DAIRY FARM BUSINESS SUMMARY

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NORTHERN NEW YORK 1980

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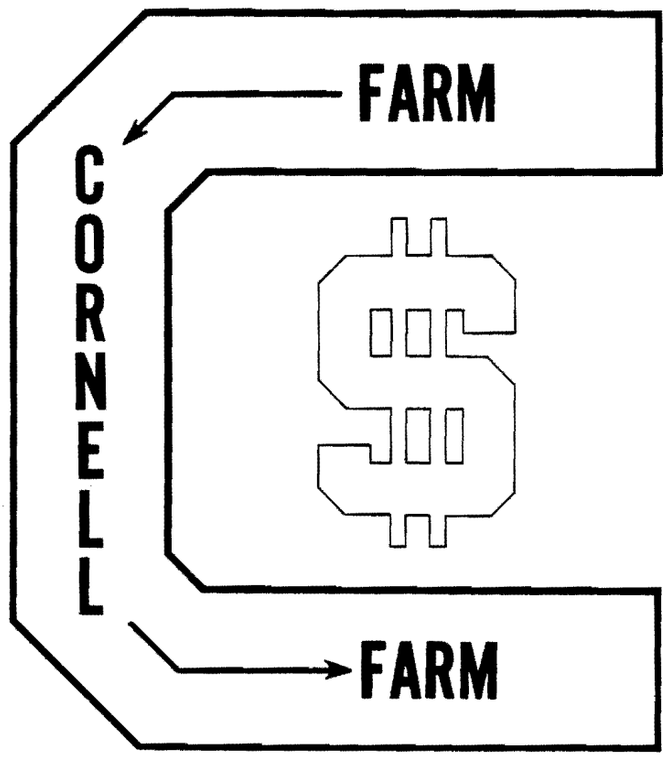
FOREWORD



CORNELL FARM DECISION NETWORK

Department of Agricultural Economics
Cornell University

The Farm Business Summary Program is a portion of the total Cornell Farm Decision Network. Four distinct programs comprise the Network and each in their own unique way strive for obtaining accurate data and/or data analysis in order to provide information upon which to base improved decision making. Programs which comprise the Cornell Farm Decision Network are:

(1) Farm Business Summaries - Analysis of the business and financial activity of dairy, beef, fruit, poultry, and other farms.

(2) CAMIS - Computerized programs to facilitate the recording, tabulation, and analysis of farm business accounts.

(3) NEWPLAN Programs - Computerized Decision Aids which include such topics as: Least-Cost Balanced Dairy Rations, Profitable Organization of Dairy Farm Enterprises, Profitable Combinations of Field Crop Enterprises, and Analysis of Major Capital Investments.

(4) Enterprise Budgets and Economic Data - Collection of data and analysis of enterprise costs and returns.

For further information on how you may take advantage of these programs, contact your local cooperative extension office.

Improvements In 1980 Dairy Farm Business Summary

Although there are no major changes in the format of this year's Dairy Farm Business Summary publication, there are several changes in the accounting procedures. These changes affect comparisons of 1980 data with farm business summaries from prior years.

The following accounting methods were used for the first time this year to more accurately separate the effect of inflation on farm inventories, from increases caused by greater quantity and/or improved quality of inventory items.

1. The fixed cost of maintaining machinery and equipment; depreciation is last year's regular income tax depreciation plus ten percent of machinery purchases in 1980. An increase in machinery market value that more than offsets the depreciation charge is machinery appreciation and is included in labor, management and ownership income of the farm business. Machinery appreciation is not included in the calculation of labor and management income but depreciation is included.

2. The change in livestock inventory is now divided into two parts. The change in herd market value attributed to a change in numbers and/or a definite change in herd quality, is the increase (or decrease) in livestock inventory that is included in labor and management income. The change in herd market value, caused by inflationary price increases, is excluded from labor and management income but is included in labor, management and ownership income.

Other new accounting procedures have been introduced to more accurately identify important farm resources and to obtain a better measure of forage production.

1. The number of operators now includes individuals who are integrally involved in the operation and <u>management</u> of the farm business in addition to the primary operator. Many farm spouses are included as part-time operators this year. The number of full-time operators per farm is total months of all operators' labor reported divided by 12.

2. The land available for crop production is called total <u>tillable</u> acres. Nontillable pasture, woodland and wasteland is included in the total land inventory. The reason for changing to tillable acres is to inventory the land resource available for production rather than only that currently in production.

3. Tons of dry matter has been adopted as an improved method of measuring forage harvested. It is more consistent and is more commonly used in dairy cattle nutrition than hay equivalent.

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INTRODUCTION

Dairy farmers in more than forty counties throughout the State submit records for summarization through Cooperative Extension's Farm Business Management Program. Each dairy farmer receives a report for the farm containing all the management information found in this publication. A compilation of the individual farm reports is published in ten regional summaries like this one and in one statewide summary. These publications are used not only by extension personnel and dairy farmers but also by many segments of the dairy industry to monitor the health of the milk production sector.

Primary objectives of the dairy farm business management program are to (1) assist farmers in developing and maintaining more complete farm business data for use in management decisions and (2) help farmers improve their management skills through appropriate use of farm record data and application of modern decision-making techniques. This report is prepared in workbook form for use in the systematic study of individual farm business operations. This booklet should also be useful to farmers in the Northern New York region who are not enrolled in the business management project and to agribusiness firms.

The increasing size of the New York dairy farms and the dynamic nature of the economic environment within which they operate make farm incomes increasingly dependent upon the accuracy of management decisions. An assessment of past business performance combined with careful analysis of future economic conditions and goals of the farm business will greatly enhance the operator's profit potential.

With upward pressure on costs continuing into 1981, dairy farmers will need to place emphasis on operating the most efficient business possible. Two areas for continued emphasis are (1) dairy concentrate purchases and the total livestock feeding program, and (2) the crop production program. By carefully proceeding through this workbook to determine business strengths and weaknesses and by carefully planning next year's business operations, a dairy farmer will be in a better position to manage the farm through the challenges of the 1980s.

Business records for 106 farms in the Northern New York region are summarized in this publication. The region contains the counties of: Clinton (2), Essex (9), Franklin (6), Jefferson (8), Lewis (42), and St. Lawrence (39).*

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*Number of summaries from each county are in parentheses. This summary was prepared in cooperation with Andrew Dufresne, Jefferson County Extension Agent; George Field, St. Lawrence County Extension Agent; Anita Graves, Essex County Extension Agent; Ev Thomas, Extension Specialist for Clinton, Essex and Franklin Counties; and Haskell Yancey, Lewis County Extension Agent. Myrtle Voorheis provided invaluable assistance in compilation of the information.

SUMMARY OF THE FARM BUSINESS

Business Characteristics

Knowledge of farm business characteristics is fundamental to judging management performance. The combination of resources and management techniques used to put resources to work is an important part of planning a long-run farm organization strategy. The tables below show important farm business characteristics, the number of farms reporting these characteristics, and the average level of resources used in production.

