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DAIRY FARM MANAGEMENT

July 1987 A.E. Res. 87-20

BUSINESS SUMMARY NEW YORK 1986

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INTRODUCTION

Dairy farm business summary (DFBS) projects are an integral part of Cornell Cooperative Extension's agriculture program in New York State. The Department of Agricultural Economics of the New York State College of Agriculture and Life Sciences, and County Extension staff, cooperate in sponsoring DFBS projects. In 1986, more than 500 dairy farmers participated. Business records submitted by dairy farmers from 45 counties in the State provide the basis for continued Extension educational programs, data for applied research studies, and for use in the classroom. Regardless of the use of the data, confidentiality of individual farm data is maintained.

Cooperative Extension agents and specialists enroll the cooperators and collect the records. Each cooperator receives a detailed summary and analysis of his or her business. More than 70 percent of the agents and specialists are using a micro computer in their offices and/or on the farm to process and return the individual farm business reports for immediate use. Regional reports are prepared by Cornell faculty and used by DFBS cooperators and other farmers to compare their farm with regional averages. The DFBS program helps farmers develop managerial skills and solve business management problems.

Records from the nine regions of the State have been combined and the total data set analyzed as an applied research study of the effects of changes in price, technology, and management on dairy farm incomes (Figure 1, page 2). This research provides current farm business information for use by dairy farmers, Cooperative Extension staff, teachers, and others concerned with the New York dairy industry.

A total of 414 farm business records are included in the main body of this report. These farms do NOT represent the "average" for all dairy farms in the State. Participation was on a voluntary basis, therefore, not all areas or types of operations were equally represented (Figure 1, page 2). The 414 farms represent a cross section of better than average commercial dairy farm owner-operators in the State. Dairy farm renters, dairy-cash crop farmers, and part-time dairy operators have been excluded from the main body of this report and summarized separately in the supplemental information section of the publication.

Features

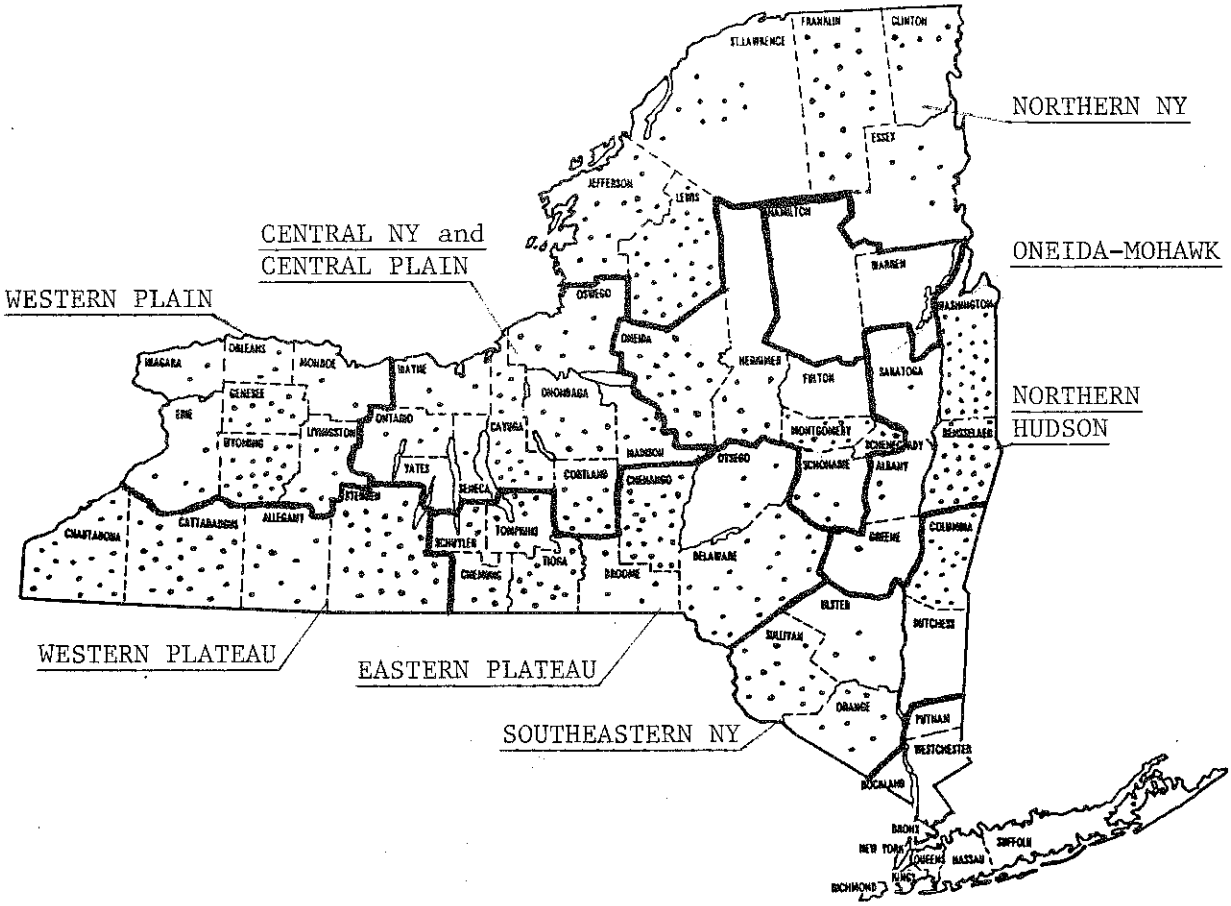
Accrual procedures have been used to provide the most accurate accounting of farm receipts and farm expenses for measuring farm profits. An explanation of these procedures is found on page 8. Four measures of farm profits are calculated on pages 11 through 13. The balance sheet and cash flow statement are featured on pages 14 through 18.

The dairy program analysis includes data on the costs of producing milk (pages 22-26) and separate farm business charts using data from freestall farms versus conventional stall dairy farms (pages 47-51).

Acknowledgements

The authors appreciate the outstanding assistance provided by the following staff members: Gregory Bogardo - programming, Joe Baldwin - artwork, Cindy Farrell - wordprocessing, and Beverly Carcelli - proofreading and distribution.

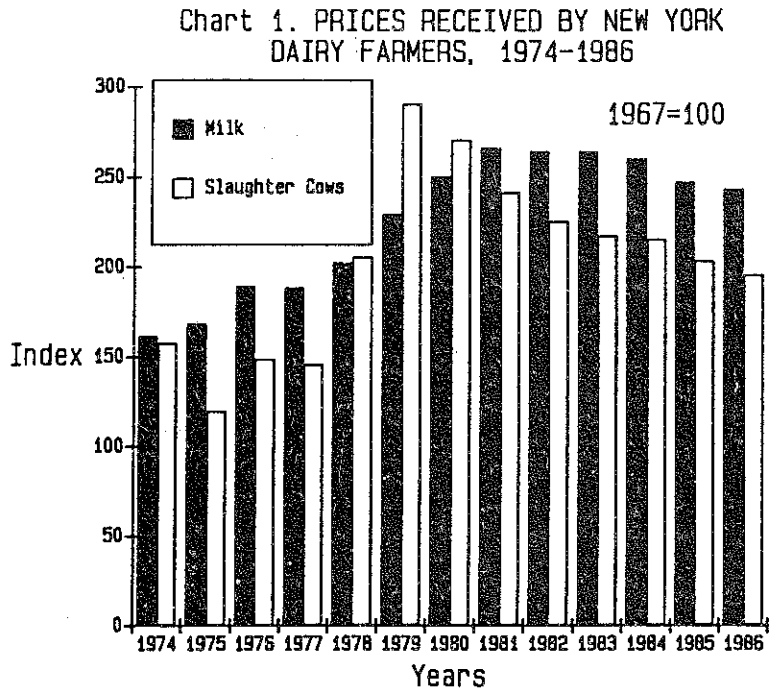
Figure 1. LOCATION OF THE 414 NEW YORK DAIRY FARMS IN THE 1986 DAIRY FARM BUSINESS SUMMARY



1986 Regional Summary Publications

Region	Publications	Author(s)
Northern New York	A.E. Ext. 87-8	William F. Lazarus
Western Plain Region	A.E. Ext. 87-9	Stuart F. Smith
Eastern Plateau Region	A.E. Ext. 87-10	Robert A. Milligan & Linda D. Putnam
Western Plateau Region	A.E. Ext. 87-11	George L. Casler
Northern Hudson Region	A.E. Ext. 87-13	Stuart F. Smith
Oneida-Mohawk Region	A.E. Ext. 87-14	Eddy L. LaDue
Central New York & Central Plain	A.E. Ext. 87-15	Wayne A. Knoblauch, Robert A. Milligan & Linda D. Putnam
Southeastern New York	A.E. Ext. 87-16	Stuart F. Smith

THE ECONOMIC ENVIRONMENT FACING NEW YORK DAIRY FARMERS



SOURCE: NYCRS, New York Crop and Livestock Report.

The prices dairy farmers receive for milk and slaughter cows have a major impact on dairy farm profits. Milk prices generally increased from 1974 to 1981. Since 1981, annual milk prices have been declining, although the average monthly farm price exceeded 1985 levels during the last five months of 1986. Slaughter cow prices hit a six-year low in 1975, peaked in 1979, and have declined throughout the 1980's.

Table 1. PRICES RECEIVED BY NEW YORK DAIRY FARMERS, 1974-1986

Year	All Milk ($/cwt)	Slaughter Cows ($/cwt)	Monthly Farm Price of Milk ($/cwt)	1985	1986
1974	8.39	27.10	January	14.00	12.50
1975	8.75	20.60	February	13.80	12.40
1976	9.83	25.40	March	13.30	12.00
1977	9.75	25.00	April	12.80	11.80
1978	10.50	35.30	May	12.30	11.60
			June	11.80	11.50
1979	11.90	49.80	July	12.30	12.10
1980	13.00	46.30	August	12.60	12.70
1981	13.80	41.30	September	12.80	13.20
1982	13.70	38.60	October	13.00	13.60
1983	13.70	37.20	November	12.90	13.70
			December	12.70	13.40
1984	13.50	36.90			
1985	12.80	34.90			
1986	12.60	33.60			

SOURCE: NYCRS, New York Crop and Livestock Report.

Table 2. PRICES PAID BY NEW YORK FARMERS FOR SELECTED ITEMS, 1976-1986

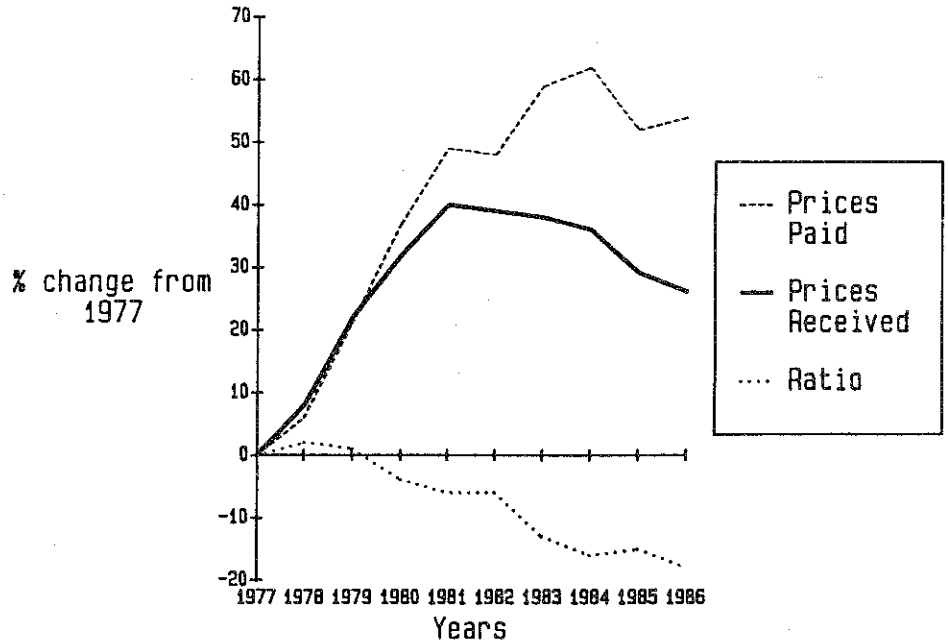
Year	Mixed Dairy Feed 16% Protein ($/ton)	Fertilizer, Urea, 45-46%N ($/ton)	Seed Corn, Hybrid* ($/bu)	Diesel Fuel ($/gal)	Tractor 50-59 PTO* ($)	Wage Rate All Hired Farm Workers ($/hr)
1976	139.00	180	36.50	0.420	9,300	2.48
1977	139.40	180	40.00	0.481	10,000	2.53
1978	136.50	189	43.00	0.509	10,900	2.78
1979	156.80	213	45.50	0.723	12,000	2.88
1980	179.60	259	52.50	1.030	13,400	3.12
1981	193.70	275	60.00	1.310	14,900	3.26
1982	176.60	278	63.70	1.240	16,000	3.26
1983	192.60	249	64.60	1.140	17,200	3.52
1984	194.30	250	70.20	1.140	17,400	3.60
1985	164.20	238	67.30	1.080	16,800	4.00***
1986	162.90	200**	65.60	0.840**	16,600	4.41***

SOURCE: NYCRS, New York Agricultural Statistics. USDA, ASB, Agricultural Prices. *United States average. **Northeast region average. ***New York and New England combined.

The prices dairy farmers pay for a given quantity of goods and services has a major influence on farm production costs. The astute manager will keep close watch on unit costs and utilize the most economical goods and services.

The table above shows average prices of selected goods and services used on New York dairy farms. Chart 2 shows the ratio of prices received for milk and prices paid by New York dairy farmers as a percent change from 1977. The ratio has been on a downward trend since 1978 except for a slight increase in 1985.

Chart 2. RATIO OF PRICES RECEIVED FOR MILK AND PRICES PAID BY NEW YORK DAIRY FARMERS, 1977-1986



SOURCE: NYCRS, New York Agricultural Statistics.

