 38 and 39.

Same Farms for 1973 and 1974

There is some turnover each year in the cooperators in the business management projects. Of the 628 farms in 1974, 436 had been in the 1973 summary. A comparison of the 1973 and 1974 businesses of these same 436 farms is reported on pages 40 and 41.

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 42, selected farm business summary factors are given for 1964, 1969, 1973 and 1974.

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 farms with the highest labor incomes is on page 45.

Operating statements are included for two groups who participated in the farm business management projects but were not in the 628 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 43 and 44.

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
628 New York Dairy Farms, 1974

Item	My Farm	Average 628 Farms
Total cash farm expenses (p. 10)	$_____	$65,638
Machinery depreciation	_____	4,921
Building depreciation	_____	2,495
Unpaid labor	_____	1,050
Interest on equity capital @ 7%	_____	10,915
TOTAL FARM EXPENSES	$_____	$85,019
Value Operator's Labor @ $500/mo.	_____	7,000
TOTAL COST OF PRODUCTION (1)	$_____	$92,019
Total cash farm receipts (p. 8)	$_____	$92,108
Less: Milk sales	_____	77,639
Non-milk cash receipts	_____	$ 8,965
Increase feed & supplies	_____	5,504
Increase of 3 cows @ $666	_____	1,998
TOTAL OTHER INCOME (2)	_____	16,467
COST OF PRODUCING MILK (minus 2)	$_____	$75,552
Hundredweights of milk sold (p. 15)	_____	9,058
COST OF PRODUCING CWT. MILK	$_____	$8.34
Management charge @ 5% cash receipts	$_____	$4,330
Management charge cwt. milk	_____	48¢
COST OF PRODUCING MILK WITH MGT. CHARGE	$_____	$8.82

A sharp drop in cattle prices in 1974 caused a decrease in livestock inventories even though there were 3 more cows in the end inventory. To adjust for this, the decrease in livestock inventory was omitted from expenses and the 3 additional cows were valued at the average year-end livestock inventory value per cow (includes replacement heifers) and included as non-cash income. This procedure is consistent with that of earlier years. Without this adjustment, the cost would have been 36¢ per cwt. more.

Table 38. COST OF PRODUCING MILK AND PRICES RECEIVED, 1969-1974

	Value Operator's		Cost/cwt. With Management		Average Price	
Year	Labor	Management*	Excluded	Included	Received	Reported**
1969	$5,400	$2,514	$5.41	$5.74	$5.80	$5.66
1970	5,400	2,853	5.73	6.08	6.10	5.89
1971	5,400	3,037	5.84	6.19	6.21	6.02
1972	6,000	3,275	6.43	6.80	6.41	6.25
1973	6,000	3,689	7.26	7.69	7.30	7.30
1974	6,000	4,330	8.34	8.82	8.57	8.24

* Estimated @ 5% of cash receipts.
** New York-New Jersey Milk Marketing Area.

Table 39. COMPARISON OF FARMS BY TYPE OF BARN AND HERD SIZE
628 New York Dairy Farms, 1974

Item	Herd Size (Number Cows)			
	Under 55	55-69	70-84	85-99
Number of farms				
Free stall	21	31	39	24
Other	239	104	37	18
Number of men				
Free stall	1.8	2.1	2.3	2.5
Other	1.7	2.3	2.8	3.2
Land & bldgs./cow				
Free stall	$1,713	$2,105	$1,661	$1,585
Other	$1,880	$1,789	$1,733	$1,800
Tons hay crop/acre				
Free stall	2.6	2.6	2.3	3.3
Other	2.4	2.4	2.4	3.3
Lbs. milk sold/cow				
Free stall	12,800	12,000	12,700	12,600
Other	12,100	12,400	12,100	13,500
Lbs. milk sold/man				
Free stall	329,700	357,800	421,800	458,900
Other	297,500	335,000	362,800	383,300
Labor cost/cow				
Free stall	$210	$190	$177	$164
Other	$224	$206	$207	$226
Machinery cost/cow				
Free stall	$233	$210	$213	$208
Other	$216	$206	$199	$163
Veterinary Cost/cow				
Free stall	$13	$12	$16	$13
Other	$15	$17	$13	$18
Feed & crop expense/cow				
Free stall	$406	$390	$433	$412
Other	$391	$391	$399	$383
Debt/cow				
Free stall	$1,290	$1,340	$1,270	$1,480
Other	$1,190	$1,300	$1,200	$920
Labor & mgt. income/op.				
Free stall	$5,321	$3,153	$5,275	$6,394
Other	$1,135	$2,426	$2,231	$12,079

A total of 200 of the 628 farms in this study reported having free stall barns. A comparison has been made by size of herd and type of barn for selected business factors.