MANAGEMENT SYSTEMS, PRODUCTION TECHNOLOGY AND FARM SIZE
106 Northern New York Dairy Farms, 1980

Type of Business	Number	Business Records	Number	Dairy Records	Number
Individual	91	CAMIS	5	D.H.I.C.	62
Partnership	15	Account Book	76	Owner Sampler	17
Corporation	0	Agrifax	9	Other	11
		Farm Bureau	1	None	16
Owner	105	Agway	4		
Renter	1	Other	11		

Barn Type	Number	Milking System	Number		Number
Stanchion	72	Bucket & Carry	5	Herringbone	21
Freestall	26	Dumping Station	39	Other Parlor	5
Other	8	Pipeline	36		

Labor Force	My Farm	Average	Land Use	My Farm	Average
Operator 1.	_____ mo.	12	Total acres owned	_____	298
2.	_____ mo.	2	Total acres rented	_____	53
3.	_____ mo.	0	Total tillable acres	_____	199
Family paid	_____ mo.	3	Tillable acres rented	_____	39
Family unpaid	_____ mo.	4			
Hired	_____ mo.	7	Number of Cows	My Farm	Average
Total	_____ mo.	28			
Age of operator(s) 1.	_____ yrs.	42	Beginning of year	_____	60
2.	_____ yrs.	29	End of year	_____	62
3.	_____ yrs.	26	Average for year	_____	60

Capital Investment-Farm Inventory Value represents the market value of resources committed to the farming operation measured at the beginning and ending of the year. Increases in inventory values occur with expanding herd size, purchasing new machinery and equipment and appreciation of land, buildings and livestock.

CAPITAL INVESTMENT - FARM INVENTORY VALUE
106 Northern New York Dairy Farms, 1980

Item	My Farm 1/1/80	My Farm 1/1/81	Average 1/1/80	Average 1/1/81
Livestock	$_____	$_____	$ 82,868	$ 98,289
Feed & supplies	_____	_____	17,083	19,555
Machinery & equipment	_____	_____	57,284	67,741
Land & buildings	_____	_____	129,973	142,143
TOTAL	$_____	$_____	$287,208	$327,728

Machinery and Real Estate Inventory Calculations

Capital outlays for machinery, buildings, land and land improvements usually occur in large uneven amounts, but depreciate gradually over a period of time. Machinery depreciation is a charge for use of the machinery complement in production. Appreciation in the value of the machinery complement results from inflation in the value of used machinery; it is calculated as a residual.

MACHINERY & EQUIPMENT INVENTORY
106 Northern New York Dairy Farms, 1980

Item		My Farm		Average
End of year market value		(1)$_____		$ 67,741
Beginning market value	$_____		$ 57,284	
Plus machinery purchased	+_____		+ 13,994	
Less machinery sold	-_____		- 267	
Less depreciation	-_____		- 7,906	
Net end investment		(2)$_____		$ 63,105
APPRECIATION (1 minus 2)		$_____		$ 4,636

The end of year market value of real estate can be verified by starting with the beginning of year value, making adjustments for purchases and sales, depreciation of buildings and any appreciation in land. Lost capital is the difference between the cost of new buildings or land improvements and the amount these improvements added to the value of the farm. It is not included in farm expenses, since building depreciation is based on the full cost of new buildings and will account for lost capital over the life of the investments. Building depreciation was taken from the farm depreciation schedule and is included as a farm expense. Real estate appreciation was estimated by each farm operator. It is the increase in value of real estate caused by demand and inflation.

REAL ESTATE INVENTORY CALCULATIONS
106 Northern New York Dairy Farms, 1980

Item		My Farm		Average
Beginning market value		$_____		$129,973
Cost of new real estate	$_____		$ 8,935	
Less lost capital	-_____		- 2,288	
Value of new added		+_____		+ 6,647
Less building depreciation		-_____		- 2,834
Less real estate sold		-_____		- 52
Total without appreciation		$_____		$133,734
Appreciation of beginning real estate		+_____		+ 8,409
End of year market value		$_____		$142,143

Receipts

Receipts from the business should be large enough to cover all expenses and leave a reasonable return for the operator's labor and management. Cash receipts items are those in which ownership is transferred or services are performed and payment is received during the year. Noncash receipts occur for items in which ownership is maintained and cash is not received, but due to appreciation in value or increases in physical quantities, could be readily transformed into a cash receipt.

FARM RECEIPTS
106 Northern New York Dairy Farms, 1980

Item	My Farm	Ave: Amount	Percent
CASH RECEIPTS			
Milk sales	$_____	$106,347	89.5
Crop sales	_____	925	0.8
Dairy cattle sold	_____	7,095	6.0
Calves & other livestock sales	_____	3,018	2.5
Gas tax refunds	_____	98	1.2
Government payments	_____	298	
Custom machine work	_____	107	
Other	_____	974	
Total cash receipts	$_____	$118,862	100.0
NONCASH RECEIPTS			
Increase in livestock inventory	_____	$ 6,009	
Increase in feed & supplies	_____	2,472	
Livestock appreciation	_____	9,412	
Machinery appreciation	_____	4,636	
Real estate appreciation	_____	8,409	
TOTAL FARM RECEIPTS	$_____	$149,800	
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$_____	$127,343	

Income Analysis provides a means of examining the income producing capability of the farm business. Weak and strong points can be determined by comparing individual farm results with the averages. The average price per hundredweight of milk sold is calculated by dividing total milk receipts by total hundredweight sold. It will be different from an average of monthly prices received by the dairy farmer. Milk and cattle sales per cow combines production and price components to measure income generation capability per cow. Cash receipts per worker combines two factors: income generated on the total farm and labor efficiency.

INCOME ANALYSIS
106 Northern New York Dairy Farms, 1980

Item	My Farm	1980	1979
Average price/cwt. milk sold	$_____	$ 12.64	$ 11.80
Milk and cattle sales per cow	_____	1,941	1,842
Total cash receipts/worker	_____	51,014	49,327

Expenses

Expenses on many dairy farms approach and some exceed $500 per day! Classifying expenses into categories will help identify those that may need tighter control.

FARM EXPENSES
106 Northern New York Dairy Farms, 1980

Item	My Farm	Ave: Amount	Percent
Hired Labor	$_____	$ 7,545	8
Feed			
Dairy concentrate	_____	32,499	36
Hay and other	_____	913	1
Machinery			
Machine hire	_____	744	1
Machinery repairs	_____	4,793	5
Auto expense (farm share)	_____	397	1
Gas & oil	_____	4,044	4
Livestock			
Replacement livestock	_____	3,412	4
Breeding fees	_____	1,241	1
Veterinary & medicine	_____	2,003	2
Milk marketing	_____	1,896	2
Other livestock expense	_____	3,491	4
Crops			
Fertilizer & lime	_____	4,423	5
Seeds & plants	_____	1,348	2
Spray, other crop expense	_____	1,202	1
Real Estate			
Land, building, fence repair	_____	1,873	2
Taxes	_____	2,336	3
Insurance	_____	1,894	2
Rent	_____	845	1
Other			
Telephone (farm share)	_____	423	1
Electricity (farm share)	_____	1,886	2
Interest paid	_____	10,229	11
Miscellaneous	_____	1,290	1
Total cash expenses	$_____	$ 90,727	100
Decrease in livestock and/or feed	$_____	$ 0	
Expansion livestock	_____	1,846	
Machinery depreciation	_____	7,906	
Building depreciation	_____	2,834	
Unpaid family labor @ $500/month	_____	2,000	
Interest on equity capital @ 9%	_____	19,543	
TOTAL FARM EXPENSES	$_____	$124,856	
TOTAL FARM EXPENSES EXCLUDING INT. ON EQUITY CAPITAL	$_____	$105,313	

Farm Business Profitability

The results of management are reflected in the net return from the business. Agricultural economists have developed a number of ways to measure the returns from a farm business. Four common measures are reported on this page and the next page.

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 nonfarm income. Cash flow is not a good measure of farm business profits, but it is useful when planning debt repayment programs. Guidelines for annual cash flow planning are presented on page 9. Monthly cash flow planning is also recommended and may be required in order to identify cash flow problems in the year ahead. This is particularly true when major changes in the business are planned or when the price of important factors such as milk or purchased concentrate are expected to change significantly.