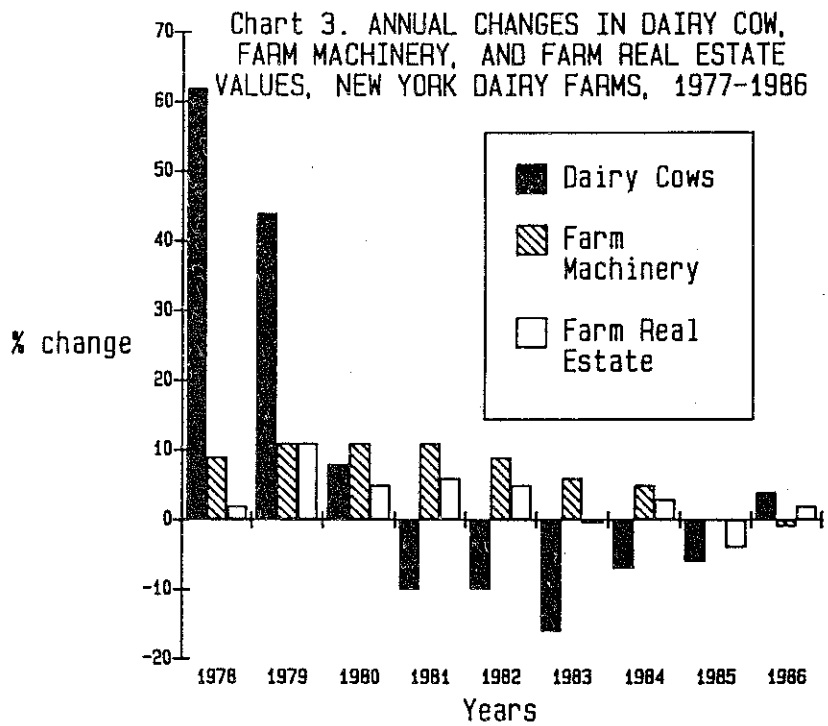
Inflation, farm profitability, supply and demand all have a direct impact on the inventory values on New York dairy farms. The table below shows year-end (December) prices paid for dairy cows (replacements), an index of these cow prices, an index of new machinery prices (U.S. average), the average per acre value of farmland and buildings reported in April (February for 1986), and an index of the real estate prices.

Table 3. VALUES OF NEW YORK DAIRY FARM INVENTORY ITEMS, 1977-1986

	Dairy Cows		Machinery*	Farm Real Estate	
Year	Value/Head	1977=100	1977=100	Value/Acre	1977=100
1977	$ 495	100	100	$587	100
1978	800	162	109	600	102
1979	1,150	232	121	670	113
1980	1,240	251	134	720	119
1981	1,120	226	149	773	126
1982	1,010	204	163	821	132
1983	850	172	173	817	129
1984	790	160	181	842	133
1985	740	149	181	808	128
1986	770	156	179	824	131

SOURCE: USDA, ERS, Farm Real Estate Market Developments Outlook and Situation. NYCRS, New York Agricultural Statistics. USDA, ASB, Agricultural Prices. *United States average.

Several price trends were reversed in 1986. Dairy cow prices turned up after declining for five consecutive years, new machinery prices declined for the first time in eight years, and farm real estate values strengthened. All of these changes are associated with the gradual improvement in economic conditions on dairy farms.



SOURCE: USDA, ERS, Farm Real Estate Market Developments Outlook and Situation. NYCRS, New York Agricultural Statistics.

Table 4. COST AND RETURN ESTIMATES PER HUNDREDWEIGHT OF MILK
Specialized Dairy Farms by Region, United States, 1986 (Preliminary)

Region	Returns/Cwt. Milk	Returns/Cwt. Total	Costs/Cwt. Variable	Costs/Cwt. Total*	Return to Operator's Mgmt.	Return to Labor, Mgmt. & Ownersh.**
1. Southern Plains (TEXAS)	$13.65	$14.46	$8.32	$11.25	$3.21	$4.42
2. Upper Midwest (MN,WI,MI,SD)	12.15	13.28	6.32	11.74	1.54	4.23
3. Northeast (NY,PA,OH,NEW ENGLAND)	12.72	13.61	7.38	12.14	1.47	3.85
4. Pacific (CA,WA)	11.83	12.53	7.61	9.43	3.10	3.81
5. Appalachia (KY,TN,VA,NC,GA)	13.21	14.01	8.57	12.74	1.27	3.51
6. Corn Belt (IN,IL,IA,MO)	12.27	13.18	7.21	12.69	0.49	3.39
National Average	12.42	13.36	7.14	11.70	1.66	3.96

SOURCE: USDA, ERS, Economic Indicators of the Farm Sector, Costs of Production, 1986 (preliminary).
*Total costs include allocated charges for unpaid labor and equity capital.
**Return to labor, management, and ownership excludes charges for unpaid labor and equity capital from total costs.

The Agriculture and Consumer Protection Act of 1973 directed the Secretary of Agriculture to make annual estimates of the costs of producing a number of major agricultural commodities. One of these is milk. The most recent set of estimates is for 1986 and was issued in 1987 as part of the Economic Indicators of the Farm Sector series by the ERS. Cost estimates were developed by the USDA for six major producing regions in the United States.

Over the past 10 years the differences in prices received for milk at the farm between regions have narrowed substantially. In 1986, the highest prices received nationally were in the South and the lowest in the Pacific region. The spread is now about $1.82 per hundredweight. There are important differences in average production costs between regions. The USDA estimates are based on a consistent methodology and appear reasonable in relation to other data and information from the six designated regions. In 1986, the Southern Plains region showed the highest return to labor, management, and ownership. The Northeast is in third place and ahead of the Pacific region on this measure.

At Cornell University, the "whole farm data" method is used to compute the cost of producing milk. This method is based on the actual costs and returns reported by 414 dairy farmers which is quite different from the USDA's use of budget estimates. One could compare cost of production data from these two sources keeping in mind the different methodologies.

SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics and Resources Used

Recognition of important business characteristics and identification of the farm resources used is necessary for evaluating management performance. The combination of resources and management practices is known as farm organization. Important farm business characteristics, the number of farms reporting these characteristics, and a listing of the average labor, land, and dairy cattle resources used are presented in the following table.

Table 5. BUSINESS CHARACTERISTICS AND RESOURCES USED
414 New York Dairy Farms, 1986

Type of Business	Number	Percent
Sole Proprietorship	295	72
Partnership	100	24
Corporation	18	4
Other	1	<1
Barn Type		
Stanchion	259	62
Freestall	144	35
Other	11	3
Milking System		
Bucket & Carry	3	1
Dumping Station	35	8
Pipeline	228	55
Herringbone	135	33
Other Parlor	13	3

Business Records	Number	Percent
Account Book	191	46
Agrifax (mail in)	67	16
ELFAC	36	9
On-Farm Computer	36	9
Other	84	20

Dairy Records	Number	Percent
D.H.I.C.	299	72
Owner Sampler	54	13
Other	18	4
None	43	11

Labor Force	Average	Percent
Operators	15.6 mo.	42
Family	4.7 mo.	13
Family unpaid	3.2 mo.	8
Hired	13.6 mo.	37
Total Months	37.1	100

	Average
Operators (total = 539)	1.30
Age	44
Education	13 yrs.
Estimated Value of Labor & Management	$24,116

Land Used	Farms Reporting Number	Farms Reporting Average
Total acres:		
Owned	414	347
Rented	349	269
Tillable acres:		
Owned	414	188
Rented	344	121
Total	414	288

Number of Dairy Livestock	Cows	Heifers
Beginning of Year	94	77
End of Year	97	78
Average for Year	95	77

The sole proprietorship, conventional stall barn, pipeline milking system, farm business account book, and DHIC record system continue to prevail on these dairy farms.

There were 539 full-time operator equivalents on the 414 dairy farms for an average of 1.30 operators per farm. The operators averaged 44 years of age and 13 years of formal education. Additional data on the labor force is in Table 38. All 414 farm businesses included in the regular dairy summary own farm real estate. Dairy farm renters are summarized separately later in this publication. However, 344 of the dairy farm owners rented an average of 121 acres of tillable land in 1986. The 414 farms averaged 288 total tillable acres per farm of which 100 acres were rented. Tables 20 and 26 contain additional information on land use and the dairy herd.

Accounting Procedures

Accrual accounting is used for measuring farm profitability. It is a more accurate method than cash accounting when examining the profitability of a business in a particular year. Cash expenses and receipts are used when evaluating the cash flow position of the business.

The accrual accounting system considers changes in accounts payable and receivable and changes in inventory of not only such items as crop and livestock inventory but also the inventory of production items such as fertilizer, seed, and fuel. In this manner, the total costs of production and the total value of production are obtained to provide an accurate representation of profitability in that year.

Accrual accounting is complimented by accounting procedures used to separate changes in inventory into changes caused by price and those caused by quality or quantity changes. Separating price changes (appreciation) from physical changes in the farm inventory are important in determining farm profitability. Appreciation of farm assets are included in the return to farm capital but excluded from the return to labor and management

Income Statement

The accrual income statement on the following page begins with an accounting of all farm business expenses. Farm business expenditures are grouped into seven major categories.

Hired labor includes gross wages plus the farm share of social security, workmen's compensation insurance, health insurance, and other employee benefits paid by the farm employer.

Feed expenses are divided into purchased dairy grain and concentrate, purchased dairy roughage, and all feed purchased for other livestock to allow more thorough analysis of dairy herd feeding costs. The costs of growing grain and roughage are not included in cash and accrual feed expenses.

Machinery costs represent all the operating costs of using power machinery on the farm. Ownership costs are excluded here but are included in the analysis of machinery costs.

Livestock expenses include the cost of supplies and services directly associated with the care and maintenance of the dairy herd, plus milk marketing costs. The purchase of replacement cattle is considered a herd maintenance expense while expansion livestock is not.

Crop expenses include the costs of fertilizer, lime, seeds, pesticides, and other crop supplies.

Real estate expenses are the direct costs associated with owning and maintaining farmland and buildings.

Other includes the farm share of utilities, interest paid on all farm indebtedness, and miscellaneous costs. Total operating expenses exclude expansion livestock and machinery and building depreciation. These nonoperating costs are included in total expenses. Depreciation charges are based on income tax figures.

Cash and accrual farm expenses are summarized below. Total operating accrual expenses for the 414 farms averaged $472 per day or $4.97 per cow per day. Total accrual expenses averaged more than $540 per day. The average expenses per farm and percent of total for each item are shown below.

Table 6. CASH AND ACCRUAL FARM EXPENSES
414 New York Dairy Farms, 1986

Expense Item	Cash Paid +	Change in Inventory +	Change in Accounts Payable =	Accrual Expenses	Percent
Hired Labor	$ 21,239		$ 42	$ 21,281	12
Feed					
Dairy grain & conc.	46,540	$-918	167	45,789	27
Dairy roughage	1,705	-91	205	1,819	1
Other livestock	729	29	2	760	<1
Machinery					
Mach. hire, rent/lease	1,801		37	1,838	1
Machinery repairs/parts	9,689	-40	11	9,660	6
Auto expense (farm share)	565		0	565	<1
Fuel, oil & grease	5,380	-11	-87	5,282	3
Livestock					
Replacement livestock	1,962		2	1,964	1
Breeding	2,892	-11	-33	2,848	2
Vet & medicine	4,285		15	4,300	3
Milk marketing	12,942		24	12,966	8
Cattle lease/rent	81		-1	80	<1
Other livestock expense	7,905	37	46	7,988	5
Crops					
Fertilizer & lime	7,407	96	33	7,536	4
Seeds & plants	3,338	-51	-15	3,272	2
Spray, other crop exp.	2,954	71	15	3,040	2
Real Estate					
Land/bldg./fence repair	2,449	-41	30	2,438	1
Taxes	4,956		120	5,076	3
Insurance	3,415		6	3,421	2
Rent & lease	3,855		39	3,894	2
Other					
Telephone (farm share)	770		0	770	<1
Electricity (farm share)	5,158		29	5,187	3
Interest paid	18,026		88	18,114	11
Miscellaneous	2,467	90	-5	2,552	1
Total Operating	$172,510	$-840	$770	$172,440	100
Expansion livestock	$ 1,218		$ 9	$ 1,228	
Machinery depreciation				15,545	
Building depreciation				8,135	
TOTAL ACCRUAL EXPENSES				$197,348	

Cash paid is the actual amount of money paid out during the year and does not necessarily represent the cost of goods and services actually used.

Accrual expenses are the costs of inputs actually used in this year's production. The value of feed and supplies used out of inventory are included as are the costs of inputs purchased but not paid for (net increases in accounts payable). Items paid for and not used (net additions to inventory) are excluded from accrual expenses as are payments made on inputs used in a prior year (net decreases in accounts payable).

Cash and accrual farm receipts are presented in the following table. Total cash receipts averaged $216,313 per farm. Total accrual receipts averaged $221,201 per farm and $2,328 per cow. Accrual receipts were greater than cash receipts primarily due to dairy herd growth. Cow numbers increased an average of three head per farm and heifer numbers increased from 77 to 78. The increase in homegrown feed (change in crop inventory) was very small in 1986 and averaged only $71 per additional cow.

Table 7. CASH AND ACCRUAL FARM RECEIPTS
414 New York Dairy Farms, 1986

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts	Percent
Milk sales	$193,611				$ 911		$194,522	88
Dairy cattle	11,919		$3,336		175		15,431	7
Dairy calves	2,378				0		2,378	1
Other livestock	582		-14		5		573	<1
Crops	1,857		214		232		2,303	1
Government receipts	3,220				109		3,329	2
Custom machine work	251				-19		232	<1
Gas tax refund	147				5		152	<1
Other	2,348				123		2,471	1
- Nonfarm noncash capital			190				190	
Total	$216,313		$3,346		$1,541		$221,201	100

Cash receipts includes the gross value of milk checks received during the year plus all other payments received for the sale of farm products, services, and government programs.

Accrual receipts represent the value of all farm commodities produced and services actually provided by the farmer during the year. Increases in livestock inventory caused by herd growth and/or quality, are included as accrual receipts. Decreases in inventory caused by herd reduction are deducted. Changes in inventories of crops grown are accounted for in accrual receipts. Changes in accounts receivable include the difference between the January milk check for this December's marketings and the previous January's check, and other delayed payments.

Nonfarm noncash capital are gifts and inheritances of cattle and crops received by the farm owner/operator, and included in inventory or used in the business during the year. They are deducted from growth in inventory and reduce accrual receipts because they came from outside the farm business. Gift and inheritances of machinery and real estate are accounted for in Table 15.

Profitability Analysis

Farm owners/operators contribute labor, management, and capital to their businesses. The best combination of these resources produces optimum profits. Farm profits can be measured as the return to all family resources or as the return to one or more individual resources such as labor and management.

Net farm income is the total combined return to the farm operator(s) and other unpaid family members for their labor, management, and equity capital. It is the farm family's net annual return from working, managing, financing, and owning the farm business. This is not a measure of cash available from the year's business operation. Cash flow is evaluated later in this report.

Net farm income is computed with and without appreciation. Appreciation represents the change in farm inventory values caused by changes in prices during the year. Appreciation is a major factor contributing to changes in farm net worth and must be included in the profitability analysis.