Table 39 contd. COMPARISON OF FARMS BY TYPE OF BARN AND HERD SIZE
628 New York Dairy Farms, 1974

Item	Herd Size (Number Cows) 100-114	115-129	130-149	150 & Up
Number of farms				
Free stall	19	21	14	31
Other	17	4	3	6
Number of men				
Free stall	3.3	3.8	3.8	5.3
Other	3.4	3.8	4.0	5.3
Land & bldgs./cow				
Free stall	$1,751	$1,617	$1,367	$1,506
Other	$1,521	$1,361	$1,933	$1,259
Tons hay crop/acre				
Free stall	2.4	3.0	3.2	3.2
Other	2.9	3.4	2.1	2.5
Lbs. milk sold/cow				
Free stall	13,300	13,100	13,200	13,200
Other	13,200	12,100	13,400	13,100
Lbs. milk sold/man				
Free stall	423,300	430,800	480,700	493,800
Other	402,400	386,600	464,900	445,700
Labor cost/cow				
Free stall	$210	$198	$179	$195
Other	$202	$198	$233	$200
Machinery cost/cow				
Free stall	$213	$196	$198	$178
Other	$178	$234	$167	$226
Veterinary Cost/cow				
Free stall	$17	$19	$22	$19
Other	$17	$13	$12	$19
Feed & crop expense/cow				
Free stall	$445	$444	$444	$425
Other	$461	$399	$467	$441
Debt/cow				
Free stall	$1,250	$1,110	$1,230	$1,120
Other	$1,180	$1,130	$1,590	$650
Labor & mgt. income/op.				
Free stall	$6,498	$8,397	$14,247	$20,564
Other	$5,722	$3,570	-$5,199	$15,221

In general, the man equivalent on the free stall farms was a little smaller than on the farms with other types of barns. The labor cost per cow tended to be less while the machinery costs were more on free stall farms. The pounds of milk per man was lower and the labor incomes higher on free stall operations.

Table 40. FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
628 New York Dairy Farms, 1974

	Averages for:					
	513 Individuals		104 Partnerships		11 Corporations	
CAPITAL INVESTMENT						
	1/1/74	1/1/75	1/1/74	1/1/75	1/1/74	1/1/75
Livestock	$ 45,344	$ 44,034	$ 69,152	$ 68,606	$118,294	$110,520
Feed & supplies	11,605	16,219	20,359	28,974	40,120	57,716
Machinery & equipment	34,292	38,176	46,046	52,035	61,628	77,128
Land & buildings	102,390	112,101	138,388	149,908	285,487	324,000
TOTAL INVESTMENT	$193,631	$210,530	$273,945	$299,523	$505,529	$569,364
EXPENSES						
Labor						
Hired		$ 5,905		$ 6,777		$ 25,289
Feed						
Dairy concentrate		20,738		30,237		54,580
Hay and other		1,025		831		3,857
Machinery						
Machine hire		624		536		2,218
Machinery repair		3,038		4,895		9,977
Auto expense		289		286		676
Gas and oil		2,193		3,331		5,996
Livestock						
Purchased animals		3,172		2,697		4,524
Breeding fees		734		1,305		2,248
Veterinary, medicine		1,056		1,563		2,923
Milk marketing		913		1,687		3,893
Other livestock expense		2,179		3,413		5,245
Crops						
Fertilizer and lime		3,676		6,278		14,594
Seeds and plants		1,038		1,639		3,275
Spray and other		962		1,814		4,218
Real Estate						
Land, building, fence repair		1,325		1,761		3,163
Taxes		1,614		2,553		4,551
Insurance		1,140		1,599		3,354
Rent		859		1,426		5,124
Other						
Telephone (farm share)		280		382		648
Electricity (farm share)		1,034		1,553		2,631
Interest paid		5,105		5,444		16,443
Miscellaneous		727		1,038		2,004
TOTAL CASH EXPENSES		$59,626		$ 83,045		$181,431
Machinery depreciation		4,559		6,272		9,032
Building depreciation		2,203		3,324		8,286
Unpaid labor		1,050		700		0
Interest on farm equity @ 7%		9,621		15,814		24,970
Decrease in livestock		1,310		546		7,774
TOTAL FARM EXPENSES		$78,369		$109,701		$231,493