NET CASH FARM INCOME
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average 1980	Average 1979
Cash Farm Receipts	$_____	$118,862	$114,933
Cash Farm Expenses	_____	90,727	84,917
NET CASH FARM INCOME	$_____	$ 28,135	$ 30,016

Labor and management income is the return to the operator for his or her labor and management input into the business. A nine 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 of deposit. Labor and management income is the measure used most commonly when comparing farm businesses. Appreciation in livestock, machinery and real estate inventories is included as ownership income.

LABOR AND MANAGEMENT INCOME
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average 1980	Average 1979*
Total farm receipts excluding appreciation	$_____	$127,343	$119,666
Total farm expenses	_____	124,856	113,289
LABOR & MANAGEMENT INCOME	$_____	$ 2,487	$ 6,377
Full-time operator-manager equivalents	_____	1.16	1.15
LABOR & MGT. INCOME/OPERATOR-MANAGER	$_____	$ 2,144	$ 5,545

*Adjustments have been made in 1979 data to allow for more accurate comparison.

Labor, management and ownership income per operator reflects the combined return to the farmer for his/her triple role of worker-manager, financier and owner. Again, this is not a measure of the cash flow situation of the farm business. A satisfactory labor, management and ownership income does not eliminate cash flow problems if liabilities are large and repayment is rapid.

LABOR, MANAGEMENT AND OWNERSHIP INCOME
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average 1980	Average 1979
Total farm receipts	$_____	$149,800	$149,860
Total farm expenses excluding interest on equity capital	_____	105,313	95,640
LABOR, MANAGEMENT AND OWNERSHIP INCOME PER FARM	$_____	$ 44,487	$ 54,220
Full-time operator-manager equivalents	_____	1.16	1.15
LABOR, MANAGEMENT AND OWNERSHIP INCOME/OPERATOR-MANAGER	$_____	$ 38,351	$ 47,148

Return on equity capital is a common measure for nonfarm businesses. It can be computed with or without appreciation. Both measures are shown below. To compute the rate of return, divide return on equity capital by farm net worth or equity capital.

RETURN ON EQUITY CAPITAL
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average 1980	Average 1979*
		Including Appreciation	
Labor, mgt. & ownership income/farm	$_____	$ 44,487	$ 54,220
Less value of operator's labor & mgt.**	_____	17,549	16,724
Return on equity capital	$_____	$ 26,938	$ 37,496
RATE OF RETURN ON $_____ equity	_____%	12.4%	19.1%
		Excluding Appreciation	
Return on equity capital (from above)	$_____	$ 26,938	$ 37,496
Less real estate appreciation	_____	8,409	8,610
Less machinery appreciation	_____	4,636	4,636
Less livestock appreciation	_____	9,412	16,948
Return on equity capital	$_____	$ 4,481	$ 7,302
RATE OF RETURN EXCLUDING APPRECIATION	_____%	2.1%	3.7%

*Adjustments have been made in 1979 data to allow for more accurate comparison.

**Value of operator's labor and management estimated by operators.

Farm Family Financial Situation

The financial situation is an important part of the farm business summary. It has a direct affect on current cash outflow and future capital investment decisions. A farmer may have a good labor and management income, but a high debt payment schedule may seriously restrict management flexibility. Farm Net Worth is Total Farm Assets less Total Farm Liabilities. Family Net Worth is Total Assets less all Liabilities reported.

FARM FAMILY FINANCIAL SITUATION
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average Per Farm
Assets		
Livestock	$_____	$ 98,289
Feed and supplies	_____	19,555
Machinery and equipment	_____	67,741
Land and buildings	_____	142,143
Co-op investments	_____	2,146
Accounts receivable	_____	6,943
Cash and checking accounts	_____	2,557
Total Farm Assets	$_____	$339,374
Savings Accounts	$_____	$ 3,240
Cash value life insurance	_____	2,132
Stocks and bonds	_____	2,476
Nonfarm real estate	_____	11,413
Auto (personal share)	_____	1,325
All other	_____	5,805
Total Nonfarm Assets	$_____	$ 26,391
TOTAL ASSETS	$_____	$365,765
Liabilities		
Real estate	$_____	$ 65,009
Cattle & equipment	_____	44,164
Installment contract	_____	5,178
Other loans over 10 years	_____	591
Other loans 1 to 10 years	_____	2,244
Other loans less than 1 year	_____	2,243
Feed store accounts	_____	1,819
Other accounts	_____	985
Total Farm Liabilities	$_____	$122,233
Nonfarm Liabilities	_____	2,628
TOTAL LIABILITIES	$_____	$124,861
FARM NET WORTH (EQUITY CAPITAL)	$_____	$217,141
FAMILY NET WORTH	$_____	$240,904

Payment ability is the most important consideration in determining if and how proposed investments should be financed. The farm business must produce sufficient cash income to meet operating expenses, to cover family or personal living expenses, to make payments on debts and to cover cash purchases of capital items that occur during the year.

Payment ability is estimated in the following table. Interest paid and income from off-farm work are added to net cash farm income because planned or budgeted debt payments will include interest as well as principal. Estimate family living expenses for your farm to calculate cash available for debt payment and capital purchases made in cash.

Debt payments planned are the scheduled debt payments as of January. Some farms in the group had scheduled debt payments exceeding 50 percent of the milk receipts. Committing this much cash inflow to debt payments can put a "big squeeze" on cash available for operating the business and family living.

FINANCIAL MEASURES & DEBT COMMITMENT
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average
Payment Ability		
Net cash farm income	$_____	$ 28,135
Plus interest paid	_____	10,229
Plus off-farm income	_____	1,978
CASH AVAILABLE FOR DEBT SERVICE AND LIVING	$_____	$ 40,342
Less family living expenses*	_____	14,846
CASH AVAIL. FOR DEBT PAYMT. & CAP. PURCH.	$_____	$ 25,496
Scheduled Annual Debt Payments		
Real estate mortgage	$_____	$ 8,382
Cattle and equipment liens	_____	10,694
Installment contracts	_____	1,838
Other loans over 10 years	_____	61
Other loans 1 to 10 years	_____	872
Other loans and accounts less than 1 year	_____	2,925
TOTAL PAYMENTS PLANNED 1981	$_____	$ 24,772
Measures of Debt Commitment & Equity Position		
Debt payments planned per cow	$_____	$ 400
Debt payments planned as % of milk sales	_____ %	23%
Farm debt per cow	$_____	$ 1,972
Percent equity (total)	_____ %	66%

*Estimated at $8,700 per family plus 4 percent of cash receipts.

ANALYSIS OF THE FARM BUSINESS

In analyzing a farm business, a manager must consider measures or factors that reflect the performance of specified parts of the farm business. One method of doing this is to look at factors of size, production, labor efficiency, capital efficiency and cost control. These factors are considered on the following pages. Another method, which is not considered in this workbook, is to analyze the farm business by analyzing the individual crop and livestock enterprises and the relationships between these enterprises.

Size of Business

Studies have shown that, in general, larger farms are more profitable than smaller farms. Two basic reasons are that larger businesses make possible more efficient use of overhead inputs such as labor and machinery and there are more units of production on which to make a profit. Another reason is that profitable farm businesses with good management have the ability and incentive to become larger. Large farms are not necessarily more profitable and size increases are only profitable with good management.

MEASURES OF SIZE OF BUSINESS
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average 1980	Average 1979
Number of cows	_____	60	61
Number of heifers	_____	45	41
Pounds of milk sold	_____	841,300	856,000
Worker equivalent	_____	2.3	2.3
Total work units	_____	662	677
Total tillable acres (1979 estimated)	_____	199	206

In the table below, the 610 New York farms for 1979 are sorted by number of cows and the labor income is shown for each size group. In general, the large farms paid better, but, variability of income was significant.