Table 8. NET FARM INCOME
414 New York Dairy Farms, 1986

Item	Average 414 Farms	Average Top 10% Farms*
Total accrual receipts	$221,201	$626,782
+ Appreciation: Livestock	1,689	-2,127
Machinery	4,165	6,579
Real Estate	10,979	15,388
Other Stock/Cert.	70	-1,301
= Total including appreciation	$238,104	$645,321
- Total accrual expenses	197,348	514,297
= Net Farm Income (with appreciation)	$ 40,756	$131,024
Net Farm Income (without appreciation)	$ 23,853	$112,485

*Average of 41 farms with highest net farm incomes (without appreciation).

Return to operator(s') labor, management, and equity capital measures the total business profits for the farm operators. It is calculated by deducting a charge for unpaid family labor from net farm income. Operator(s') labor is not included in unpaid family labor. Return to operator(s') labor, management, and equity capital has been compiled with and without appreciation. Appreciation is considered an important part of the return to ownership of farm assets.

Table 9. RETURN TO OPERATOR(S') LABOR, MANAGEMENT, AND EQUITY
414 New York Dairy Farms, 1986

	Average 414 Farms		Average Top 10% Farms	
Item	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	$40,756	$23,853	$131,024	$112,485
- Family labor unpaid @ $600 per month	1,926	1,926	702	702
= Return to Operator(s') Labor, Management, & Equity	$38,830	$21,927	$130,322	$111,783

Labor and management income is the share of net farm income without appreciation returned to the operator(s') labor and management. Appreciation is not included as part of the return to labor and management. Labor and management income is determined by deducting the cost of using equity capital at a real interest rate of five percent, from the return to operator(s') labor, management, and equity capital excluding appreciation. The interest charge reflects the long-term average rate of return that a farmer might expect to earn in comparable risk investments in a low inflation economy.

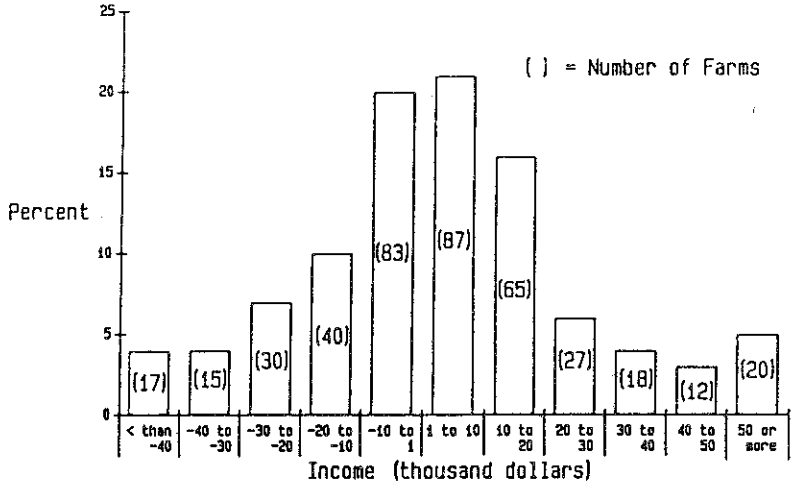
Labor and management income per operator measures the return to one full-time operator's labor and management. A full-time operator provides 12 months of labor and management.

Table 10. LABOR AND MANAGEMENT INCOME
414 New York Dairy Farms, 1986

Item	Average 414 Farms		Average Top 10% Farms
Return to operator(s') labor, management, & equity without appreciation	$21,927		$111,783
- Real interest @ 5% on $338,772 equity capital for average & $810,644 for the top 10%	16,939		40,532
= Labor & Management Income (1.30 operators)	$ 4,988	(1.79)	$ 71,251
Labor & Management Income per Operator	$ 3,837		$ 39,805

Labor and management income per operator averaged $3,837 on these 414 dairy farms in 1986. The range in labor and management income per operator was from less than -$50,000 to more than $60,000. Returns to labor and management were negative on 45 percent of the farms. Labor and management income per operator ranged from $0 to $19,999 on 37 percent of the farms while only 18 percent showed labor and management incomes of $20,000 or more per operator.

Chart 4. DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR
414 New York Dairy Farms, 1986



Return on equity capital measures the net return remaining for the farmer's equity or owned capital after a charge has been made for the owner-operator's labor and management. The earnings or amount of net farm income allocated to labor and management is the opportunity cost or value of operator(s') labor and management estimated by the cooperators. Return on equity capital is calculated with and without appreciation. The rate of return on equity capital is determined by dividing the amount returned by the end of year farm net worth or equity capital.

Table 11. RETURN ON EQUITY CAPITAL
414 New York Dairy Farms, 1986

Item	Average 414 Farms	Average Top 10% Farms
Return to operator(s') labor, management, & equity capital with appreciation	$38,830	$130,322
- Value of operator(s') labor & management	24,116	40,680
= Return on Equity Capital With Appreciation	$14,714	$ 89,642
Rate of Return on Equity Capital With Appreciation	4.3%	11.1%
Return on Equity Capital Without Appreciation	$-2,189	$71,103
Rate of Return Without Appreciation	-0.6%	8.8%

The rate of return on all capital can be computed by adding interest paid to the return on equity capital and dividing by total farm assets. It averaged 6.0 percent including appreciation and 2.9 percent not including appreciation on these farms in 1986.

Returns Per Unit of Input

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

Table 12. RETURNS TO ALL LABOR AND MANAGEMENT
414 New York Dairy Farms, 1986

Item	Average
Labor & management income per farm	$ 4,988
+ Cost of hired labor	21,281
+ Value of unpaid family labor	1,926
= Total Returns to All Labor & Management	$28,195
Average worker equivalent	3.09
Returns per worker equivalent	$9,125
Returns per hour (3,000 hours/worker/year)	$3.04

Farm and Family Financial Status

Evaluating the financial status of the farm business and the farm family is an important part of business analysis. The first step is to inventory all the assets, determine all the liabilities, and fill out the balance sheet. The second step is to analyze the completed balance sheet by evaluating the relationships between assets and liabilities and changes made during the year.

Table 13. 1986 FARM BUSINESS AND NONFARM BALANCE SHEET
414 New York Dairy Farms, 1986

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 3,283	$ 4,120	Accounts payable	$ 5,563	$ 6,346
Accounts rec.	16,556	18,136	Operating debt	3,783	4,598
Feed & supplies	42,670	43,722	Short-term	2,391	3,028
Total	$62,509	$65,978	Total	$11,737	$13,972
Intermediate			Intermediate		
Dairy cows:			Structured debt		
owned	$ 76,901	$ 80,350	1-10 years	$77,488	$76,988
leased	8	20	Financial lease		
Heifers	31,276	32,817	(cattle/mach.)	714	744
Bulls/other lvstk.	1,028	1,050	FLB & PCA stock	4,071	4,107
Mach./eq. owned	99,365	100,393	Total	$82,273	$81,839
Mach./eq. leased	705	725			
FLB & PCA stock	4,071	4,107	Long-Term		
Coop stock & cert.	5,871	7,449	Structured debt		
Total	$219,226	$226,910	≥10 years	$112,666	$112,559
Long-Term			Financial lease		
Land/buildings:			(structures)	2,163	2,199
owned	$253,576	$264,392	Total	$114,830	$114,758
leased	2,163	2,199			
Total	$255,739	$266,591	Total Farm Liab.	$208,840	$210,570
Total Farm Assets	$537,474	$559,479	FARM NET WORTH	$328,634	$348,909

Nonfarm Assets*	Jan. 1	Dec. 31	Nonfarm Liabilities* & Net Worth	Jan. 1	Dec. 31
Personal cash, chkg. & savings	$ 6,229	$ 6,614	Nonfarm Liab.	$1,595	$1,694
Cash value life ins.	4,006	3,867	NONFARM NET WORTH	$40,248	$43,120
Nonfarm real estate	10,076	10,640	FARM & NONFARM*	Jan. 1	Dec. 31
Auto (personal sh.)	2,699	3,198	Total Assets	$579,317	$604,293
Stocks & bonds	6,973	7,823	Total Liabilities	210,435	212,264
Household furn.	8,236	8,590			
All other	3,625	4,081	TOTAL FARM & NON-FARM NET WORTH	$368,882	$392,029
Total Nonfarm	$41,843	$44,814			

*Average of 268 farms completing the nonfarm balance sheet.

Financial lease obligations are included in the balance sheet. The present values of all future payments are listed as liabilities since the farmer (lessee) is committed to make the payments. The present values are also listed as assets, representing the future value the item has to the business.

The balance sheet analysis continues by examining financial and debt ratios and factors measuring levels of debt. Percent equity is calculated by dividing net worth by assets. Equity increases as the value of assets increase more than liabilities. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect strength in solvency and the potential capacity to borrow. The debt analysis ratios show how well the debt is structured and managed. Debt levels per unit of production include some old standards that are still useful if used with measures of cash flow and repayment ability. Thirteen farms reported no farm liabilities.

Table 14. BALANCE SHEET ANALYSIS
414 New York Dairy Farms, 1986

Item	Average 414 Farms	Average Top 10% Farms
Financial Ratios - Farm:		
Percent equity	62%	65%
Debt/asset ratio: total	0.38	0.35
long-term	0.43	0.40
inter. & current	0.33	0.31
Financial Ratios - Farm & Nonfarm:		
Percent equity	64%	65%
Total debt/asset ratio	0.36	0.35
Farm Debt Analysis:		
Accts. payable as % of total debt	3%	2%
Long-term liab. as % of total debt	54%	50%
Current & int. liab. as % of tot. debt	46%	50%

Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$2,171	$1,120	$1,880	$1,114
Long-term debt	1,183	610	939	556
Intermediate & current debt	988	510	941	558

The Farm Inventory Balance accounts for the changes in the values of major farm assets from the beginning to the end of the year.

Table 15. FARM INVENTORY BALANCE
414 New York Dairy Farms, 1986

Item	Real Estate		Machinery/Equip.		Livestock
Value beg. of year		$253,576		$99,365	$109,206
Purchases	$10,915*		$12,891		
+ Nonfarm noncash transfer**	1,114		55		
- Lost capital	2,468				
- Sales	1,179		539		
- Depreciation	8,135		15,545		
= Net investment		247		-3,138	3,322
+ Appreciation		10,569***		4,165	1,689
Value end of year		$264,392		$100,393	$114,217

*$3,578 land and $7,337 buildings and/or depreciable improvements.
**Gifts and inheritances of property transferred into the farm business from outside.
***Excludes $410 of appreciation on assets sold during the year.

Cash Flow Summary and Analysis

Completing an annual cash flow summary and analysis is important to determine how well the cash generated by the business, plus that brought in from outside, met the annual cash needs of the business and the farm family. Understanding last year's cash flow is the first step toward planning and managing cash flow for the current and future years.

The Annual Cash Flow Statement is structured to compare all the cash inflows with all the cash outflows for the year. Cash inflows include all the cash farm receipts, receipts from the sale of farm assets, additional funds borrowed, cash used in the business from the sale of nonfarm capital, as well as the amount of cash available at the beginning of the year. Cash outflows include all the cash farm expenses, capital purchases, principal payments, money taken out of the business, and the cash balance left at year's end. When all the cash inflows and outflows are correct, the statement will balance. The positive imbalance of $5,739 indicates that on average, farms had more inflows than were accounted for by outflows.

Table 16. ANNUAL CASH FLOW STATEMENT
414 New York Dairy Farms, 1986

Item	Average 414 Farms	Average Top 10% Farms
Cash Inflows		
Beginning farm cash, checking & savings	$ 3,283	$ 5,031
Cash farm receipts	216,312	594,614
Sale of assets: Machinery	539	2,344
Real estate	1,208	252
Other stock & certificates	621	2,218
Money borrowed (intermediate & long-term)	33,294	129,437
Money borrowed (short-term)	2,397	7,249
Increase in operating debt	816	9,034
Nonfarm income	4,859	2,243
Cash from nonfarm capital	1,688	504
Money borrowed - nonfarm	375	536
Total	$265,392	$753,462
Cash Outflows		
Cash farm expenses	$172,511	$460,037
Capital purchases: Expansion livestock	1,218	5,955
Machinery	12,891	37,034
Real estate	10,915	45,250
Other stock & certificates	2,129	13,719
Principal payments (intermediate & long-term)	33,902	115,225
Principal payments (short-term)	1,759	5,199
Decrease in operating debt	0	0
Nonfarm debt payments	574	1,891
Personal withdrawals & family expenditures	19,634	47,905
Ending farm cash, checking & savings	4,120	9,030
Total	$259,653	$741,245
Imbalance (error)	$ 5,739	$ 12,217

Table 17. ANNUAL CASH FLOW BUDGETING DATA
414 New York Dairy Farms, 1986

Item	Average 414 Farms Total	Average 414 Farms Per Cow	Average Top 10% Farms Total	Average Top 10% Farms Per Cow
Average number of cows	94.7		232.3	
Accrual Operating Receipts				
Milk	$194,522	$2,055	$539,217	$2,321
Dairy cattle	15,431	163	48,326	208
Dairy calves	2,378	25	5,703	25
Other livestock	573	6	788	3
Crops	2,303	24	16,421	71
Miscellaneous receipts	6,184	65	16,327	70
Total	$221,391	$2,338	$626,782	$2,698
Accrual Operating Expenses				
Hired labor	$ 21,281	$ 225	$ 74,532	$ 321
Dairy grain & concentrate	45,789	484	125,159	539
Dairy roughage	1,819	19	5,983	26
Other livestock feed	760	8	444	2
Machinery hire/rent/lease	1,838	19	3,524	15
Machinery repairs/parts & auto	10,225	108	25,216	108
Fuel, oil & grease	5,282	56	11,788	51
Replacement livestock	1,964	21	2,496	11
Breeding	2,848	30	7,852	34
Vet & medicine	4,300	45	12,797	55
Milk marketing	12,966	137	33,781	145
Cattle lease	80	1	276	1
Other livestock expense	7,988	84	21,235	91
Fertilizer & lime	7,536	80	19,899	86
Seeds & plants	3,272	34	8,854	38
Spray/other crop expense	3,040	32	9,137	39
Land, building, fence repair	2,438	26	6,429	28
Taxes	5,076	54	9,481	41
Insurance	3,421	36	6,598	28
Real estate rent/lease	3,894	41	8,598	37
Utilities	5,957	63	12,819	55
Miscellaneous	2,552	27	7,142	31
Total Less Interest Paid	$154,326	$1,630	$414,038	$1,782
Net Accrual Operating Income (without interest paid)	$67,065	$708	$212,744	$916
- Change in livestock/crop inv.	3,346	37	24,873	107
- Change in accounts rec.	1,541	16	7,294	31
+ Change in feed/supply inv.	-840	-9	-5,867	-25
+ Change in accounts payable*	682	8	1,070	5
NET CASH FLOW	$62,020	$654	$175,780	$758
- Net personal withdrawals & family expenditures	14,400	152	45,126	194
Available for Farm Debt Payments & Investments	$47,620	$502	$130,654	$564
- Farm Debt Payments	54,275	573	162,269	698
Avail. for Farm Investments	$-6,655	$-71	$-31,615	$-134
- Capital Purchases: cattle, machinery & improvements	27,163	287	101,958	439
Capital Deficit	$-33,818	$-358	$-133,573	$-573

*Excludes change in interest account payable.