Table 40 contd. FARM BUSINESS SUMMARIES FOR INDIVIDUALS, PARTNERSHIPS, AND CORPORATIONS
628 New York Dairy Farms, 1974

	Averages for:		
	513 Individuals	104 Partnerships	11 Corporations
RECEIPTS			
Milk sales	$69,481	$104,490	$204,212
Crop sales	670	1,314	3,613
Dairy cattle sold	4,999	7,057	14,918
Livestock sales	1,054	2,121	3,274
Gas tax refund	121	199	285
Government payments	226	196	256
Work off farm	64	87	--
Custom machine work	124	120	36
Miscellaneous	696	1,232	1,930
TOTAL CASH RECEIPTS	$77,435	$116,816	$228,524
Increase in feed & supplies	4,614	8,615	17,596
TOTAL FARM RECEIPTS	$82,049	$125,431	$246,120
FINANCIAL SUMMARY			
Total Cash Receipts	$77,435	$116,816	$228,524
Total Cash Expenses	59,626	83,045	181,431
NET FARM CASH FLOW	$17,809	$ 33,771	$ 47,093
Total Farm Receipts	82,049	125,431	246,120
Total Farm Expenses	78,369	109,701	231,493
LABOR & MGT. INCOME/FARM	$ 3,680	$ 15,730	$ 14,627
Number of operators	(513) 1.00	(211) 2.03	(22) 2.00
LABOR & MGT. INCOME/OPERATOR	$ 3,680	$ 7,756	$ 7,314
BUSINESS FACTORS			
Man equivalent	2.2	3.2	4.5
Number of cows	65	95	166
Number of heifers	44	73	120
Acres of hay crops	110	145	208
Acres of corn silage	55	80	173
Total acres of crops	192	284	488
Lbs. of milk sold	812,100	1,214,900	2,354,700
Lbs. of milk sold/cow	12,500	12,800	14,200
Tons hay crops/acre	2.6	2.8	3.3
Tons corn silage/acre	13.4	14.3	11.8
Cows per man	30	30	37
Lbs. of milk sold/man	374,200	383,200	523,300
% Feed is of milk sales	30%	29%	27%
Feed & crop exp./cwt. milk	$3.25	$3.29	$3.26
Fertilizer & lime/crop acre	$19	$22	$30
Machinery cost/cow	$204	$197	$197
Av. price/cwt. milk	$8.56	$8.60	$8.67

Table 41. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1973 AND 1974
Same 436 New York Dairy Farms