COWS PER FARM AND LABOR AND MANAGEMENT INCOME
610 New York Dairy Farms, 1979

Number of Cows	Number of Farms	Percent of Farms	Labor & Management Income Per Operator	Labor & Management Income Per Cow
Under 40	89	15	$11,635	$380
40 - 54	168	28	14,680	344
55 - 69	123	20	19,435	404
70 - 84	73	12	22,814	387
85 - 99	30	5	18,876	301
100 - 114	34	6	24,429	308
115 - 129	24	4	35,147	460
130 - 149	22	4	23,757	268
150 and over	47	8	52,680	385

Rates of Production

Crop yields and rates of animal production are factors that affect farm incomes. In the table below, we examine the crops grown and yields along with the pounds of milk sold per cow.

CROP YIELDS & MILK SOLD PER COW
106 Northern New York Dairy Farms, 1980

Crop	My Farm Acres	My Farm Yield	Average of Farms Reporting Farms	Acres	Yield/Acre
Baled hay	_____		102	81	(combined below)
Hay crop silage	_____		59	76	
Corn silage	_____	_____	89	44	15.0 tons
Other forage	_____	_____	24	20	1.3 tons D.M.
Corn grain	_____	_____	26	39	90.6 bu.
Oats	_____	_____	24	18	41.2 bu.
Wheat			2	31	40.0 bu.
Other crops	_____	_____	13	21	
Tillable pasture	_____		45	35	
Idle tillable land	_____		24	26	
Dry matter:					
All hay crops	_____	_____	106	120	2.3 tons D.M.
All forage crops	_____	_____	106	162	2.9 tons D.M.
Milk sold per cow	_____			14,000	

Tons of dry matter of all hay and silage is a good measure of the overall rate of forage production.

The importance of strong milk output per cow is shown in the table below.

MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
610 New York Dairy Farms, 1979

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Feed Bought Per Cow	Labor & Management Income Per Operator	Labor & Management Income Per Cow
Under 10,000	22	48	$286	$ 1,092	$ 26
10,000 - 10,999	32	54	357	9,137	217
11,000 - 11,999	45	58	386	12,273	235
12,000 - 12,999	72	68	423	13,673	237
13,000 - 13,999	106	77	459	18,496	302
14,000 - 14,999	128	86	462	27,895	433
15,000 - 15,999	115	80	509	26,527	401
16,000 and over	90	77	548	29,697	488

Labor Efficiency

Labor input is an important factor in farm production. Several measures of accomplishment per worker (labor efficiency) are shown below.

MEASURES OF LABOR EFFICIENCY
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average 1980	Average 1979
Worker equivalent	_____	2.3	2.3
Cows per worker	_____	26	26
Lbs. milk sold per worker	_____	361,000	367,400
Work units per worker	_____	284	291

Number of cows per worker is calculated by dividing the average number of cows by the worker equivalent which represents the total farm labor force. Pounds of milk sold per worker is an important measure of labor efficiency on the dairy farm. It measures the ability of the labor force to handle a large number of cows without sacrificing milk output per cow.

It is important to look at other measures of labor efficiency, such as work units per worker because all dairy farms do not have the same relationship between cows, heifers, and crops grown.

Labor efficiency depends on a number of things. Among these are the amount of mechanization, the field and building layout, the work methods, and the abilities of the workers. All of these are management items under the control of the operator.

Another factor which may influence the productivity of labor is the wage paid to employees. A productive employee will require a reasonable and competitive wage.

MILK SOLD PER WORKER AND LABOR AND MANAGEMENT INCOME
610 New York Dairy Farms, 1979

Pounds of Milk Sold Per Worker	Number of Farms	Number of Cows	Lbs. Milk Per Cow	Labor & Management Income Per Operator	Labor & Management Income Per Cow
Under 250,000	68	40	11,600	$ 4,778	$137
250,000 - 299,999	85	54	13,200	12,141	293
300,000 - 349,999	94	58	13,800	16,458	335
350,000 - 399,999	102	64	14,500	18,276	361
400,000 - 449,999	83	75	14,600	20,204	331
450,000 - 499,999	54	81	14,900	26,863	481
500,000 - 599,999	81	113	14,800	39,637	446
600,000 and over	43	151	15,300	49,358	403

Capital Efficiency

Capital is a key resource and a manager must continually analyze its use in the business. The measures of capital efficiency shown in the following table include owned as well as borrowed capital. It is possible for the business to be undercapitalized, but investing too much capital per productive unit is a more common problem.

MEASURES OF CAPITAL EFFICIENCY
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average 1980	Average 1979
Farm capital per worker	$_____	$140,656	$131,671
Farm capital per cow	$_____	$ 5,286	$ 4,870
Land & buildings per cow	$_____	$ 2,293	$ 2,217
Land & buildings/tillable acre owned	$_____	$ 888	$ 873
Machinery investment per cow	$_____	$ 1,093	$ 954
Machinery per tillable acre	$_____	$ 340	$ 292
Capital turnover	_____yrs.	2.2 yrs.	2.2 yrs.

Land and building investment per tillable acre owned shows the relationship between investments in land and buildings. The farmer who owns little cropland but builds many farm buildings will have a relatively large land and building investment per tillable acre owned. This could be an indication that capital use is out of balance.

Capital turnover is calculated by dividing the total farm capital (total year end farm inventory) by the total farm receipts for the year The factor is called capital turnover because it measures the number of years of receipts needed to equal or "turnover" farm capital. A fast rate of turnover is more desirable than a slow rate because it means capital purchases can be paid off at a faster rate. This figure also depends upon the enterprise selection of the business.

CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME
610 New York Dairy Farms, 1979

Capital Turnover Rate - Years	Number of Farms	Number of Cows	Capital Investment Per Cow	Capital Investment Per Worker	Labor & Mgmt. Income Per Operator
Less than 1.5	13	117	$3,230	$102,900	$45,648
1.5 to 1.99	122	101	4,160	126,835	35,313
2.0 to 1.99	247	74	4,984	149,255	24,415
2.5 to 2.99	135	60	5,832	159,245	14,989
3.0 to 3.49	49	60	6,560	180,556	7,764
3.5 and over	44	54	7,645	179,670	- 4,965

Cost Control

The control of costs is a big factor in the success of modern commercial dairy operations. Feed, machinery and labor costs are major items and are examined in detail. However, it is important to check all cost items both large and small. Expenses should be incurred only when the returns from the expense are expected to be greater than the cost incurred.

Feed Costs

Purchased feed is the largest single expenditure on most dairy farms. Some farms included in this summary used as much as 40 cents from each dollar's worth of milk sold to purchase dairy feed. Two considerations are important in keeping the feed bill down: (1) Be careful that only nutrients required by the cow are being fed. A dairy farmer cannot afford to buy a feed mix that overfeeds energy or protein. (2) Be certain that the required nutrients are being obtained from their cheapest source. For example, what is the cheapest source of protein? urea? soybean oil meal? a commercial protein? Help in answering these questions can come from budgeting, from agribusinessmen selling feeds, and from dairy and management extension agents. Extension is supporting two computerized decision aids to assist in answering these questions: a NEWPLAN program of Least-Cost Balanced Dairy Rations, and the NYDHIC forage balancing program.

The size and productivity of the crop program has an important influence on the size of the purchased feed bill. Increased production of either roughages or grains should reduce the purchased feed expense unless cow numbers are increased. Also, heifer raising practices affect feed costs. The overall feed situation must be examined and evaluated as a "system".