Repayment Analysis

The second step in cash flow planning is to compare and evaluate debt payments planned and made last year, and estimate the payments required in the current year. It is helpful to compare and evaluate a farm's repayment position by using debt payments per unit of production and receipt/debt payment ratios. The data presented below are for the 293 farms that completed Dairy Farm Business Summaries for both 1985 and 1986.

Table 18. FARM DEBT PAYMENTS PLANNED
New York Dairy Farms, 1986

	Same 293 Dairy Farms			Same 30 Top 10% Farms		
	1986 Payments		Planned	1986 Payments		Planned
Debt Payments	Planned	Made	1987	Planned	Made	1987
Long-term	$16,111	$22,813	$15,564	$30,045	$ 59,928	$28,759
Intermediate-term	22,963	31,640	22,868	51,519	88,279	41,276
Short-term	2,516	2,175	2,379	8,458	7,432	8,051
Operating (net reduction)	755	0	889	167	0	260
Accounts payable (net reduction)	1,138	1,362	1,167	707	3,746	4,175
Total	$43,484	$57,990	$42,868	$90,895	$159,385	$82,521
Per cow	$429	$572		$391	$686	
Per cwt. 1986 milk	$2.62	$3.49		$2.16	$3.80	
Percent of total 1986 receipts	18%	24%		15%	26%	
Percent of 1986 milk receipts	21%	28%		17%	30%	

The Cash Flow Coverage Ratio measures the ability of the farm business to meet its planned debt payment schedule. The ratio shows the percentage of last year's planned payments that could have been made with last year's available cash flow.

Table 19. CASH FLOW COVERAGE RATIO
New York Dairy Farms, 1986

Item	Same 293 Dairy Farms	Same 30 Top 10% Farms
Cash farm receipts	$234,850	$587,426
- Cash farm expenses	187,145	458,187
+ Interest paid	19,054	38,779
- Net personal withdrawals from farm*	15,973	44,202
(A) = Amount Available for Debt Service	$ 50,786	$123,816
(B) = Debt Payments Planned for 1986	$ 43,484	$ 90,895
(A ÷ B) = Cash Flow Coverage Ratio for 1986	1.17	1.36

*Personal withdrawals and family expenditures less nonfarm income and nonfarm money borrowed. If family withdrawals are excluded the cash flow coverage ratio will be incorrect.

Cropping Program Analysis

The cropping program is an important part of the dairy farm business that sometimes is overlooked and neglected. A complete evaluation of available land resources, how they are being used, how well crops are producing and what it costs to produce them, is required to evaluate alternative cropping and feed purchase choices.

Table 20. LAND RESOURCES AND CROP PRODUCTION
414 New York Dairy Farms, 1986

Item	Average 414 Farms			Average Top 10% Farms		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	188	100	288	405	205	609
Nontillable	49	12	61	48	10	59
Other nontillable	110	10	120	155	12	167
Total	347	122	469	608	227	835
Crop Yields	Farms	Acres	Prod/Acre	Farms	Acres	Prod/Acre
Hay crop	411	148	2.8 tn DM	41	243	3.1 tn DM
Corn silage	384	72	14.3 tn	41	200	16.1 tn
			4.9 tn DM			5.4 tn DM
Other forage	49	20	1.7 tn DM	6	29	3.3 tn DM
Total forage	413	216	3.4 tn DM	41	447	4.1 tn DM
Corn grain	223	72	99.8 bu	34	119	104.6 bu
Oats	104	28	64.0 bu	11	36	65.9 bu
Wheat	32	42	49.2 bu	9	51	56.4 bu
Other crops	52	30		9	54	
Tillable pasture	113	30		14	41	
Idle	130	34		14	49	
Total Tillable Acres	414	288		41	609	

Crop acres and yields compiled for the state average represent only the number of farms reporting each crop. Yields of forage crops have been converted to tons of dry matter using dry matter coefficients reported by the farmers. Grain production has been converted to bushels of dry grain equivalent.

The following measures of crop management indicate how efficiently the land resource is being used and how well total forage requirements are being met.

Table 21. CROP MANAGEMENT FACTORS
414 New York Dairy Farms, 1986

Item	Average 414 Farms	Average Top 10% Farms
Total tillable acres per cow	3.04	2.62
Total forage acres per cow	2.28	1.92
Harvested forage dry matter, tons per cow	7.73	7.96

In the second year of collecting information on individual crop production costs, over 240 cooperators allocated expenses to hay crop, corn, and other crop production. This additional data has been compiled to show the crop production expenses per acre and per unit for these crops. Corn grain production has been converted to corn silage equivalent using 5.88 bushels of dry shell corn to equal one ton of corn silage as fed. In Table 22, the total per tillable acre represents all 414 farms and the expenses for individual crops are for the 249 farms which submitted data.

Table 22. CROP RELATED ACCRUAL EXPENSES
New York Dairy Farms, 1986

Expense	Average 414 Farms Total Per Tillable Acre	Average 249 Farms Reporting Individual Crop Costs: Hay Crop Per Acre	Hay Crop Per Ton DM	Corn Per Acre	Per Ton Corn Silage Equiv.	Other Crops Per Acre
Fertilizer & lime	$26.18	$16.81	$6.12	$43.47	$2.85	$29.11
Seeds & plants	11.37	6.48	2.36	19.52	1.28	15.48
Spray & other crop expense	10.56	3.93	1.43	23.14	1.52	9.97
Total	$48.11	$27.22	$9.92	$86.13	$5.64	$54.57
Average Top 10% Farms:		Average Top 17 Farms Reporting Individual Crop Costs				
Fertilizer & lime	$32.67	$20.09	$ 7.10	$43.76	$2.76	$28.27
Seeds & plants	14.54	8.52	3.01	18.20	1.15	13.57
Spray & other crop expense	15.00	5.42	1.92	24.06	1.52	10.93
Total	$62.21	$34.03	$12.03	$86.02	$5.43	$52.77

Most machinery costs are associated with crop production and should be analyzed with the crop enterprise. Total machinery expenses include the major fixed costs (interest and depreciation), as well as the accrual operating costs. Machinery costs have not been allocated to individual crops, but they are calculated per total tillable acre.

Table 23. ACCRUAL MACHINERY EXPENSES
414 New York Dairy Farms, 1986

Machinery Expense Item	Average 414 Farms Total Expenses	Average 414 Farms Per Til. Acre	Average Top 10% Farms Total Expenses	Average Top 10% Farms Per Til. Acre
Fuel, oil & grease	$ 5,282	$ 18.35	$11,787	$ 19.35
Machinery repairs & parts	9,660	33.56	24,467	40.17
Machine hire, rent & lease	1,838	6.39	3,524	5.79
Auto expense (farm share)	565	1.96	749	1.23
Interest (5%)	4,994	17.35	10,087	16.56
Depreciation	15,545	54.00	33,577	55.12
Total	$37,884	$131.61	$84,191	$138.21

Table 24. CROP RELATED ACCRUAL EXPENSES BY HAY CROP PRODUCTION PER ACRE
249 New York Dairy Farms, 1986

Item	Tons of Hay Crop Dry Matter Per Acre				
	<2.0	2.0-2.4	2.5-2.9	3.0-3.4	≥3.5
Hay crop, tons DM/acre	1.6	2.3	2.7	3.2	4.1
Farms reporting crop expense breakdowns	47	64	46	46	46
Average number hay crop acres for farms reporting	141	139	148	152	144
Accrual Crop Expense Per Acre of Hay Crop:					
Fertilizer & lime	$ 9.81	$14.29	$18.00	$21.61	$20.92
Seeds & plants	4.00	5.60	6.31	8.43	8.28
Spray & other crop expense	1.88	3.12	2.74	5.68	6.43
Total	$15.69	$23.01	$27.05	$35.72	$35.63
Accrual Crop Expense Per Ton DM of Hay Crop:					
Fertilizer & lime	$6.14	$ 6.26	$ 6.66	$ 6.78	$5.12
Seeds & plants	2.50	2.45	2.33	2.64	2.03
Spray & other crop expense	1.18	1.37	1.01	1.78	1.57
Total	$9.82	$10.08	$10.00	$11.20	$8.72

Table 25. CROP RELATED ACCRUAL EXPENSES BY CORN SILAGE PRODUCTION PER ACRE
247 New York Dairy Farms, 1986

Item	Tons of Corn Silage Per Acre				
	0-9	10-12	13-15	16-18	≥19
Corn silage, tons/acre	6.9	11.2	14.2	16.7	19.9
Farms reporting crop expense breakdowns	41	41	82	52	31
Average number corn acres for farms reporting	66	92	106	140	93
Accrual Crop Exp./Acre of Corn:					
Fertilizer & lime	$41.83	$41.00	$43.01	$44.27	$47.58
Seeds & plants	17.06	20.30	19.46	19.63	20.71
Spray & other crop expense	19.03	21.06	22.53	25.18	26.35
Total	$77.93	$82.36	$85.00	$89.09	$94.64
Accrual Crop Expense Per Ton Corn Silage Equiv.*:					
Fertilizer & lime	$4.04	$3.38	$2.91	$2.57	$2.32
Seeds & plants	1.65	1.67	1.32	1.14	1.01
Spray & other crop expense	1.84	1.73	1.52	1.46	1.29
Total	$7.53	$6.78	$5.75	$5.18	$4.62

*Corn grain converted to silage equivalent using 5.88 bushels = 1 ton corn silage, as fed.

From the above two tables, it is important to observe that as forage yields per acre increase, crop related expenses per acre also increase. For corn silage, crop expense per ton decreases significantly as yield per acre increases. However, for hay crop silage, crop expense per ton increases slightly as yield per acre increases except for the very high yields. This is likely attributable to not only increases in yield but also increases in quality of the hay crop. The change in cost per ton as yield increases is likely more than offset by the increase in value of the crop.

Dairy Program Analysis

An analysis of the dairy enterprise can identify and explain the strengths and weaknesses of the dairy farm business. Changes in dairy herd size and market values that occurred during the year are identified in the table below. The change in inventory value without appreciation is attributed to physical changes in herd size and quality. This "real" increase in inventory has been included as an accrual farm receipt for the profitability calculations shown on page 11.

Table 26. DAIRY HERD INVENTORY
414 New York Dairy Farms, 1986

Item	Dairy Cows Number	Dairy Cows Value	Heifers Number	Heifers Value
Beginning of year (owned)	94	$76,901	77	$31,276
+ Change without appreciation		2,528		809
+ Appreciation		921		732
End of year (owned)	97	$80,350	78	$32,817
End including leased	97			
Average number	95		77	
Average Top 10% Farms:				
Beginning of year (owned)	226	$191,386	188	$79,848
+ Change without appreciation		11,657		5,488
+ Appreciation		-1,235		-872
End of year (owned)	240	$201,808	196	$84,464
End including leased	240			
Average number	232		194	

There is a strong relationship between farm size and farm income. When net farm income and labor and management income are compared with cows per farm, net farm income increased 1,701 percent while labor and management income per operator jumped $44,852 as herd size increased from less than 40 to over 250 cows per farm.

Table 27. COWS PER FARM AND FARM INCOME MEASURES
414 New York Dairy Farms, 1986

Number of Cows	Average Number of Cows	Number of Farms	Worker Equivalent	Net Farm Income (w/o apprec.)	Labor & Management Income Per Operator
Under 40	32	32	1.69	$ 6,845	$-2,533
40 to 54	47	87	2.01	7,644	-2,168
55 to 69	61	76	2.43	16,164	1,361
70 to 84	76	60	2.87	15,600	-1,372
85 to 99	90	46	2.95	19,361	378
100 to 149	119	62	3.57	39,080	8,981
150 to 199	172	22	4.66	33,630	3,696
200 to 249	226	10	5.85	42,881	4,803
250 & over	382	19	9.36	123,246	42,319

Total milk sold and milk sold per cow are extremely valuable measures of productivity on the dairy farm. These measures of milk output are based on pounds of milk marketed during the year.

Table 28. MILK PRODUCTION
414 New York Dairy Farms, 1986

Item	Average 414 Farms	Average Top 10% Farms
Total milk sold, lbs.	1,537,444	4,230,167
Milk sold per cow, lbs.	16,237	18,209
Average milk plant test, percent butterfat	3.61	3.57

Farms with higher rates of production tend to have higher profits. In 1986, the farms that sold more than 16,000 pounds of milk per cow had substantially higher profit margins and higher than average herd sizes.

Table 29. MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
414 New York Dairy Farms, 1986

Pounds of Milk Sold Per Cow	Number of Farms	Average Number of Cows	Net Farm Income w/o Apprec.	Labor & Management Income/Operator
Under 11,000	12	67	$-3,316	$-17,416
11,000 to 11,999	16	76	11,874	-1,314
12,000 to 12,999	22	68	7,781	-4,457
13,000 to 13,999	35	75	8,521	-5,837
14,000 to 14,999	60	74	15,162	2,564
15,000 to 15,999	87	87	18,929	700
16,000 to 16,999	72	99	23,916	3,211
17,000 to 17,999	50	103	29,939	5,931
18,000 & over	60	146	57,951	18,643

The cost of producing milk has been compiled using the whole farm method, and is featured in the following table.

Table 30. ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK
414 New York Dairy Farms, 1986

Item	Average 414 Farms			Average Top 10% Farms		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Costs of Producing Milk						
Operating costs	$145,761	$1,539	$9.48	$367,676	$1,583	$8.69
Total costs without op(s') labor, mgmt. & capital	$172,595	$1,823	$11.23	$427,434	$1,840	$10.10
Total Costs	$213,650	$2,256	$13.90	$508,647	$2,189	$12.02
Accrual Receipts from Milk	$194,522	$2,054	$12.65	$539,217	$2,321	$12.75

Accrual receipts from milk sales are compared with the accrual costs of producing milk per cow and per hundredweight of milk in the preceding table. Using the whole farm method, operating costs of producing milk are estimated by deducting non-milk accrual receipts from total accrual operating expenses. Total costs of producing milk include the operating costs plus expansion livestock purchased, depreciation on machinery and buildings, the value of operator(s') labor and management, and an interest charge for using equity capital. Note that the cost of operator's labor, management, and equity capital has been excluded in the intermediate compilation.