	Averages 1973		Averages 1974	
CAPITAL INVESTMENT				
	1/1/73	1/1/74	1/1/74	1/1/75
Livestock	$ 45,258	$ 52,689	$ 52,067	$ 50,727
Feed & supplies	10,061	14,586	14,670	20,463
Machinery & equipment	34,578	37,561	38,025	42,683
Land & buildings	99,907	110,440	112,301	123,234
TOTAL INVESTMENT	$189,804	$215,276*	$217,063*	$237,107
EXPENSES				
Labor				
Hired	$ 6,008		$ 6,928	
Feed				
Dairy concentrate	20,048		24,055	
Hay and other	857		1,202	
Machinery				
Machine hire	480		679	
Machinery repair	3,094		3,762	
Auto expense	289		296	
Gas and oil	1,905		2,566	
Livestock				
Purchased animals	3,640		3,250	
Breeding fees	812		904	
Veterinary, medicine	1,108		1,226	
Milk marketing	1,051		1,168	
Other livestock expense	2,328		2,633	
Crops				
Fertilizer and lime	3,318		4,645	
Seeds and plants	1,049		1,216	
Spray and other	777		1,267	
Real Estate				
Land, building, fence repair	1,347		1,516	
Taxes	1,750		1,901	
Insurance	1,207		1,285	
Rent	955		1,115	
Other				
Telephone (farm share)	259		312	
Electricity (farm share)	1,000		1,190	
Interest paid	4,597		5,397	
Miscellaneous	665		852	
TOTAL CASH EXPENSES	$58,544		$69,365	
Machinery depreciation	$ 4,812		$ 5,042	
Building depreciation	2,271		2,589	
Unpaid labor	700		1,050	
Interest on farm equity @ 7%	9,792		11,296	
Decrease in livestock	--		1,340	
TOTAL FARM EXPENSES	$76,119		$90,682	

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

Table 41 contd. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1973 AND 1974
Same 436 New York Dairy Farms

	Averages 1973	Averages 1974
RECEIPTS		
Milk sales	$65,387	$81,713
Crop sales	442	869
Dairy cattle sold	6,996	5,853
Livestock sales	1,572	1,277
Gas tax refund	133	152
Government payments	434	229
Work off farm	67	65
Custom machine work	95	100
Miscellaneous	2,126	875
TOTAL CASH RECEIPTS	$77,252	$91,133
Increase in livestock	7,431	--
Increase in feed & supplies	4,525	5,793
TOTAL FARM RECEIPTS	$89,208	$96,926
FINANCIAL SUMMARY		
Total Cash Receipts	$77,252	$91,133
Total Cash Expenses	58,544	69,365
NET FARM CASH FLOW	$18,708	$21,768
Total Farm Receipts	$89,208	$96,926
Total Farm Expenses	76,119	90,682
LABOR & MGT. INCOME/FARM	$13,089	$ 6,244
Number of operators	(518) 1.19	(518) 1.19
LABOR & MGT. INCOME/OPERATOR	$11,018	$ 5,256
BUSINESS FACTORS		
Man equivalent	2.2	2.5
Number of cows	72	75
Number of heifers	49	53
Acres of hay crops	120	119
Acres of corn silage	59	64
Total acres of crops	206	220
Lbs. of milk sold	891,400	948,400
Lbs. of milk sold/cow	12,380	12,645
Tons hay crops/acre	2.6	2.7
Tons corn silage/acre	13.5	13.4
Cows per man	33	30
Lbs. of milk sold/man	410,800	379,400
% Feed is of milk sales	31%	29%
Feed & crop exp./cwt. milk	$2.83	$3.29
Fertilizer & lime/crop acre	$16	$21
Machinery cost/cow	$182	$202
Av. price/cwt. milk	$7.34	$8.62

Table 42. SELECTED FARM BUSINESS SUMMARY FACTORS
New York Dairy Farms, Selected Years 1964 - 1974

Item	Year			
	1964	1969	1973	1974
Number of farms	434	511	609	628
Financial Summary				
Average capital invested	$57,187	$116,525	$195,322	$221,974
Total farm receipts	$25,634	$59,662	$84,682	$92,108
Total farm expenses	$19,551	$42,293	$72,570*	$86,315*
Labor income per operator	$2,958	$7,885	$10,195	$4,880
Size of Business				
Number of cows	40	60	69	72
Pounds of milk sold	450,400	761,700	851,900	905,800
Crop acres	104	159	198	213
Man equivalent	1.7	2.1	2.2	2.4
Total work units	507	692	750	792
Rates of Production				
Milk sold per cow	11,260	12,700	12,350	12,580
Tons hay per acre	2.0	2.8	2.6	2.6
Tons corn silage per acre	12	16	13	14
Labor Efficiency				
Cows per man	24	29	32	30
Pounds milk sold per man	264,900	362,700	392,600	374,300
Work units per man	298	330	346	327
Cost Control Factors				
Machinery cost per cow	$109	$167	$183	$201
Machinery cost/cwt. milk	$.97	$1.32	$1.49	$1.60
Feed bought per cow	$155	$180	$278	$318
Feed bought/cwt. milk	$1.38	$1.42	$2.25	$2.53
Feed & crop expense/cwt. milk	$1.65	$1.68	$2.81	$3.26
% Feed is of milk receipts	31%	24%	31%	30%
Capital Efficiency				
Total investment per man	$34,493	$57,724	$95,667	$95,683
Total investment per cow	$1,466	$2,020	$3,009	$3,216
Machinery investment/cow	$315	$452	$527	$572
Total investment/cwt. milk	$13	$16	$24	$26
Other				
Price per cwt. milk sold	$4.40	$5.80	$7.30	$8.57
Acres hay crops	71	81	116	117
Acres corn silage	19	42	57	61
Total acres in crops/cow	2.6	2.6	2.9	3.0
Fertilizer & lime expense/crop acre	$9	$13	$16	$20
Farm income per cow	$152	$290	$262	$291
Labor income per cow	$81	$154	$176	$80