FEED COSTS AND RELATED MEASURES
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average 1980	Average 1979
Dairy concentrate purchased per cow	$_____	$ 542	$ 508
Dairy concentrate purchased per cwt. of milk sold	$_____	$ 3.86	$ 3.62
Percent dairy concentrate is of milk receipts	_____ %	31%	31%
Crop expense per cow	$_____	$ 116	$ 115
Feed & crop expense/cwt. milk	$_____	$ 4.69	$ 4.44
Forage dry matter harvested/cow (tons)	_____	7.8	7.5
Acres of forage per cow	_____	2.7	2.8
Total tillable acres per cow	_____	3.3	3.4
Fertilizer and lime/tillable acre	$_____	$ 22	$ 23
Heifers as % of cow numbers	_____ %	75%	67%

Machinery, Labor and Miscellaneous Costs

Labor and machinery operate as a team on a modern farm. The challenge is to obtain an efficient combination that will result in a reasonable cost per unit of output.

MACHINERY & LABOR COSTS
106 Northern New York Dairy Farms, 1980

Item		My Farm	Average 1980	Average 1979
Machinery:	Depreciation[1/]	$_____	$ 7,906	$ 7,303
	Interest[2/]	_____	5,626	5,030
	Operating expense[3/]	_____	9,978	8,788
Total machinery		$_____	$ 23,510	$ 21,121
	Per cow	_____	392	346
	Per tillable acre	_____	118	103
Labor:	Value of operators[4/]	$_____	$ 10,500	$ 8,750
	Unpaid family[5/]	_____	2,000	1,800
	Hired	_____	7,545	7,038
Total labor		$_____	$ 20,045	$ 17,588
	Per cow	_____	334	288
	Per cwt. milk	_____	2.38	2.05
Labor & machinery costs/cwt. milk		$_____	$ 5.17	$ 4.52

1/ Regular depreciation from last years tax plus 10 percent of new purchases.

2/ Nine percent of average machinery investment.

3/ Machine hire, repairs, farm share auto expense, and gas and oil.

4/ $750 per month in 1980, $625 in 1979.

5/ $500 per month in 1980, $450 in 1979.

MISCELLANEOUS COST CONTROL MEASURES
106 Northern New York Dairy Farms, 1980

Item	My Farm	Average 1980	Average 1979
Livestock expense per cow	$_____	$ 144	$ 134
Real estate expense per cow	$_____	$ 116	$ 108
Total farm expense per cow	$_____	$2,081	$1,857

Livestock expense per cow includes breeding fees, veterinary and medicine, milk marketing, dairy supplies, bedding and DHIC fees. Real estate expenses include repairs, taxes, insurance and rent.

YEARLY CASH FLOW PLANNING & ANALYSIS

Completing the worksheet below can be a valuable tool in planning expansions and for setting goals for improving the farm business. The average is from 106 Northern New York farms.

Item	Average Per Cow	My Farm, Per Cow	My Farm, Total	Cows Goal
CASH RECEIPTS				
Milk sales	$ 1,772	$	$	$
Crop sales	15			
Dairy cattle	118			
Calves & other livestock	50			
Other	26			
Total Cash Receipts	$ 1,981	$	$	$
CASH EXPENSES				
Hired labor	126	$	$	$
Dairy concentrate	542			
Hay and other	15			
Machine hire	12			
Machine repair & auto expense	87			
Gas & oil	67			
Replacement livestock	57			
Breeding fees	21			
Vet & medicine	33			
Milk marketing (ADA, Dues)	32			
Other livestock expense	58			
Fertilizer & lime	74			
Seeds & plants	22			
Spray & other	20			
Land, bldg. fence repair (owner)	31			
Taxes (owner)	39			
Insurance (owner)	32			
Rent (owner)	14			
Telephone (farm share)	7			
Electricity (farm share)	31			
Miscellaneous	22			
Total Cash Expenses[1/]	$ 1,342	$	$	$
Total Cash Receipts	$ 1,981			
Total Cash Expenses[1/]	- 1,342	-	-	-
Net Cash Flow	$ 639	$	$	$
Cash Family Living Expense[2/]	- 247	-	-	-
Amount Left for Debt Service, Capital Investment & Retained Earnings	$ 392	$	$	$
Scheduled Debt Service	- 413	-	-	-
Available for Capital Investment	$ -21	$	$	$
Planned Expansion Livestock Purch.				
Planned Equipment Purchase				
Borrowed or Equity Funds Needed		$	$	$

[1/] Interest paid excluded from cash expenses as it is contained in Scheduled Debt Service.

[2/] Estimated: $8,700 per family and four percent of cash receipts.

PROGRESS OF THE FARM BUSINESS

Comparing your business with that of other farmers is one part of a business checkup. It is equally important to compare your current year's business with that of earlier years to show the progress you are making, and to plan ahead, by setting business targets or goals.

Item	1978	1979	1980	1981 Goal
Size of Business				
Number of cows				
Number of heifers				
Pounds of milk sold				
Worker equivalent				
Total tillable acres				
Rates of Production				
Lbs. milk sold per cow				
Tons hay D.M. per acre				
Tons corn silage/acre				
Labor Efficiency				
Cows per worker				
Lbs. milk sold per worker				
Cost Control				
Purch. feed as % of milk sold	$	$	$	$
Feed & crop exp./cwt. milk	$	$	$	$
Labor & mach. cost/cow	$	$	$	$
Capital Efficiency				
Farm capital per cow	$	$	$	$
Capital turnover	$	$	$	$
Price				
Price per cwt. milk	$	$	$	$
Financial Summary				
Net cash farm income	$	$	$	$
Labor & mgt. inc./oper.	$	$	$	$
Farm net worth	$	$	$	$
Rate of return on equity	%	%	%	%
Percent equity	%	%	%	%
Farm debt per cow				

MEASURE YOUR PERFORMANCE

After you have entered your farm business data on the pages of this workbook, categorize your farm business performance into three groups. List the strong points, those which indicate average performance and those areas which need improvement. Your business factors that exceed the regional average should be listed as strong points, factors that are close to the regional average should be identified as average, and factors that are below average should be listed under need improvement.

The Farm Business Chart on the next page can also be used to identify strengths and weaknesses by comparing your business with a large number of New York dairy farms summarized for the previous year. It is recommended that you use more than one standard for comparison when analyzing the farm business.

STRONG POINTS:

_____

_____

_____

_____

AVERAGE:

_____

_____

_____

_____

NEED IMPROVEMENT:

_____

_____

_____

After identifying opportunities for improvement, consider alternative ways of solving each problem. List each alternative and analyze the consequences in detail. Extension conducts many schools, meetings, and provides many printed materials that should be of assistance. Local agribusinesses often provide helpful information and assistance. Seek out information related to the problem under consideration.

Another way to measure your management performance is to compare your current business factors with those from previous years. Page 17 is provided for this purpose. Answering the following questions may also help evaluate your farm business progress.

1) Do livestock numbers, labor force and crop acres make up a well balanced unit of resources?

2) Have rates of production shown a steady increase?

3) When will milk output per worker reach 600,000 pounds?

4) Have increases in costs been limited to the effects of inflation?

5) Is growth in net worth keeping up with increased capital investment?

6) Is net cash farm income increasing fast enough to meet your needs?

7) Have you reached the business goals set for 1980 and have you set new goals for 1981?