The total cost of producing milk on all 414 dairy farms averaged $13.90 per hundredweight, $1.25 more than the average price received for milk sold from these farms during 1986. In 1985 the total cost of producing milk averaged $14.23 on 404 New York dairy farms, $1.33 per hundredweight more than the average price received. This implies dairy farmers are willing to receive less than the stated returns on their labor and equity capital to remain in farming.

Size of herd and level of milk production are important factors related to the cost of producing milk. The cost of production for nine herd size categories and nine production levels is shown in the following table. The average total cost of production was $15.07 for herds with less than 100 cows, and $13.25 for those with 100 cows or more, for a difference of $1.82 per hundredweight. Farms selling less than 16,000 pounds of milk per cow had an average total cost of production of $15.83 while those selling 16,000 pounds and over averaged approximately $13.42 for a difference of $2.41 per hundredweight.

Table 31. FARM COST OF PRODUCING MILK BY HERD SIZE AND MILK SOLD PER COW
414 New York Dairy Farms, 1986

By Herd Size				By Milk Sold Per Cow			
	Cost per Hundredweight				Cost per Hundredweight		
Number of Cows	Operating	Excluding Op.s Labor, Mgt. & Cap.	Total	Pounds Milk Sold Per Cow	Operating	Excluding Op.s Labor, Mgt. & Cap.	Total
Under 40	$ 9.27	$11.42	$16.34	Under 11,000	$11.83	$14.85	$19.49
40 to 54	9.77	11.71	15.40	11,000 to 11,999	10.00	12.16	15.71
55 to 69	9.14	11.04	14.75	12,000 to 12,999	10.03	12.32	15.86
70 to 84	9.56	11.43	14.57	13,000 to 13,999	10.01	12.07	15.46
85 to 99	9.45	11.36	14.29	14,000 to 14,999	9.70	11.40	14.26
100 to 149	9.17	10.86	13.65	15,000 to 15,999	9.61	11.35	14.21
150 to 199	9.82	11.56	13.71	16,000 to 16,999	9.56	11.26	13.89
200 to 249	9.93	11.54	13.26	17,000 to 17,999	9.08	11.03	13.60
250 & over	9.54	10.98	12.37	18,000 & over	9.15	10.61	12.76

Costs of production are divided into 10 categories and presented for the 414 New York dairy farms and the top 10 percent farms (by net farm income, without appreciation) in the table on page 25. Non-milk receipts are deducted on the assumption they were produced at cost. Government receipts are included as a credit or negative cost of production under feed and crop expenses. For 1986, government receipts are primarily crop related.

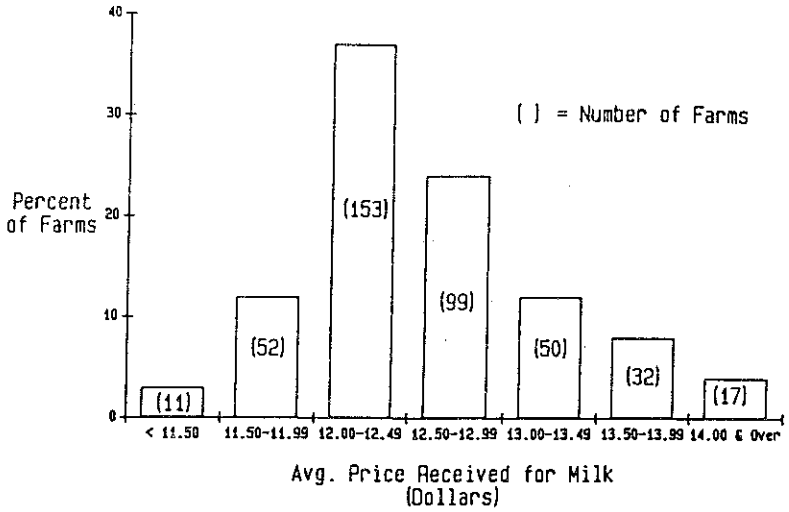
Table 32. TOTAL COST OF PRODUCING MILK BASED ON WHOLE FARM DATA
414 New York Dairy Farms and Top 10 Percent of Farms, 1986

Cost Item	Average of 414 New York Dairy Farms Total	Cost/Cwt.	Average of Top 10% Farms Total	Cost/Cwt.
Feed & Crop Expense				
Dairy grain & concentrate	$ 45,789		$125,159	
Dairy roughage	1,819		5,983	
Other livestock feed	760		444	
Fertilizer & lime	7,536		19,899	
All other crop expenses	6,312		17,991	
- Crop sales & gov't receipts	5,632		25,208	
TOTAL	$ 56,584	$ 3.68	$144,268	$ 3.41
Labor Costs				
Value of operator's labor & management & family labor	$ 26,042		$ 41,382	
Hired labor	21,281		74,532	
TOTAL	$ 47,323	$ 3.08	$115,914	$2.74
Machinery Costs				
Depreciation	$ 15,545		$ 33,577	
Machine repairs, hire & auto	12,063		28,739	
Fuel, oil & grease	5,282		11,788	
- Gas tax ref & custom work	384		694	
TOTAL	$ 32,506	$ 2.11	$ 73,410	$ 1.73
Livestock Expenses				
Breeding fees, vet & medicine	$ 7,148		$ 20,649	
Other livestock expense	7,988		21,235	
TOTAL	$ 15,136	$ 0.99	$ 41,884	$ 0.99
Milk Marketing	$ 12,966	$ 0.84	$ 33,781	$ 0.80
Livestock Ownership				
Purchased livestock	$ 3,192		$ 8,451	
Cattle lease	80		276	
- Dairy cattle & lvstk. sales*	18,192		54,817	
TOTAL	$-14,920	$-0.97	$-46,090	$-1.09
Real Estate Costs				
Land, building & fence repair	$ 2,438		$ 6,429	
Taxes & insurance	8,497		16,079	
Rent/lease	3,894		8,598	
Building depreciation	8,135		19,524	
TOTAL	$ 22,964	$ 1.50	$ 50,630	$ 1.20
Interest Expense				
Interest paid	$ 18,114		$ 41,203	
Interest on equity @ 5%	16,939		40,532	
TOTAL	$ 35,053	$ 2.28	$ 81,735	$ 1.93
Miscellaneous				
Telephone & electricity	$ 5,957		$ 12,818	
Miscellaneous	2,552		7,142	
- Miscellaneous income	2,471		6,846	
TOTAL	$ 6,038	$ 0.39	$ 13,114	$ 0.31
TOTAL COST OF PRODUCING MILK	$213,650	$13.90	$508,647	$12.02
- Operator's labor, management & capital	41,055	2.67	81,212	1.92
TOTAL COST EXCLUDING OPERATOR'S LABOR, MANAGEMENT & CAPITAL	$172,595	$11.23	$427,435	$10.10

*Includes $190 of nonfarm noncash capital for cattle and crops.

The average or mean price per hundredweight of milk sold is calculated by dividing the gross milk receipts for the year by the total pounds of milk sold. The average price for the 414 farms was $12.65 but there was considerable variation among the individual farms. The variation in average price received and the distribution of farms around the mean is shown below.

Chart 5. VARIATION IN AVERAGE MILK PRICE
414 NEW YORK DAIRY FARMS, 1986



Sixty-one percent of the farms received from $12.00 to $12.99 per hundredweight of milk sold. Twenty-four percent of the farms received $13.00 or more per hundredweight while 15 percent received less than $12.00 per hundredweight. Location and organization of markets are factors contributing to the variability of milk prices on these dairy farms. Management practices on farms as well as in milk companies also affect farm milk prices. Seasonality of production and butterfat test are two variables under the direct control of the farm manager.

The accrual operating expenses most commonly associated with the dairy enterprise are listed in the table below. Evaluating these costs per unit of production enables the comparison of different size dairy farms for strengths and areas for improvement.

Table 33. DAIRY RELATED ACCRUAL EXPENSES
414 New York Dairy Farms, 1986

	Average 414 Farms		Average Top 10% Farms	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purc. dairy grain & conc.	$484	$2.98	$539	$2.96
Purchased dairy roughage	19	0.12	26	0.14
Total Purchased Dairy Feed	$503	$3.10	$565	$3.10
Purchased grain & conc. as % of milk receipts	24%		23%	
Purchased feed & crop exp.	$649	$4.00	$728	$4.00
Purchased feed & crop exp. as % of milk receipts	32%		31%	
Breeding	$30	$0.19	$34	$0.19
Veterinary & medicine	45	0.28	55	0.30
Milk marketing	137	0.84	145	0.80
Cattle lease	1	0.01	1	0.01
Other livestock expense	84	0.52	91	0.50

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

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

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

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

Forage dry matter harvested per cow is calculated by converting all hay crops and corn silage harvested to tons of dry matter, and dividing by the average number of cows. It is a measure of the forage supply available for a 12-month feeding season.

Table 34. PERCENT PURCHASED DAIRY GRAIN AND CONCENTRATES ARE OF MILK RECEIPTS AND LABOR AND MANAGEMENT INCOME
414 New York Dairy Farms, 1986

Percent Grain & Conc. are of Milk	Number of Farms	Number of Cows	Forage Dry Matter Harvested Per Cow	Pounds Milk Per Cow	Labor & Management Income Per Operator
Over 40%	6	80	5.7	15,483	$-8,713
35 to 39	24	62	7.6	15,545	-7,618
30 to 34	61	114	7.2	16,756	3,778
25 to 29	112	95	8.1	16,338	8,934
20 to 24	93	87	7.7	15,804	976
15 to 19	60	102	8.0	16,321	2,899
Under 15%	58	94	7.7	16,175	5,528

Generally, the lower the percent of the milk check going for purchased dairy grain and concentrates, the higher the income. If purchased feed is restricted enough to cause substantial declines in production, profits will fall. Farmers spending less than 30 percent but more than 24 percent of their milk receipts for purchased feed in 1986 appear to be practicing the most effective feed cost control.

Capital and Labor Efficiency Analysis

Capital efficiency factors measure how intensively the capital is being used in the farm business. Measures of labor efficiency are key indicators of the amount of work each worker has accomplished.

Table 35. CAPITAL EFFICIENCY
414 New York Dairy Farms, 1986

Item (Average for Year)	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	$177,500	$5,792	$1,905	$2,917
Real estate		$2,758		$1,389
Machinery & equipment	$32,555	$1,062	$349	
Capital turnover, years		2.30		
Average Top 10% Farms:				
Farm capital	$208,108	$5,375	$2,050	$3,083
Real estate		$2,371		$1,360
Machinery & equipment	$33,663	$869	$332	
Capital turnover, years		1.93		

Capital turnover is a measure of capital efficiency as it shows the number of years of farm receipts required to equal or "turnover" capital investment. It is computed by dividing the average farm assets by the year's total farm accrual receipts. The relationship capital turnover has to labor and management income and other factors is shown in the following table. As a general rule, dairy farmers should aim for a capital turnover rate of 2.5 years or less.

Table 36. CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME
414 New York Dairy Farms, 1986

Capital Turnover Rate - Years	No. of Farms	No. of Cows	Farm Capital (average for year) Per Cow	Farm Capital (average for year) Per Worker	Labor & Mgt. Inc. Per Operator	Net Farm Income (w/o apprec.)
Less than 1.5	17	142	$3,902	$131,481	$17,757	$49,523
1.5 to 1.99	68	144	4,714	165,669	20,972	47,379
2.0 to 2.49	141	94	5,662	174,567	5,960	25,721
2.5 to 2.99	106	79	6,594	186,509	-3,203	14,398
3.0 to 3.49	42	67	7,217	185,764	-4,486	13,244
3.5 & over	40	65	8,165	218,648	-15,490	2,493

The decile of farms with the highest net farm incomes (without appreciation) were considerably above the average of all 414 farms in the four measures of labor efficiency. The top 10 percent sold 42 percent more milk per worker than the average of all farms.

Table 37. LABOR EFFICIENCY
414 New York Dairy Farms, 1986

Labor Efficiency	Average 414 Farms Total	Average 414 Farms Per Worker	Average Top 10% Farms Total	Average Top 10% Farms Per Worker
Cows, average number	95	31	232	39
Milk sold, pounds	1,537,444	497,555	4,230,167	705,028
Tillable acres	288	93	609	102

The labor force averaged 3.09 full-time worker equivalents per farm. Forty-two percent of the labor was supplied by the farm operator/managers, 21 percent came from the operator's family, and 37 percent was regular hired labor.

Labor costs, labor efficiency, and farm profitability are closely related. Farms with high net farm incomes can attribute some of their success to the control of labor and machinery costs. Labor and machinery costs averaged $20 per cow less on the 41 farms in the top decile.

Table 38. LABOR FORCE INVENTORY AND COST ANALYSIS
414 New York Dairy Farms, 1986

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	11.75	44	13	$18,411
Operator number 2	3.31	39	14	4,907
Operator number 3	0.49	43	12	676
Operator number 4	0.08	49	14	122
Family paid	4.74			Total $24,116
Family unpaid	3.21			
Hired	13.55			
Total	37.13	÷ 12 = 3.09 Worker Equivalent		
		1.30 Operator/Manager Equiv.		
Average Top 10% Farms:				
Total	72.01	÷ 12 = 6.00 Worker Equivalent		
Operators'	21.52	÷ 12 = 1.79 Operator/Manager Equiv.		

	Average 414 Farms			Average Top 10% Farms		
Labor Costs	Total	Per Cow	Per Til. Acre	Total	Per Cow	Per Til. Acre
Value op.s' lab.($850/mo)	$13,286	$140	$ 46.16	$18,292	$ 79	$ 30.03
Family unpd. ($600/mo.)	1,926	20	6.69	702	3	1.15
Hired	21,281	225	73.93	74,531	321	122.35
Total Labor	$36,493	$385	$126.78	$93,525	$403	$153.53
Machinery Cost	37,884	400	131.61	84,191	362	138.21
Total Labor & Mach.	$74,377	$785	$258.39	$177,716	$765	$291.74

The relationship of labor efficiency to net farm income is very positive on the 414 farms. The higher output per worker achieved is partially attributable to more and higher producing cows.