* Includes interest paid, interest on equity capital, and building depreciation which were not included in total farm expenses prior to 1973.

FARM BUSINESS SUMMARY
39 New York Dairy-Cash Crop Farms,* 1974

CAPITAL INVESTMENT

	1/1/74	1/1/75
Livestock	$ 46,589	$ 43,810
Feed & supplies	21,967	28,278
Machinery & equipment	44,456	50,005
Land & buildings	141,585	153,456
TOTAL INVESTMENT	$254,597	$275,549

EXPENSES

Labor		
Hired		$ 7,251
Feed		
Dairy concentrate		15,060
Hay and other		581
Machinery		
Machine hire		1,223
Machinery repair		4,617
Auto expense		449
Gas and oil		3,604
Livestock		
Purchased animals		2,508
Breeding fees		727
Veterinary, medicine		961
Milk marketing		1,072
Other livestock expense		2,728
Crops		
Fertilizer and lime		6,268
Seeds and plants		1,814
Spray and other		2,044
Real Estate		
Land, building, fence repair		1,048
Taxes		2,194
Insurance		1,286
Rent		1,465
Other Cash Expense		
Telephone (farm share)		296
Electricity (farm share)		1,158
Interest paid		4,736
Miscellaneous		912
TOTAL CASH EXPENSES		$64,002
Machinery depreciation		5,861
Building depreciation		2,180
Unpaid labor		1,050
Interest on farm equity @ 7%		14,446
Decrease in livestock		2,779
TOTAL FARM EXPENSES		$90,318

RECEIPTS

Milk sales	$68,039
Crop sales	16,120
Dairy cattle sold	5,182
Other livestock sales	1,714
Gas tax refund	241
Government payments	194
Work off farm	3
Custom machine work	541
Miscellaneous	1,265
TOTAL CASH RECEIPTS	$93,299
Increase in feed & supplies	6,311
TOTAL FARM RECEIPTS	$99,610

FINANCIAL SUMMARY

Total Cash Receipts	$93,299
Total Cash Expenses	64,002
NET FARM CASH FLOW	$29,297
Total Farm Receipts	$99,610
Total Farm Expenses	90,318
LABOR & MGT. INCOME/FARM	$ 9,292
Number of operators (52)	1.33
LABOR & MGT. INCOME/OPERATOR	$6,971

BUSINESS FACTORS

Man equivalent	2.7
Number of cows	63
Number of heifers	51
Acres of hay crops	104
Acres of corn silage	50
Total acres of crops	296
Lbs. of milk sold	802,300
Lbs. milk sold/cow	12,735
Tons hay crops/acre	3.0
Tons corn silage/acre	13.5
Cows per man	24
Lbs. of milk sold/man	300,500
% Feed is of milk receipts	22%
Feed & crop exp./cwt. milk	$3.14
Fertilizer & lime/crop acre	$21
Machinery cost/cow	$303
Av. price/cwt. milk	$8.48