MANAGEMENT PERFORMANCE OF STATEWIDE COOPERATORS

The Farm Business Chart is a tool which can be used in analyzing a business by drawing a line through the figure in each column which represents the current level of management performance. The figure at the top of each column is the average of the top 10 percent of the 610 farms for that factor. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. Each column of the chart is independent of the others. The farms which are in the top 10 percent for one factor would not necessarily be the same farms which make up the top 10 percent for any other factor.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
610 New York Dairy Farms, 1979

Size of Business			Rates of Production			Labor Efficiency	
Man Equivalent	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
5.5	191	2,798,600	17,400	4.6	19	44	651,800
3.6	116	1,686,600	16,000	3.8	17	37	531,700
3.1	87	1,264,000	15,400	3.3	16	33	474,400
2.8	72	1,041,800	14,900	3.0	15	30	429,400
2.4	63	915,100	14,500	2.8	14	28	393,500
2.2	56	799,700	14,000	2.5	13	26	363,400
2.0	50	704,100	13,400	2.3	12	24	331,400
1.8	45	604,700	12,800	2.1	10	23	301,100
1.6	40	513,300	11,800	1.8	8	20	266,200
1.3	32	370,500	9,900	1.4	5	17	202,900

Feed Bought		Machinery Cost Per Cow	Labor and Machinery Cost Per Cow	Feed and Crop Expense Per Cwt. Milk
Per Cow	% of Milk Receipts			
$198	13%	$182	$426	$2.68
309	19	242	494	3.31
362	23	270	537	3.62
410	26	296	570	3.85
449	28	320	605	4.12
490	29	344	642	4.37
532	32	369	683	4.60
566	34	403	726	4.85
615	36	454	785	5.17
709	41	569	957	5.78

The cost control factors are ranked from low to high, but the lowest cost is not necessarily the most profitable. Many things affect the level of costs, and these items must be taken into account when analyzing the factors.

FARM BUSINESS SUMMARY BY HERD SIZE
610 New York Dairy Farms, 1979

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	$ 50,187	$ 70,091	$ 88,963	$111,369
Feed & supplies	9,101	15,519	21,812	29,839
Machinery & equipment	35,935	49,977	62,625	78,440
Land & buildings	104,827	135,709	160,421	203,220
TOTAL INVESTMENT	$200,050	$271,296	$333,821	$422,868
Receipts				
Milk sales	$ 52,145	$ 75,798	$104,128	$131,609
Dairy cattle sold	4,756	7,682	9,105	11,993
Other livestock sales	2,009	2,290	2,419	3,524
Crop sales	312	684	1,038	1,261
Miscellaneous receipts	1,551	1,717	1,538	2,534
Total Cash Receipts	$ 60,773	$ 88,171	$118,228	$150,921
Increase in livestock	13,255	15,875	21,148	27,034
Increase in feed & supplies	1,283	2,339	3,002	4,796
TOTAL FARM RECEIPTS	$ 75,311	$106,385	$142,378	$182,751
Expenses				
Hired labor	$ 1,685	$ 4,066	$ 6,343	$ 10,558
Dairy feed	15,147	21,995	28,255	35,466
Other feed	752	693	836	1,066
Machine hire	368	578	698	752
Machinery repair	2,370	3,585	5,211	6,965
Auto expense (farm share)	332	336	384	365
Gas & oil	2,023	2,603	3,704	4,727
Purchased animals	2,562	3,364	4,332	4,580
Breeding fees	653	1,023	1,290	1,712
Veterinary & medicine	1,011	1,499	1,845	2,144
Milk marketing	1,331	1,857	2,654	4,130
Other livestock expense	1,820	2,967	3,899	4,902
Fertilizer & lime	2,206	3,612	5,028	7,973
Seeds & plants	759	1,160	1,698	2,000
Spray & other crop expense	513	803	1,290	1,772
Land, bldg. fence repair	853	1,604	2,046	2,202
Taxes & insurance	2,623	3,527	4,207	5,611
Electric & phone (farm share)	1,331	1,953	2,293	3,211
Interest paid	4,034	6,447	9,016	11,734
Miscellaneous expenses	1,094	1,931	2,535	2,960
Total Cash Expenses	$ 43,467	$ 65,603	$ 87,564	$114,830
Machinery depreciation	3,536	4,605	5,431	7,940
Building depreciation	1,388	2,418	3,306	4,052
Unpaid family labor	1,800	1,800	1,800	1,350
Interest on equity @ 9%	12,578	16,149	19,634	25,537
Decrease in feed & supplies	0	0	0	0
TOTAL FARM EXPENSES	$ 62,769	$ 90,575	$117,735	$153,709
Financial Summary				
Total Farm Receipts	$ 75,311	$106,385	$142,378	$182,751
Total Farm Expenses	62,769	90,575	117,735	153,709
Labor & Management Income	$ 12,542	$ 15,810	$ 24,643	$ 29,042
Number of operators	(96) 1.08	(181) 1.07	(156) 1.27	(93) 1.27
LABOR & MGMT. INCOME/OPER.	$ 11,635	$ 14,680	$ 19,435	$ 22,814

FARM BUSINESS SUMMARY BY HERD SIZE
610 New York Dairy Farms, 1979

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	$136,167	$137,361	$175,692	$189,163	$263,356
Feed & supplies	34,434	40,338	46,263	56,794	79,357
Machinery & equipment	85,131	91,369	106,611	121,377	158,209
Land & buildings	238,672	234,728	274,673	342,599	425,345
TOTAL INVESTMENT	$494,404	$503,796	$603,239	$709,933	$926,267
Receipts					
Milk sales	$154,571	$180,777	$209,809	$234,613	$359,184
Dairy cattle sold	16,866	15,073	17,760	23,315	35,240
Other livestock sales	6,160	3,256	4,207	5,766	8,626
Crop sales	1,137	1,005	2,359	1,878	4,592
Miscellaneous receipts	2,476	4,106	2,805	6,401	5,912
Total Cash Receipts	$181,210	$204,217	$236,940	$271,973	$413,554
Increase in livestock	25,461	27,240	43,204	27,591	56,202
Increase in feed & supplies	5,373	5,052	7,627	11,121	14,077
TOTAL FARM RECEIPTS	$212,044	$236,509	$287,771	$310,685	$483,833
Expenses					
Hired labor	$ 11,971	$ 17,474	$ 18,740	$ 27,423	$ 44,078
Dairy feed	42,224	50,188	55,670	58,640	98,093
Other feed	1,503	1,767	2,875	2,041	1,941
Machine hire	1,432	1,096	1,359	2,213	3,517
Machinery repair	9,058	9,239	10,912	12,484	17,939
Auto expense (farm share)	706	829	574	473	660
Gas & oil	6,263	6,884	7,418	8,388	12,702
Purchased animals	6,332	5,808	5,184	9,439	18,686
Breeding fees	2,301	1,977	2,383	2,827	4,391
Veterinary & medicine	2,914	2,919	4,033	4,648	7,070
Milk marketing	2,956	5,161	4,675	6,919	10,167
Other livestock expense	5,919	6,770	5,822	6,877	12,078
Fertilizer & lime	9,022	10,514	10,624	14,231	18,152
Seeds & plants	2,974	2,845	3,765	4,152	6,082
Spray & other crop expense	2,179	2,588	2,273	3,420	5,585
Land, bldg., fence repair	2,919	3,124	3,208	2,874	5,575
Taxes & insurance	6,163	6,689	7,772	9,503	13,436
Electric & phone (farm share)	3,513	3,868	3,464	4,430	6,256
Interest paid	13,343	15,730	15,335	18,721	29,434
Miscellaneous expenses	4,512	4,853	5,830	7,582	9,802
Total Cash Expenses	$138,204	$160,323	$171,916	$207,285	$325,644
Machinery depreciation	12,034	9,451	15,076	13,519	17,676
Building depreciation	5,481	4,422	6,124	10,497	10,695
Unpaid family labor	1,350	1,800	900	450	900
Interest on equity @9%	27,925	28,193	38,118	42,230	55,299
Decrease in feed & supplies	0	0	0	0	0
TOTAL FARM EXPENSES	$184,994	$204,189	$232,134	$273,981	$410,214
Financial Summary					
Total Farm Receipts	$212,044	$236,509	$287,771	$310,685	$483,833
Total Farm Expenses	184,994	204,189	232,134	273,981	410,214
Labor & Mgmt. Income	$ 27,050	$ 32,320	$ 55,637	$ 36,704	$ 73,619
Number of operators	1.4	1.3	1.6	1.5	1.5
LABOR & MGMT. INC./OPER.	$ 18,876	$ 24,420	$ 35,147	$ 23,757	$ 50,149