Table 39. MILK SOLD PER WORKER AND NET FARM INCOME
414 New York Dairy Farms, 1986

Pounds of Milk Sold Per Worker	No. of Farms	No. of Cows	Pounds Milk Per Cow	Net Farm Income (w/o apprec.)	Labor & Mgmt. Income Per Operator
Under 250,000	24	45	12,460	$ -151	$-14,266
250,000 to 299,999	34	49	13,829	5,366	-4,941
300,000 to 349,999	38	56	15,232	8,888	-4,067
350,000 to 399,999	48	65	15,462	15,975	1,547
400,000 to 449,999	70	74	15,616	15,424	479
450,000 to 499,999	58	84	15,764	16,686	-433
500,000 to 599,999	74	104	16,401	30,049	5,813
600,000 & over	68	197	17,498	63,506	21,709

Miscellaneous Costs

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

Table 40. MISCELLANEOUS COST CONTROL MEASURES
414 New York Dairy Farms, 1986

Item	Average 414 Farms	Average Top 10% Farms
Livestock		
Breeding fees per cow	$30	$34
Veterinary & medicine per cow	$45	$55
Other livestock expense per cow	$84	$91
Milk marketing per cow	$137	$145
Milk marketing per hundredweight milk	$0.84	$0.80
Real Estate		
Taxes per cow	$54	$41
Taxes per $1,000 year-end real estate value	$19	$17
Insurance paid per cow	$36	$28
Cash rent paid per cow	$41	$37
Cash rent paid per acre rented	$32	$38
Real estate expense per cow	$157	$134
Capital Cost		
Interest paid per cow	$191	$177
Interest on equity per cow	$179	$174
Interest paid as percent of year-end debt	8.6%	9.1%
Depreciation per cow	$250	$229
Fixed & Variable Costs*		
Total fixed costs per cow	$796	$717
Total variable costs per cow	$1,486	$1,674
Variable costs per hundredweight milk sold	$9.15	$9.19

*Fixed costs include real estate repairs, taxes, insurance, rent, interest paid, depreciation, unpaid family labor, and interest on equity capital. All other costs were classified as variable.

Fixed costs per cow on the top decile farms were 10 percent below the 414 farm average. This is related to more intensive use of cows and cropland through better management. Variable costs were four cents higher per hundredweight of milk sold on the top farms.

Combination of Factors

Individual factors representing the cropping program, dairy program, and capital and labor efficiency have been examined in the analysis up to this point. It has been suggested that these factors are interrelated. On this page, the combination of four important factors is studied. The factors combined are the number of cows per farm, pounds of milk sold per cow, pounds of milk sold per worker, and purchased feed and crop expense per hundredweight of milk.

For each factor, the farms were divided on the basis of whether or not they were better than the average for the 414 farms. They were then grouped on the basis of the number of factors better than average. The combination of factors above or below average within the three middle groups varied.

The relationship between the number of factors better than average and net farm income is shown in the table below. As the number of factors better than average decreased, net farm income decreased at a rapid rate.

Table 41. COMBINATION OF FACTORS ABOVE AVERAGE* AND NET FARM INCOME
414 New York Dairy Farms, 1986

Number of Factors Above Average	Number of Farms	Percent of Farms	Net Farm Income without Appreciation
4 factors better than average	29	7	$70,378
3 factors better than average	54	13	57,250
2 factors better than average	114	28	24,634
1 factor better than average	145	35	10,642
0 factors better than average	72	17	5,401

*Factors were:
Size - number of cows - average 95.
Rate of production - pounds of milk sold per cow - average 16,237
Labor efficiency - pounds of milk sold per worker - average 497,555
Cost control - purchased feed and crop expense per hundredweight milk - average $4.00

The 29 farms with four factors better than average had 183 cows, 18,319 pounds of milk sold per cow, 672,421 pounds of milk sold per worker, and $3.30 per hundredweight purchased feed and crop expense. Net farm income averaged $70,378 on these farms. Obviously, other business factors excluded from the combination in the above table have a strong affect on business profits. These include labor, machinery and crop expenses, capital efficiency, financial management, crop yields, and the receipts from milk and cattle sales.

It is important in managing a farm business to give attention to all major factors affecting the business. Concentrating on only one or two factors and neglecting the others will not give the kind of net return most farmers want.

Farm Business Chart

The Farm Business Chart is a tool which can be used in analyzing a business by drawing a line through the figure in each column which represents the current level of management performance. The figure at the top of each column is the average of the top 10 percent of the 414 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.

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

Table 42. FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
414 New York Dairy Farms, 1986

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
7.4	286	5,067,341	19,686	4.6	21	48	767,478
4.2	137	2,199,034	18,065	3.7	18	38	614,002
3.5	106	1,711,440	17,165	3.3	17	34	545,894
3.1	88	1,394,330	16,585	3.0	15	32	499,543
2.8	77	1,214,123	15,981	2.7	15	29	462,369
2.5	68	1,053,490	15,498	2.5	14	27	432,308
2.3	59	896,427	15,025	2.3	13	26	402,824
2.0	52	779,541	14,393	2.1	12	24	358,752
1.9	45	671,587	13,423	1.8	10	21	304,576
1.4	34	468,617	11,150	1.4	6	16	230,949

Cost Control

Grain Bought Per Cow	% Feed is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
$188	10%	$197	$ 496	$352	$2.44
290	15	262	599	449	3.00
354	18	310	663	502	3.36
402	21	351	712	550	3.59
445	23	384	757	590	3.83
483	25	411	805	632	4.04
528	27	441	868	682	4.28
573	29	481	916	728	4.50
629	31	542	1,007	794	4.85
765	37	712	1,201	936	5.86

The next section of the Farm Business Chart provides for comparative analysis of the value of production as measured by milk receipts per cow and dairy receipts per hundredweight of milk sold and the costs of production. The final or profitability section shows the variation in farm income by decile and enables a dairy farmer to determine where he or she ranks by using several measures of farm profitability. Remember that each column is independently established and the farms making up the top decile in the first column will not necessarily be on the top of any other column. The dairy farmer who ranks at or near the top of most of these columns is in a very enviable position.

Table 42 (continued) FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
414 New York Dairy Farms, 1986

Milk Receipts Per Cow	Dairy Receipts Per Cwt.	Oper. Cost Milk Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cow	Total Cost Production Per Cwt.
$2,747	$15.65	$ 922	$ 6.41	$1,678	$11.39
2,518	14.69	1,149	7.69	1,920	12.48
2,401	14.30	1,274	8.29	2,026	13.19
2,293	14.01	1,368	8.80	2,124	13.69
2,189	13.82	1,445	9.26	2,218	14.04
2,115	13.57	1,533	9.59	2,308	14.54
2,026	13.36	1,599	10.12	2,415	15.23
1,932	13.11	1,693	10.64	2,522	15.97
1,812	12.80	1,798	11.20	2,671	16.98
1,517	12.10	2,039	13.18	3,026	20.35

Profitability

Net Farm Income		Return to Operator's Labor, Management, & Equity Capital		Labor & Management Income	
With Appreciation	Without Appreciation	With Appreciation	Without Appreciation	Per Farm	Per Operator
$157,944	$112,483	$157,154	$111,814	$72,075	$50,073
72,699	46,862	70,487	44,957	25,129	18,115
51,682	33,290	49,335	31,000	15,514	12,290
40,559	25,457	39,083	23,381	9,128	7,659
33,904	19,749	32,076	17,627	4,136	3,599
26,429	15,395	23,588	13,469	21	-24
19,844	10,520	18,127	8,427	-4,171	-3,475
14,690	4,432	12,898	2,090	-9,752	-8,829
6,680	-3,173	4,611	-5,189	-20,244	-16,770
-13,617	-23,915	-15,804	-25,722	-44,712	-39,924

Farm Business Charts for farms with freestall barns and 120 cows or less and more than 120 cows, and farms with conventional barns with 60 cows or less and more than 60 cows are discussed in the supplemental section on pages 47-51.

Financial Analysis and Management

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

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

Table 43. A FARM FINANCE CHECKLIST
414 New York Dairy Farms, 1986

	Average 414 New York Farms		Average Top 10% Farms*	
How farm assets are being used (average for the year):				
Total assets (capital) per cow	$5,792		$5,375	
Farm assets in livestock	20%		22%	
Farm assets in farm real estate	48%		44%	
Farm assets in machinery	18%		16%	
Measures of debt capacity & debt structure:				
Equity in the business	62%		65%	
Farm debt per cow	$2,171		$1,880	
Long term debt/asset ratio**	0.43		0.40	
Intermediate & current term debt/asset ratio**	0.33		0.31	
Intermediate & current term debt as % of total	46%		50%	
Debt repayment ability:				
Cash flow coverage ratio	1.17		1.36	
Debt payments made per cow	$572		$686	
Debt payments made as % of milk check	28%		30%	
Indicators of annual financial progress:	Amount	Percent	Amount	Percent
Annual change in farm assets	+$22,005	+4.1%	+$85,581	+7.1%
Annual change in farm debts	+$1,730	+0.8%	+$26,429	+6.2%
Annual change in farm net worth	+$20,275	+6.2%	+59,152	+7.6%

*Forty-one farms with highest net farm incomes (without appreciation).
**Long or intermediate and current term debt divided by long or intermediate and current term assets.

The most profitable farms carried $291 less debt per cow, had a greater ability to make 1986 debt payments, and equity in their business was three percent more than that of the average.

Farm assets grew faster than farm debts during 1986 and net worth increased more than six percent.

Financial Analysis Chart

The farm financial analysis chart is designed just like the Farm Business Chart on pages 32-33 and may be used to measure the financial health of the farm business. Most of the financial measures used are defined on pages 13, 15, 18, and 28 in this publication.

Table 44. FINANCIAL ANALYSIS CHART
414 New York Dairy Farms, 1986

Liquidity (repayment)				
Debt Payments Per Cow	Available for Debt Service Per Cow	Cash Flow Coverage Ratio	Debt Payments as Percent of Milk Sales	Debt Per Cow
$ 48	$984	4.68	2%	$ 136
204	726	1.99	10	705
291	635	1.56	15	1,249
367	571	1.31	19	1,670
426	522	1.16	22	2,036
488	461	1.02	25	2,402
578	400	0.89	29	2,751
670	336	0.76	35	3,053
804	244	0.53	42	3,567
1,525	76	0.02	78	4,842

Solvency				Efficiency & Profitability		
		Debt/Asset Ratio				
Leverage Ratio*	Percent Equity	Current & Intermediate	Long Term	Capital Turnover (years)	Rate of Return on: Equity	Rate of Return on: Investment**
0.02	98%	0.01	0.00	1.52	38	18
0.14	88	0.07	0.02	1.88	12	11
0.28	79	0.14	0.15	2.06	8	9
0.40	73	0.20	0.30	2.20	5	7
0.54	65	0.26	0.38	2.34	3	5
0.74	58	0.32	0.48	2.50	1	4
0.95	52	0.39	0.60	2.68	-1	2
1.23	46	0.47	0.71	2.90	-4	1
1.76	37	0.56	0.86	3.19	-9	-1
9.80	15	0.88	1.33	4.39	-45	-7

Efficiency (Capital)		
Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow
$1,272	$ 468	$3,753
1,940	665	4,529
2,231	797	4,963
2,430	900	5,276
2,644	1,011	5,620
2,870	1,122	5,901
3,151	1,250	6,322
3,517	1,425	6,945
4,118	1,665	7,751
5,629	2,338	9,489

*Dollars of debt per dollar of equity, computed by dividing total liabilities by total equity.

**Return on all farm capital (no deduction for interest paid) divided by total farm assets.

SUPPLEMENTAL INFORMATION

Introduction

Comparisons of business performance for the same farms over time, by herd size and housing, business organization and milking technology, and numberous other factors are contained in this section. Summary data is also presented for dairy-cash crop and dairy-renters in this section. The tables on the following pages are provided for use as a reference, thus, the discussion of each table is at a minimum.

Herd Size Comparisons: A detailed comparison of profitability, financial situation, and business analysis factors across herd sizes is contained in Tables 45 through 47. As herd size increases, the average profitability also increases (Table 45). Net farm income without appreciation was $123,246 per farm for the 250 or more herd size group and $6,845 per farm for those with less than 40 cows. This relationship holds for all measures of profitability including rate of return on equity capital.

As herd sizes increase above 55 cows, percent equity decreases (Table 46). However, farm net worth increases substantially as herd size increases. The average net worth for all size farms increased during 1986.

Crop yields increased as herd size increased, but fertilizer and lime expenses and machinery cost per tillable acre also increased (Table 47). Milk sold per cow also increased as herd size increased, ranging from 14,525 pounds on the farms with less than 40 cows to 18,593 pounds on farms with 250 or more cows. Farm capital per worker increased as herd size increased, while farm capital per cow decreased as herd size increased. Cows per worker increased dramatically as herd size increased, ranging from 20 at the lowest herd size category up to 41 at the largest size category.

Same 229 New York Dairy Farms, 1984, 1985, and 1986: Two hundred and twenty-nine farms participated in the Dairy Farm Business Summary Project in all three years 1984, 1985, and 1986 (Table 48). Total operating expenses and total accrual expenses, and receipts have been slowly increasing over these years. During this time, average cow numbers increased from 96 in 1984 to 106 in 1986. Profitability, however, has not increased in the same fashion. Net farm income without appreciation and labor and management income were greatest in 1985. Net farm income including appreciation rebounded in 1986 to its highest level in the last three years.

Pounds of milk sold per cow has increased by 532 pounds or 3.4 percent over the last two years. When combined with the increase in cow numbers, the increase in milk sold per cow results in total milk sold from the farms increasing by 213,848 pounds. This increase has been achieved by only a small addition to the work force and, thus, pounds of milk sold per worker has increased dramatically.

Comparisons by Type of Barn and Herd Size: When analyzing a dairy farm business by comparing it to a group of farms, it is important that the group of farms used have as many of the same physical characteristics as possible as the farm being analyzed. To assist in this endeavor, dairy farms in the summary have been divided into those with freestall and those with conventional housing. Within each group is a further classification by size of the dairy herd.

Table 49 on page 47 shows the average values for the resulting four groups of dairy farms. Within each housing type, the larger herd size has the highest

crop yields and pounds of milk sold per cow. The cost of producing milk was lower on the larger farms and labor efficiency greater. Profitability was also greater on the larger farms within each housing type.

Farm business charts have been computed for each of the four housing and herd size categories. From these charts on pages 48-51 (Tables 50-53) the range in size of business rates of production, labor efficiency, value and cost of producing milk, and profitability can be observed. The range in every category of business performance is tremendous.

By comparing the farm's performance on the most appropriate business chart, a farm manager will be better able to evaluate his or her business performance. Farm managers should remember, however, that their competition is not limited to the other farms in their own barn type and herd size category. They should observe how their management performance compares with farms in other categories as well.

Comparisons by Business Organization: A comparison of profitability, business analysis factors, and financial situation by business organization is contained in Tables 54 and 55. Farms organized as a corporation are larger than partnership-operated farms and more than twice as large as proprietorship-operated farms. Profitability is also greater on corporation organized farms, followed by partnerships and then proprietorships.