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

FARM BUSINESS SUMMARY
42 New York Dairy-Renter Farms,* 1974

CAPITAL INVESTMENT

	1/1/74	1/1/75
Livestock	$41,185	$39,661
Feed & supplies	10,291	15,001
Machinery & equipment	26,420	30,810
Land & buildings	4,289	2,510
TOTAL INVESTMENT	$82,185	$87,982

EXPENSES

Labor	
Hired	$ 5,032
Feed	
Dairy concentrate	20,275
Hay and other	1,385
Machinery	
Machine hire	915
Machinery repair	2,553
Auto expense	193
Gas and oil	1,998
Livestock	
Purchased animals	3,656
Breeding fees	790
Veterinary, medicine	885
Milk marketing	657
Other livestock expense	2,495
Crops	
Fertilizer and lime	3,114
Seeds and plants	846
Spray and other	589
Real Estate	
Land, building, fence repair	737
Taxes	118
Insurance	830
Rent	5,991
Other Cash Expense	
Telephone (farm share)	227
Electricity (farm share)	936
Interest paid	2,758
Miscellaneous	1,231
TOTAL CASH EXPENSES	$58,211
Machinery depreciation	3,761
Building depreciation	14
Unpaid labor	1,050
Interest on farm equity @ 7%	3,714
Decrease in livestock	1,524
TOTAL FARM EXPENSES	$68,274

RECEIPTS

Milk sales	$66,228
Crop sales	562
Dairy cattle sold	4,594
Other livestock sales	1,316
Gas tax refund	102
Government payments	103
Work off farm	65
Custom machine work	35
Miscellaneous	315
TOTAL CASH RECEIPTS	$73,320
Increase in feed & supplies	4,710
TOTAL FARM RECEIPTS	$78,030

FINANCIAL SUMMARY

Total Cash Receipts	$73,320
Total Cash Expenses	58,211
NET FARM CASH FLOW	$15,109
Total Farm Receipts	$78,030
Total Farm Expenses	68,274
LABOR & MGT. INCOME/FARM	$ 9,756
Number of operators (46)	1.10
LABOR & MGT. INCOME/OPERATOR	$ 8,910

BUSINESS FACTORS

Man equivalent	2.1
Number of cows	58
Number of heifers	41
Acres of hay crops	99
Acres of corn silage	53
Total acres of crops	177
Lbs. of milk sold	759,500
Lbs. milk sold/cow	13,100
Tons hay crops/acre	2.4
Tons corn silage/acre	12.3
Cows per man	28
Lbs. of milk sold/man	365,100
% Feed is of milk sales	31%
Feed & crop exp./cwt. milk	$3.27
Fertilizer & lime/crop acre	$18
Machinery cost/cow	$197
Av. price/cwt. milk	$8.72

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

FARM BUSINESS SUMMARY
Top 10 Percent of the Farms by Labor & Management Income
63 New York Dairy Farms, 1974

CAPITAL INVESTMENT

	1/1/74	1/1/75
Livestock	$ 83,432	$ 84,950
Feed & supplies	28,641	45,451
Machinery & equipment	55,525	65,065
Land & buildings	149,114	167,385
TOTAL INVESTMENT	$316,712	$362,851

EXPENSES

Labor	
Hired	$ 15,346
Feed	
Dairy concentrate	38,566
Hay and other	1,476
Machinery	
Machine hire	1,824
Machinery repair	6,265
Auto expense	361
Gas and oil	4,115
Livestock	
Purchased animals	4,495
Breeding fees	1,472
Veterinary, medicine	2,438
Milk marketing	2,865
Other livestock expense	4,021
Crops	
Fertilizer and lime	8,540
Seeds and plants	2,474
Spray and other	2,363
Real Estate	
Land, building, fence repair	2,253
Taxes	2,805
Insurance	1,786
Rent	2,821
Other Cash Expense	
Telephone (farm share)	380
Electricity (farm share)	1,815
Interest paid	6,538
Miscellaneous	1,156
TOTAL CASH EXPENSES	$116,175
Machinery depreciation	7,427
Building depreciation	4,490
Unpaid labor	700
Interest on farm equity @ 7%	19,702
TOTAL FARM EXPENSES	$148,494