SELECTED BUSINESS FACTORS BY HERD SIZE
610 New York Dairy Farms, 1979

Item	Farms with: Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows
Number of farms	89	168	123	73
Size of Business				
Number of cows	33	46	61	75
Number of heifers	24	32	43	58
Pounds of milk sold	443,600	642,600	879,300	1,103,500
Man equivalent	1.8	2.0	2.3	2.6
Total work units	392	521	677	842
Total crop acres	114	152	190	237
(Crop acres rented)	(27)	(42)	(60)	(77)
Rates of Production				
Milk sold per cow	13,440	13,970	14,420	14,700
Tons hay crops per acre	2.2	2.4	2.6	2.8
Tons corn silage per acre	11.7	12.7	12.6	13.8
Bushels of oats per acre	58	60	62	56
Labor Efficiency				
Cows per man	19	23	26	29
Pounds milk sold per man	253,500	321,300	377,400	427,700
Work units per man	224	261	291	326
Feed Costs				
Feed purchased per cow	$459	$478	$463	$473
Crop expense per cow	$105	$121	$131	$157
Feed cost per cwt. milk	$3.41	$3.42	$3.21	$3.21
Feed & crop exp. per cwt milk	$4.20	$4.29	$4.12	$4.28
% feed is of milk receipts	29%	29%	27%	27%
Hay equivalent per cow	7.9T	8.4T	8.1T	8.9T
Crop acres per cow	3.5	3.3	3.1	3.2
Fertilizer & lime/crop acre	$19	$24	$26	$34
Machinery and Labor Costs				
Total machinery costs	$11,653	$15,927	$20,719	$27,362
Machinery cost per cow	$353	$346	$340	$365
Machinery cost/cwt. milk	$2.63	$2.48	$2.36	$2.48
Labor cost per cow	$362	$311	$293	$289
Labor cost per cwt. milk	$2.69	$2.23	$2.03	$1.96
Capital Efficiency				
Investment per man	$114,300	$135,650	$143,300	$163,900
Investment per cow	$5,700	$5,650	$5,220	$5,400
Investment per cwt. milk	$45	$42	$38	$38
Land & buildings per cow	$3,000	$2,800	$2,500	$2,600
Machinery investment/cow	$1,030	$1,040	$980	$1,000
Capital turnover	2.7	2.6	2.3	2.3
Other				
Price per cwt. milk sold	$11.75	$11.80	$11.84	$11.93
Acres hay crops	83	101	117	135
Acres corn silage	23	36	46	64
Inventory changes 1979*:				
Number of cows	0	0	0	0
Invt. value per cow**	+ $438	+ $377	+ $388	+ $439

* Change from 1/1/79 to 1/1/80.
** Livestock inventory includes heifers.

SELECTED BUSINESS FACTORS BY HERD SIZE
610 New York Dairy Farms, 1979

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	30	34	24	22	47
Size of Business					
Number of cows	90	105	121	137	205
Number of heifers	73	74	95	97	136
Pounds of milk sold	1,311,500	1,486,700	1,766,500	1,969,200	2,996,700
Man equivalent	3.1	3.4	3.8	3.8	5.3
Total work units	1,041	1,156	1,347	1,488	2,186
Total crop acres	298	316	357	387	545
(Crop acres rented)	(111)	(122)	(104)	(160)	(186)
Rates of Production					
Milk sold per cow	14,572	14,159	14,599	14,374	14,618
Tons hay crops per acre	3.1	2.8	3.1	3.0	3.3
Tons corn silage/acre	13.2	13.6	13.8	15.2	15.1
Bushels oats/acre	70	64	76	47	69
Labor Efficiency					
Cows per man	29	31	32	36	38
Pounds milk sold/man	425,812	434,708	471,067	514,151	562,233
Work units per man	338	338	359	389	410
Feed Costs					
Feed purchased per cow	$469	$478	$460	$428	$479
Crop expense per cow	$158	$152	$138	$159	$145
Feed cost per cwt. milk	$3.22	$3.38	$3.15	$2.98	$3.27
Feed & crop exp./cwt. milk	$4.30	$4.45	$4.09	$4.09	$4.27
% feed is of milk receipts	27%	28%	27%	25%	27%
Hay equivalent per cow	9.0T	8.2T	8.7T	8.3T	8.0T
Crop acres per cow	3.3	3.0	3.0	2.8	2.7
Fert. & lime/crop acre	$30	$33	$30	$37	$33
Machinery and Labor Costs					
Total machinery costs	$36,827	$34,952	$44,095	$47,430	$65,823
Machinery cost per cow	$409	$333	$364	$346	$321
Machinery cost/cwt. milk	$2.81	$2.35	$2.50	$2.41	$2.20
Labor cost per cow	$271	$276	$264	$289	$273
Labor cost/cwt. milk	$1.86	$1.95	$1.81	$2.01	$1.87
Capital Efficiency					
Investment per man	$160,521	$147,309	$160,864	$185,361	$173,784
Investment per cow	$5,260	$4,539	$4,536	$4,965	$4,432
Investment/cwt. milk	$38	$34	$34	$36	$31
Land & buildings/cow	$2,539	$2,115	$2,065	$2,396	$2,035
Machinery investment/cow	$906	$823	$802	$849	$757
Capital turnover	2.3	2.1	2.1	2.3	1.9
Other					
Price per cwt. milk sold	$11.79	$12.16	$11.80	$11.91	$11.99
Acres hay crops	153	167	193	179	237
Acres corn silage	77	88	101	119	170
Inventory changes 1979*:					
Number of cows	+ 4	+ 5	+ 7	+ 6	+ 6
Invt. value per cow**	+ $219	+ $198	+ $219	+ $144	+ $240

* Change from 1/1/79 to 1/1/80.
** Livestock inventory includes heifers.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
610 New York Dairy Farms, January 1, 1980