Comparison by Milking System: Farms with herringbone parlors had the highest farm capital per worker and the highest cows per worker (Table 56). Farms with herringbone parlors were also larger and had the greatest profitability.

Other Comparisons: The 20 dairy-cash crop farms had about the same number of cows as the 414 specialized dairy farms, but had more crop acres and crop sales and were more profitable (Table 57). A.E. Ext. 86-34 contains detailed information on dairy-cash crop farms for the year 1985. A publication containing 1986 data is forthcoming.

Dairy-renter farms were smaller than the 414 owner-operated farms, and were less profitable than the average specialized dairy farm (Table 58). A.E. Ext. 86-30 contains detailed information on dairy-renters. A publication containing 1986 data is forthcoming.

Data for the top 10 percent of farms by net farm income without appreciation is presented in Table 59. Summary data for the 414 dairy farms is presented for the farm in Table 60 and on a per cow basis in Table 61.

Table 45. FARM BUSINESS SUMMARY BY HERD SIZE
414 New York Dairy Farms, 1986

Item — Farm Size:	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows	85 to 99 Cows
Number of farms	32	87	76	60	46
ACCRUAL EXPENSES					
Hired labor	$ 2,783	$ 5,555	$ 9,003	$ 14,979	$ 16,565
Dairy grain & concentrate	14,087	23,314	28,109	34,369	38,303
Dairy roughage	948	1,261	1,229	1,062	1,191
Other livestock feed	863	271	548	603	1,326
Machine hire/rent/lease	739	948	1,326	1,419	2,711
Machine repairs/parts	2,846	3,908	5,511	7,365	10,511
Auto expense (farm share)	641	456	449	477	771
Fuel, oil & grease	1,496	2,355	3,319	4,251	5,833
Replacement livestock	1,061	1,279	1,143	812	1,946
Breeding	1,077	1,372	2,053	2,303	2,303
Veterinary & medicine	974	1,702	2,840	2,826	3,997
Milk marketing	4,828	6,606	7,792	10,424	11,482
Cattle lease/rent	48	16	43	2	10
Other livestock expense	2,119	3,969	4,968	6,070	6,814
Fertilizer & lime	1,456	3,135	4,782	6,506	7,355
Seeds & plants	873	1,171	1,865	2,889	3,272
Spray & other crop expense	533	898	1,710	2,448	2,683
Land/building/fence repair	1,113	1,154	1,509	1,683	2,523
Taxes & insurance	3,743	4,807	6,408	7,257	9,077
Telephone & electricity	2,543	3,414	4,225	5,328	6,122
Interest paid	6,487	10,078	10,104	13,570	17,334
Misc. (including rent)	1,589	2,374	4,287	5,267	6,998
Total Operating Expenses	$52,847	$80,043	$103,223	$131,910	$159,127
Expansion livestock	456	283	664	474	985
Machinery depreciation	4,657	7,458	10,906	13,388	16,449
Building depreciation	2,570	3,740	5,019	6,469	8,182
Total Accrual Expenses	$60,530	$91,524	$119,812	$152,241	$184,743
ACCRUAL RECEIPTS					
Milk sales	$58,125	$89,125	$121,096	$149,343	$180,096
Dairy cattle	5,294	6,411	9,025	10,559	14,433
Dairy calves	971	1,295	1,674	1,837	2,357
Other livestock	454	200	317	235	156
Crops	1,144	197	86	1,724	1,582
Misc. receipts	1,387	1,940	3,778	4,143	5,480
Total Accrual Receipts	$67,375	$99,168	$135,976	$167,841	$204,104
PROFITABILITY ANALYSIS					
Net farm income (w/o apprec.)	$6,845	$7,644	$16,164	$15,600	$19,361
Net farm income (w/apprec.)	$14,484	$17,774	$25,724	$31,524	$40,888
Labor & mgmt. income	$-2,533	$-2,450	$1,797	$-1,674	$518
Number of operators	1.00	1.13	1.32	1.22	1.37
Labor & mgmt. inc./oper.	$-2,533	$-2,168	$1,361	$-1,372	$378
Rate of return on equity capital (w/o apprec.)	-8.8%	-8.6%	-3.7%	-2.8%	-2.1%
Rate of return on equity capital (w/apprec.)	-3.2%	-2.1%	0.1%	2.5%	4.2%

Table 45 (continued) FARM BUSINESS SUMMARY BY HERD SIZE
414 New York Dairy Farms, 1986

Item Farm Size:	100 to 149 Cows	150 to 199 Cows	200 to 249 Cows	250 or More Cows
Number of farms	62	22	10	19
ACCRUAL EXPENSES				
Hired labor	$ 23,213	$ 46,159	$ 68,294	$ 145,034
Dairy grain & concentrate	53,781	77,088	122,806	224,158
Dairy roughage	1,576	1,573	5,901	11,045
Other livestock feed	1,066	1,162	1,900	754
Machine hire/rent/lease	2,622	2,627	4,523	4,140
Machine repairs/parts	13,261	15,449	27,760	41,273
Auto expense (farm share)	558	550	262	1,383
Fuel, oil & grease	6,944	11,345	12,368	18,665
Replacement livestock	1,996	7,347	7,535	4,336
Breeding	3,629	4,076	7,832	12,224
Veterinary & medicine	4,985	6,909	12,373	23,522
Milk marketing	16,715	22,704	28,678	56,326
Cattle lease/rent	65	598	0	499
Other livestock expense	10,053	13,968	18,995	37,792
Fertilizer & lime	10,159	13,391	20,410	30,533
Seeds & plants	4,438	6,510	7,633	13,922
Spray & other crop expense	4,358	5,755	8,207	14,950
Land/building/fence repair	2,954	2,912	5,095	12,813
Taxes & insurance	10,320	14,487	20,465	25,083
Telephone & electricity	7,271	9,442	12,178	20,281
Interest paid	21,682	34,929	42,595	78,770
Misc. (including rent)	6,999	10,459	22,781	29,228
Total Operating Expenses	$208,645	$309,440	$458,591	$ 806,731
Expansion livestock	582	2,139	2,297	12,572
Machinery depreciation	20,893	26,190	37,063	52,995
Building depreciation	9,226	15,992	20,451	36,105
Total Accrual Expenses	$239,346	$353,761	$518,402	$ 908,403
ACCRUAL RECEIPTS				
Milk sales	$245,627	$334,063	$474,437	$ 902,482
Dairy cattle	18,626	28,784	42,300	77,186
Dairy calves	3,038	3,468	4,742	9,618
Other livestock	345	1,275	9,333	877
Crops	3,668	5,490	4,850	16,858
Misc. receipts	7,122	14,311	25,621	24,628
Total Accrual Receipts	$278,426	$387,391	$561,283	$1,031,649
PROFITABILITY ANALYSIS				
Net farm income (w/o apprec.)	$39,080	$33,630	$42,881	$123,246
Net farm income (w/apprec.)	$65,839	$58,481	$65,595	$163,623
Labor & mgmt. income	$14,011	$5,359	$7,205	$65,171
Number of operators	1.56	1.45	1.50	1.54
Labor & mgmt. inc./oper.	$8,981	$3,696	$4,803	$42,319
Rate of return on equity capital (w/o apprec.)	1.5%	0.7%	1.8%	7.1%
Rate of return on equity capital (w/apprec.)	7.3%	5.3%	5.1%	10.6%

Table 46. FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
414 New York Dairy Farms, 1986

Farms with:	Less than 40 Cows		40 to 54 Cows		55 to 69 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS						
Farm cash/chkg./sav.	$ 1,986	$ 2,198	$ 1,938	$ 2,701	$ 2,526	$ 3,408
Accounts receivable	4,661	4,646	7,038	7,400	10,126	10,700
Feed & supplies	10,565	11,503	16,819	16,887	25,547	25,019
Livestock*	35,537	37,823	50,999	54,104	72,821	74,528
Machinery & equipment*	40,675	41,786	54,251	54,042	76,061	76,061
FLB & PCA stock	893	874	1,522	1,645	1,584	1,560
Coop stocks & cert.	1,697	1,905	1,637	1,879	2,951	2,984
Land & buildings*	116,480	119,878	147,042	150,445	180,616	187,073
Total Farm Assets	$212,494	$220,613	$281,246	$289,103	$372,232	$381,333
Pers. cash/chkg./sav.	$ 7,733	$ 7,940	$ 5,478	$ 5,390	$ 4,292	$ 4,848
Cash value of life ins.	2,634	2,007	2,977	3,252	3,476	3,842
Nonfarm real estate	15,208	19,250	1,956	1,964	18,045	17,580
Auto (personal share)	1,866	1,923	2,398	2,906	2,870	3,669
Stocks & bonds	866	773	2,262	3,430	17,622	19,198
Household furnishings	8,083	8,167	8,936	9,139	6,732	7,755
All other	894	752	3,105	2,782	1,889	2,015
Total Nonfarm Assets**	$ 37,285	$ 40,812	$ 27,113	$ 28,865	$ 54,925	$ 58,908
Total Farm & Nonfarm Assets	$249,779	$261,425	$308,359	$317,968	$427,157	$440,241
LIABILITIES						
Accounts payable	$ 2,287	$ 2,224	$ 3,367	$ 4,389	$ 3,650	$ 4,504
Operating debt	597	811	1,315	963	1,468	1,366
Short term	1,638	1,406	1,106	1,704	1,420	1,738
Intermediate***	20,880	20,413	43,165	43,747	44,828	43,302
Long term*	56,147	53,569	80,763	78,938	77,843	77,741
Total Farm Liab.	$ 81,550	$ 78,423	$129,716	$129,741	$129,208	$128,651
Tot. Nonfarm Liab.**	1,354	981	1,046	1,083	1,917	2,034
Total Farm & Nonfarm Liabilities	$ 82,904	$ 79,404	$130,762	$130,824	$131,125	$130,685
Farm Net Worth (Equity Capital)	$130,944	$142,190	$151,530	$159,362	$243,024	$252,682
Farm & Nonfarm Net Worth	$166,875	$182,021	$177,597	$187,144	$296,032	$309,556

FINANCIAL MEASURES	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows
Percent equity	64%	55%	66%
Debt/asset ratio-long term	0.45	0.52	0.42
Debt/asset ratio-inter. & current	0.25	0.37	0.26
Change in net worth with apprec.	$11,246	$7,832	$9,658
Total farm debt per cow	$2,376	$2,703	$2,075
Debt payments made per cow	$600	$526	$446
Debt payments as % of milk sales	33%	28%	22%
Amount avail. for debt service	$15,290	$22,426	$32,964
Cash flow coverage ratio for 1986	1.25	1.04	1.33

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1986.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

Table 46 (cont'd) FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
414 New York Dairy Farms, 1986

Farms with:	70 to 84 Cows		85 to 99 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 3,624	$ 4,311	$ 4,152	$ 4,674
Accounts receivable	13,182	13,731	15,052	16,928
Feed & supplies	32,473	33,003	41,277	41,802
Livestock*	86,471	91,004	104,001	109,208
Machinery & equipment*	92,371	93,896	116,081	117,533
FLB & PCA stock	3,140	3,362	3,246	2,959
Coop stocks & cert.	3,587	4,016	4,055	5,362
Land & buildings*	226,185	232,659	244,511	257,618
Total Farm Assets	$461,034	$475,981	$532,375	$556,084
Pers. cash/chkg./savings	$ 11,952	$ 12,071	$ 5,906	$ 6,958
Cash value of life ins.	4,330	4,257	3,120	3,430
Nonfarm real estate	8,671	8,474	3,577	3,423
Auto (personal share)	3,198	3,312	2,175	2,536
Stocks & bonds	4,062	4,383	3,912	4,181
Household furnishings	9,168	9,259	7,281	7,788
All other	4,362	3,032	4,423	5,554
Total Nonfarm Assets**	$ 45,745	$ 44,789	$ 30,394	$ 33,869
Total Farm & Nonfarm Assets	$506,779	$520,770	$562,769	$589,953
LIABILITIES				
Accounts payable	$ 5,836	$ 6,211	$ 5,443	$ 5,899
Operating debt	1,932	1,840	3,774	3,883
Short term	1,955	2,047	827	1,540
Intermediate***	55,996	57,039	78,119	80,681
Long term*	98,649	94,722	113,871	111,042
Total Farm Liab.	$164,368	$161,859	$202,034	$203,045
Total Nonfarm Liab.**	1,213	800	115	77
Total Farm & Nonfarm Liabilities	$165,581	$162,659	$202,149	$203,122
Farm Net Worth (Equity Capital)	$296,666	$314,122	$330,342	$353,039
Farm & Nonfarm Net Worth	$341,198	$358,111	$360,620	$386,831

FINANCIAL MEASURES	70 to 84 Cows	85 to 99 Cows
Percent equity	66%	63%
Debt/asset ratio-long term	0.41	0.43
Debt/asset ratio-inter. & current	0.28	0.31
Change in net worth with apprec.	$17,456	$22,698
Total farm debt per cow	$2,102	$2,207
Debt payments made per cow	$484	$465
Debt payments as % of milk sales	24%	23%
Amount avail. for debt service	$34,979	$42,858
Cash flow coverage ratio for 1986	1.12	1.18

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1986.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

Table 46 (cont'd) FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
414 New York Dairy Farms, 1986

Farms with:	100 to 149 Cows		150 to 199 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 5,440	$ 6,624	$ 3,576	$ 4,521
Accounts receivable	20,835	22,677	27,738	33,021
Feed & supplies	58,288	60,473	73,223	74,490
Livestock*	142,725	147,952	188,540	199,263
Machinery & equipment*	128,625	127,761	167,695	172,506
FLB & PCA stock	5,968	6,358	11,845	11,879
Coop stocks & cert.	9,312	9,610	9,224	10,601
Land & buildings*	322,502	343,761	417,368	427,326
Total Farm Assets	$693,695	$725,216	$899,209	$933,607
Pers. cash/chkg./savings	$ 4,272	$ 4,744	$ 7,433	$ 7,561
Cash value of life ins.	4,278	4,382	6,743	8,120
Nonfarm real estate	9,270	11,871	26,500	26,000
Auto (personal share)	2,762	3,248	4,370	4,780
Stocks & bonds	6,834	7,596	12,388	12,524
Household furnishings	8,716	8,689	14,790	14,850
All other	3,265	3,429	5,050	17,770
Total Nonfarm Assets**	$ 39,398	$ 43,960	$ 77,274	$ 91,605
Total Farm & Nonfarm Assets	$733,093	$769,176	$976,483	$1,025,212
LIABILITIES				
Accounts payable	$ 5,090	$ 5,192	$ 13,306	$ 15,005
Operating debt	4,056	3,204	9,115	8,569
Short term	3,768	4,257	3,209	6,496
Intermediate***	99,966	96,334	181,693	179,730
Long term*	137,951	132,876	161,152	168,331
Total Farm Liab.	$250,831	$241,863	$368,475	$ 378,130
Total Nonfarm Liab.**	1,546	2,545	11,759	10,833
Total Farm & Nonfarm Liabilities	$252,377	$244,408	$380,234	$ 388,963
Farm Net Worth (Equity Capital)	$442,864	$483,354	$530,734	$ 555,477
Farm & Nonfarm Net Worth	$480,716	$524,768	$596,249	$ 636,249