RECEIPTS

Milk sales	$150,200
Crop sales	1,896
Dairy cattle sold	10,970
Other livestock sales	2,318
Gas tax refund	180
Government payments	208
Work off farm	74
Custom machine work	264
Miscellaneous	1,480
TOTAL CASH RECEIPTS	$167,590
Increase in livestock	1,518
Increase in feed & supplies	16,810
TOTAL FARM RECEIPTS	$185,918

FINANCIAL SUMMARY

Total Cash Receipts	$167,590
Total Cash Expenses	116,175
NET FARM CASH FLOW	$ 51,415
Total Farm Receipts	$185,918
Total Farm Expenses	148,494
LABOR & MGT. INCOME/FARM	$ 37,424
Number of operators (79)	1.25
LABOR & MGT. INCOME/OPERATOR	$ 29,868

BUSINESS FACTORS

Man equivalent	3.5
Number of cows	124
Number of heifers	84
Acres of hay crops	151
Acres of corn silage	108
Total acres of crops	352
Lbs. of milk sold	1,741,700
Lbs. of milk sold/cow	14,046
Tons hay crops/acre	3.3
Tons corn silage/acre	15.3
Cows per man	35
Lbs. of milk sold/man	497,630
% Feed is of milk receipts	26%
Feed & crop exp./cwt. milk	$2.98
Fertilizer & lime/crop acre	$24
Machinery cost/cow	$195
Av. price/cwt. milk	$8.62

FARM BUSINESS SUMMARY
Average of 628 New York Dairy Farms, 1974

CAPITAL INVESTMENT

	1/1/74	1/1/75
Livestock	$ 50,564	$ 49,268
Feed & supplies	13,554	19,058
Machinery & equipment	36,717	41,153
Land & buildings	111,559	122,074
TOTAL INVESTMENT	$212,394	$231,553

EXPENSES

Labor	
Hired	$ 6,389
Feed	
Dairy concentrate	22,904
Hay and other	1,042
Machinery	
Machine hire	637
Machinery repair	3,467
Auto expense	295
Gas and oil	2,448
Livestock	
Purchased animals	3,117
Breeding fees	855
Veterinary, medicine	1,173
Milk marketing	1,093
Other livestock expense	2,437
Crops	
Lime and fertilizer	4,298
Seeds and plants	1,177
Spray and other	1,160
Real Estate	
Land, building, fence repair	1,429
Taxes	1,821
Insurance	1,255
Rent	1,028
Other	
Telephone (farm share)	304
Electricity (farm share)	1,148
Interest paid	5,360
Miscellaneous	801
TOTAL CASH EXPENSES	$65,638
Machinery depreciation	4,921
Building depreciation	2,495
Unpaid labor	1,050
Interest on farm equity @ 7%	10,915
Decrease in livestock	1,296
TOTAL FARM EXPENSES	$86,315

RECEIPTS

Milk sales	$77,639
Crop sales	829
Dairy cattle sold	5,513
Livestock sales	1,270
Gas tax refund	137
Government payments	222
Work off farm	66
Custom machine work	122
Miscellaneous	806
TOTAL CASH RECEIPTS	$86,604
Increase in feed & supplies	5,504
TOTAL FARM RECEIPTS	$92,108

FINANCIAL SUMMARY

Total Cash Receipts	$86,604
Total Cash Expenses	65,638
NET FARM CASH FLOW	$20,966
Total Farm Receipts	$92,108
Total Farm Expenses	86,315
LABOR & MGT. INCOME/FARM	$ 5,793
Number of operators (746)	1.19
LABOR & MGT. INCOME/OPERATOR	$ 4,880

BUSINESS FACTORS

Man equivalent	2.4
Number of cows	72
Number of heifers	50
Acres of hay crops	117
Acres of corn silage	61
Total acres of crops	213
Lbs. of milk sold	905,800
Lbs. of milk sold/cow	12,580
Tons hay crops/acre	2.6
Tons corn silage/acre	13.7
Lbs. of milk sold/man	374,300
Cows per man	30
% Feed is of milk sales	30%
Feed & crop exp./cwt. milk	$3.26
Lime & fertilizer/crop acre	$20
Machinery cost/cow	$201
Av. price/cwt. milk	$8.57