Item	Farms with: Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows
Number of farms	89	168	123	73
Assets				
Livestock	$ 50,187	$ 70,092	$ 88,964	$111,370
Feed & supplies	9,102	15,519	21,812	29,839
Machinery & equipment	35,936	49,978	62,625	78,440
Land & buildings	104,827	135,709	160,422	203,220
Co-op investment	702	2,080	3,223	5,540
Accounts receivable	3,511	5,323	7,806	10,878
Cash & checking accounts	1,652	1,804	1,975	2,573
Total Farm Assets	$205,917	$280,505	$346,827	$441,860
Savings accounts	3,420	1,872	4,069	3,690
Cash value life insurance	2,132	2,329	3,363	2,325
Stocks & bonds	2,467	1,227	2,598	1,733
Nonfarm real estate	861	2,639	8,283	4,678
Auto (personal share)	798	1,204	1,454	1,312
All other	4,605	5,213	5,143	3,430
Total Nonfarm Assets	$ 14,283	$ 14,484	$ 24,910	$ 17,168
TOTAL ASSETS	$220,200	$294,989	$371,737	$459,028
Liabilities				
Real estate mortgage	$ 35,766	$ 56,931	$ 74,477	$ 92,788
Liens on cattle & equipment	22,083	32,439	40,873	52,896
Installment contracts	2,016	3,120	2,610	2,300
Other loans over 10 years	1,329	1,943	2,647	1,601
Other loans 1 to 10 years	3,057	3,253	4,206	4,138
Other loans less than 1 year	714	1,167	1,604	1,713
Feed store & other accounts	1,202	2,223	2,260	2,675
Total Farm Liabilities	$ 66,167	$101,076	$128,677	$158,111
Nonfarm Liabilities	344	980	1,954	1,005
TOTAL LIABILITIES	$ 66,511	$102,056	$130,631	$159,116
Farm Net Worth (Equity Capital)	$139,750	$179,429	$218,150	$283,749
FAMILY NET WORTH	$153,689	$192,933	$241,106	$299,912
Financial Measures				
Percent equity	70%	65%	65%	65%
Farm debt per cow	$1,890	$2,060	$2,010	$2,000
Available for debt service & living	$21,334	$29,000	$39,700	$47,820
Scheduled annual debt payment	$11,210	$16,900	$22,900	$28,300
Scheduled debt payment per cow	$320	$345	$360	$360
Scheduled debt payment as percent of milk check	21%	22%	22%	22%

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
610 New York Dairy Farms, January 1, 1980

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	30	34	24	22	47
Assets					
Livestock	$136,168	$137,361	$175,692	189,165	$263,357
Feed & supplies	34,434	40,339	46,263	56,794	79,357
Machinery & equipment	85,132	91,369	106,612	121,377	158,210
Land & buildings	238,672	234,728	274,673	342,600	425,346
Co-op investment	5,347	6,353	7,832	10,821	17,202
Accounts receivable	11,581	14,193	15,230	21,918	30,163
Cash & checking accounts	2,153	2,578	5,428	4,540	5,686
Total Farm Assets	$513,487	$526,921	$631,730	$747,215	$979,321
Savings accounts	2,583	2,137	10,587	4,400	3,886
Cash value life insurance	4,050	6,302	4,506	4,021	2,654
Stocks & bonds	3,134	5,560	1,203	3,371	4,974
Nonfarm real estate	1,266	1,088	3,125	14,921	10,557
Auto (personal share)	1,035	1,034	2,087	2,295	1,419
All other	5,030	4,917	5,180	14,888	3,775
Total Nonfarm Assets	$ 17,098	$ 21,038	$ 26,688	$ 43,896	$ 27,265
TOTAL ASSETS	$530,585	$547,959	$658,418	$791,111	$1,006,586
Liabilities					
Real estate mortgage	$104,950	$115,743	$113,797	$157,919	$192,226
Liens on cattle & equipment	63,797	75,457	71,309	89,107	126,598
Installment contracts	19,913	4,445	3,677	7,523	8,377
Other loans over 10 years	2,498	3,872	3,166	8,424	12,868
Other loans 1 to 10 years	7,091	7,719	5,478	8,061	14,647
Other loans less than 1 year	2,541	3,613	8,185	1,970	6,953
Feed store & other accounts	2,421	2,816	2,584	4,991	3,218
Total Farm Liabilities	$203,211	$213,665	$208,196	$277,995	$364,887
Nonfarm Liabilities	326	672	635	2,687	3,662
TOTAL LIABILITIES	$203,537	$214,337	$208,831	$280,682	$368,549
Farm Net Worth (Equity Capital)	$310,276	$313,256	$423,534	$469,220	$614,434
FAMILY NET WORTH	$327,048	$333,622	$449,587	$510,429	$638,037
Financial Measures					
Percent equity	62%	61%	68%	65%	63%
Farm debt per cow	$ 2,162	$ 1,925	$ 1,554	$ 1,944	$ 1,738
Available for debt service & living	$ 56,341	$ 59,618	$ 80,352	$ 83,403	$117,338
Scheduled annual debt payment	$ 42,310	$ 40,026	$ 42,021	$ 44,834	$ 74,244
Scheduled debt payment per cow	$ 450	$ 361	$ 314	$ 314	$ 354
Scheduled debt payment as percent of milk check	27%	22%	20%	19%	21%

Financial Analysis Chart
610 New York Dairy Farms, 1979

Liquidity (Repayment)						
Scheduled Debt Payments Per Cow	Available For Debt Service Per Cow	Cash Flow Coverage Ratio[a]	Debt Structure Ratio[b]	Debt Per Dollar Milk Sales	Debt Payments Per Dollar Milk Sales	Debt/ Income Ratio[c]
$ 30	$-62	-0.27	0.04	$0.07	$0.02	$0.06
137	169	0.42	0.21	0.38	0.08	0.33
209	259	0.65	0.29	0.63	0.13	0.55
269	320	0.82	0.36	0.86	0.17	0.75
326	370	1.02	0.41	1.10	0.20	0.95
376	414	1.24	0.46	1.31	0.24	1.14
425	468	1.47	0.52	1.57	0.27	1.36
475	541	1.92	0.61	1.79	0.30	1.54
551	628	3.35	0.82	2.10	0.35	1.80
716	793	13.71	1.00	2.85	0.47	2.45

	Solvency				Profitability		
			Debt/Asset Ratio		Percentage Rate of Return on:		
Debt Per Cow	Leverage Ratio[d]	Percent Equity	Current & Intermediate	Long Term	Equity	Investment	Return to Management
$ 112	0.02	0.29	0.00	0.00	-0.04	0.02	$-20,282
614	0.13	0.41	0.06	0.07	0.06	0.07	- 5,693
1025	0.25	0.48	0.12	0.18	0.10	0.09	151
1382	0.37	0.54	0.18	0.30	0.13	0.11	4,829
1760	0.54	0.59	0.24	0.42	0.15	0.13	8,676
2119	0.71	0.65	0.30	0.51	0.17	0.14	13,684
2466	0.86	0.73	0.35	0.60	0.20	0.16	19,165
2808	1.08	0.80	0.41	0.69	0.23	0.18	25,675
3274	1.46	0.88	0.51	0.78	0.28	0.21	35,322
4248	2.80	0.98	0.73	1.05	0.45	0.27	65,331

Efficiency (Capital)					
Capital Turnover (Years)[e]	Cash Expense Structure[f]	Income Per Dollar Expense	Mach. and R. Estate Per Cow	Total Investment Per Cow	Total Investment Per Man (000)
1.3	0.07	$0.90	$1.964	$3,464	$ 80
1.5	0.11	1.07	2.472	4,165	99
1.7	0.13	1.16	2.754	4,531	112
1.8	0.15	1.23	3,007	4,835	124
1.9	0.17	1.30	3,247	5,164	135
2.0	0.18	1.37	3,510	5,493	148
2.2	0.20	1.46	3,808	5,787	159
2.4	0.22	1.54	4,141	6,238	174
2.7	0.25	1.67	4,590	6,829	193
3.7	0.30	1.91	6,100	8,414	242

a/ Amount available for debt service per dollar of annual scheduled debt payment.
b/ Percent of debt with current and intermediate term (less than 10 years).
c/ Dollars income per dollar total income.
d/ Dollars of debt per dollar of equity.
e/ Capital investment per dollar of income.
f/ Percent of cash expensesthat are fixed. Fixed expenses include taxes, insurance, interest and land, building and fence repair.