FINANCIAL MEASURES	100 to 149 Cows	150 to 199 Cows
Percent equity	67%	59%
Debt/asset ratio-long term	0.39	0.39
Debt/asset ratio-inter. & current	0.29	0.41
Change in net worth with apprec.	$40,489	$24,743
Total farm debt per cow	$1,982	$2,136
Debt payments made per cow	$532	$536
Debt payments as % of milk sales	26%	28%
Amount avail. for debt service	$62,953	$81,720
Cash flow coverage ratio for 1986	1.20	1.04

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1986.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

Table 46 (cont'd) FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
414 New York Dairy Farms, 1986

Farms with:	200 to 249 Cows		More than 250 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 5,182	$ 5,285	$ 3,098	$ 5,509
Accounts receivable	47,222	48,353	77,139	88,644
Feed & supplies	110,301	112,044	197,236	207,932
Livestock*	272,218	280,550	442,895	466,645
Machinery & equipment*	203,740	207,527	265,465	274,285
FLB & PCA stock	14,501	14,456	15,298	14,356
Coop stocks & cert.	21,898	29,283	32,024	53,851
Land & buildings*	486,214	495,339	882,690	934,130
Total Farm Assets	$1,161,276	$1,192,837	$1,915,845	$2,045,352
Pers. cash/chkg./savings	$ 7,629	$ 8,086	$ 1,741	$ 3,824
Cash value of life ins.	17,877	6,118	4,170	4,166
Nonfarm real estate	17,429	17,429	5,889	5,889
Auto (personal share)	5,429	7,357	1,046	1,889
Stocks & bonds	3,643	5,286	7,208	8,332
Household furnishings	6,714	7,714	4,000	4,000
All other	10,493	17,023	14,377	12,205
Total Nonfarm Assets**	$ 69,213	$ 69,012	$ 38,430	$ 40,305
Total Farm & Nonfarm Assets	$1,230,489	$1,261,849	$1,954,275	$2,085,657
LIABILITIES				
Accounts payable	$ 15,676	$ 9,132	$ 15,482	$ 23,393
Operating debt	6,258	5,947	27,204	50,242
Short term	2,925	7,172	12,870	13,488
Intermediate***	215,166	243,542	364,772	349,232
Long term*	232,444	215,211	380,025	428,144
Total Farm Liab.	$ 472,468	$ 481,004	$ 800,354	$ 864,499
Total Nonfarm Liab.**	0	2,217	0	0
Total Farm & Nonfarm Liabilities	$ 472,468	$ 483,221	$ 800,354	$ 864,499
Farm Net Worth (Equity Capital)	$ 688,808	$ 711,833	$1,115,491	$1,180,853
Farm & Nonfarm Net Worth	$ 758,021	$ 778,628	$1,153,921	$1,221,158

FINANCIAL MEASURES	200 to 249 Cows	More than 250 Cows
Percent equity	60%	58%
Debt/asset ratio-long term	0.43	0.46
Debt/asset ratio-inter. & current	0.38	0.39
Change in net worth with apprec.	$23,026	$65,361
Total farm debt per cow	$2,073	$2,194
Debt payments made per cow	$638	$769
Debt payments as % of milk sales	30%	33%
Amount avail. for debt service	$96,415	$206,413
Cash flow coverage ratio for 1986	0.98	1.25

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1986.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

Table 47. SELECTED BUSINESS FACTORS BY HERD SIZE
414 New York Dairy Farms, 1986

Item / Farms with:	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows	85 to 99 Cows
Number of farms	32	87	76	60	46
Cropping Program Analysis					
Total Tillable acres	117	162	198	266	301
Tillable acres rented*	28	58	62	91	114
Hay crop acres*	76	100	110	148	168
Corn silage acres*	14	30	38	48	56
Hay crop, tons DM/acre	2.1	2.2	2.6	2.6	2.7
Corn silage, tons/acre	11.8	12.3	13.1	13.6	13.7
Oats, bushels/acre	43.3	60.5	67.1	70.1	64.4
Forage DM per cow, tons	6.9	7.4	7.6	8.0	8.0
Tillable acres/cow	3.6	3.4	3.3	3.5	3.3
Fert. & lime exp./til. acre	$12.43	$19.38	$24.13	$24.42	$24.42
Total machinery costs	$12,414	$17,793	$25,291	$31,515	$42,081
Machinery cost/tillable acre	$106	$110	$128	$118	$140
Dairy Analysis					
Number of cows	32	47	61	76	90
Number of heifers	25	36	50	62	73
Milk sold, lbs.	470,234	716,437	966,374	1,185,995	1,430,399
Milk sold/cow, lbs.	14,525	15,180	15,825	15,605	15,840
Operating cost of prod. milk/cwt.	$9.27	$9.77	$9.14	$9.56	$9.45
Total cost of prod. milk/cwt.	$16.34	$15.40	$14.75	$14.57	$14.29
Price/cwt. milk sold	$12.36	$12.44	$12.53	$12.59	$12.59
Purchased dairy feed/cow	$464	$521	$480	$466	$437
Purchased dairy feed/cwt. milk	$3.20	$3.43	$3.04	$2.99	$2.76
Purchased grain & conc. as % of milk receipts	24%	26%	23%	23%	21%
Purchased feed & crop expense/cwt. milk	$3.81	$4.16	$3.90	$3.99	$3.69
Capital Efficiency					
Farm capital/worker	$128,138	$141,878	$155,055	$163,243	$184,485
Farm capital/cow	6,689	6,042	6,170	6,165	6,027
Farm capital/til. acre owned	2,433	2,742	2,750	2,677	2,910
Real estate/cow	3,650	3,152	3,011	3,019	2,780
Machinery investment/cow	1,274	1,147	1,246	1,225	1,293
Capital turnover, years	2.89	2.61	2.59	2.55	2.41
Labor Efficiency					
Worker equivalent	1.69	2.01	2.43	2.87	2.95
Operator/manager equivalent	1.00	1.13	1.32	1.22	1.37
Milk sold/worker, lbs.	278,245	356,436	397,685	413,239	484,881
Cows/worker	20	23	25	26	31
Work units/worker	204	247	266	287	327
Labor cost/cow	$480	$411	$400	$388	$357
Labor cost/tillable acre	$133	$120	$123	$111	$107

*Average of all farms, not only those reporting data.

Table 47 (continued) SELECTED BUSINESS FACTORS BY HERD SIZE
414 New York Dairy Farms, 1986

Item — Farms with:	100 to 149 Cows	150 to 199 Cows	200 to 249 Cows	250 or More Cows
Number of farms	62	22	10	19
Cropping Program Analysis				
Total tillable acres	364	506	678	839
Tillable acres rented*	126	202	277	267
Hay crop acres*	180	228	268	310
Corn silage acres*	81	129	158	351
Hay crop, tons DM/acre	3.0	2.9	3.1	3.5
Corn silage, tons/acre	14.5	13.8	15.5	16.1
Oats, bushels/acre	67.4	55.4	50.0	57.5
Forage DM per cow, tons	7.9	7.6	7.4	7.8
Tillable acres/cow	3.1	3.0	3.0	2.2
Fert. & lime exp./til. acre	$27.87	$26.45	$30.13	$36.38
Total machinery costs	$50,654	$64,609	$92,196	$131,927
Machinery cost/tillable acre	$139	$128	$136	$157
Dairy Analysis				
Number of cows	119	172	226	382
Number of heifers	102	139	176	314
Milk sold, lbs.	1,917,759	2,608,778	3,744,053	7,104,584
Milk sold/cow, lbs.	16,055	15,199	16,552	18,593
Operating cost of prod. milk/cwt.	$9.17	$9.82	$9.93	$9.54
Total cost of prod. milk/cwt.	$13.65	$13.71	$13.26	$12.37
Price/cwt. milk sold	$12.81	$12.81	$12.67	$12.70
Purchased dairy feed/cow	$463	$458	$569	$616
Purchased dairy feed/cwt. milk	$2.89	$3.02	$3.44	$3.31
Purchased grain & conc. as % of milk receipts	22%	23%	26%	25%
Purchased feed & crop expense/cwt. milk	$3.87	$4.00	$4.41	$4.15
Capital Efficiency				
Farm capital/worker	$198,727	$196,654	$201,206	$211,602
Farm capital/cow	5,939	5,339	5,204	5,183
Farm capital/til. acre owned	2,968	3,014	2,943	3,463
Real estate/cow	2,789	2,461	2,170	2,377
Machinery investment/cow	1,073	991	909	706
Capital turnover, years	2.32	2.22	2.02	1.85
Labor Efficiency				
Worker equivalent	3.57	4.66	5.85	9.36
Operator/manager equivalent	1.56	1.45	1.50	1.54
Milk sold/worker, lbs.	537,187	559,824	640,009	759,037
Cows/worker	33	37	39	41
Work units/worker	355	385	407	422
Labor cost/cow	$343	$362	$372	$423
Labor cost/tillable acre	$113	$123	$124	$192

*Average of all farms, not only those reporting data.

Table 48. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1984, 1985, AND 1986
Same 229 New York Dairy Farms

Item	1984	1985	1986
ACCRUAL EXPENSES			
Hired labor	$ 21,670	$ 23,649	$ 25,484
Feed	52,490	50,173	55,947
Machinery	20,264	20,512	19,401
Livestock	32,921	30,887	33,805
Crops	16,391	18,179	15,476
Real estate	14,476	15,765	16,048
Other	28,614	29,244	29,447
Total Operating	$186,826	$188,409	$195,608
Expansion livestock	2,389	2,780	1,543
Machinery depreciation	17,206	17,111	16,915
Building depreciation	8,039	8,884	9,135
Total Accrual Expenses	$214,460	$217,184	$223,201
ACCRUAL RECEIPTS			
Milk sales	$206,003	$212,216	$221,104
Livestock	22,622	22,549	20,252
Crops	3,114	4,948	1,783
All other	6,710	7,337	7,261
Total Accrual Receipts	$238,449	$247,050	$250,400
PROFITABILITY ANALYSIS			
Net farm income (without appreciation)	$23,989	$29,866	$27,199
Net farm income (with appreciation)	$38,615	$28,322	$44,992
Labor & management income	-$262	$9,884	$6,213
Number of operators	1.33	1.32	1.31
Labor & management income per operator	-$197	$7,488	$4,743
BUSINESS FACTORS			
Worker equivalent	3.20	3.29	3.32
Number of cows	96	102	106
Number of heifers	83	84	86
Acres of hay crops*	141	145	153
Acres of corn silage*	75	79	77
Total tillable acres	288	299	305
Pounds of milk sold	1,526,978	1,637,695	1,740,826
Pounds of milk sold per cow	15,860	16,011	16,392
Tons hay crop dry matter per acre	2.9	2.9	2.8
Tons corn silage per acre	14	15	15
Cows per worker	30	31	32
Pounds of milk sold per worker	477,181	497,779	524,345
Percent grain & conc. is of milk receipts	24%	22%	24%
Feed & crop expense per cwt. milk	$4.51	$4.11	$4.05
Fertilizer & lime per crop acre	$34.29	$35.73	$26.90
Machinery cost per tillable acre	$149	$144	$137
Average price per cwt. milk	$13.49	$12.96	$12.70

*Average of all farms, not only those reporting data.

Table 49. SELECTED BUSINESS FACTORS BY TYPE OF BARN AND HERD SIZE
414 New York Dairy Farms, 1986

Farms with:	Conventional		Freestall	
Item	≤60 Cows	>60 Cows	≤120 Cows	>120 Cows
Number of farms	146	124	71	73
Cropping Program Analysis				
Total Tillable acres	157	274	273	588
Tillable acres rented*	51	97	99	205
Hay crop acres*	96	155	139	243
Corn silage acres*	27	48	62	181
Hay crop, tons DM/acre	2.3	2.7	2.8	3.2
Corn silage, tons/acre	12.3	13.7	14.0	15.2
Oats, bushels/acre	56.1	70.4	68.7	56.5
Forage DM per cow, tons	7.2	7.9	7.8	7.8
Tillable acres/cow	3.4	3.4	3.1	2.7
Fert. & lime exp./til. acre	$19.90	$22.75	$28.70	$31.11
Total machinery costs	$17,584	$33,257	$41,281	$83,046
Machinery cost/tillable acre	$112	$121	$151	$141
Dairy Analysis				
Number of cows	46	81	88	222
Number of heifers	35	68	73	182
Milk sold, lbs.	698,200	1,286,440	1,388,642	3,787,019
Milk sold/cow, lbs.	15,171	15,802	15,866	17,093
Operating cost of prod. milk/cwt.	$9.51	$9.33	$9.36	$9.60
Total cost of prod. milk/cwt.	$15.38	$14.37	$14.22	$12.96
Price/cwt. milk sold	$12.47	$12.53	$12.84	$12.72
Purchased dairy feed/cow	$499	$459	$459	$548
Purchased dairy feed/cwt. milk	$3.29	$2.91	$2.89	$3.21
Purc. grain & conc. as % milk rec.	25%	23%	22%	24%
Purc. feed & crop exp./cwt. milk	$4.05	$3.79	$3.94	$4.12
Capital Efficiency				
Farm capital/worker	$137,144	$173,780	$183,971	$204,899
Farm capital/cow	6,020	6,233	5,970	5,355
Farm capital/til. acre owned	2,614	2,867	2,986	3,098
Real estate/cow	3,109	3,066	2,749	2,424
Machinery investment/cow	1,147	1,223	1,214	869
Capital turnover, years	2.57	2.52	2.37	2.05
Labor Efficiency				
Worker equivalent	2.02	2.92	2.84	5.79
Operator/manager equivalent	1.15	1.33	1.41	1.47
Milk sold/worker, lbs.	345,644	440,562	488,958	654,062
Cows/worker	23	28	31	38
Work units/worker	240	299	328	399
Labor cost/cow	$417	$381	$361	$385
Labor cost/tillable acre	$122	$113	$116	$145
Profitability & Balance Sheet Analysis				
Net farm income (w/o apprec.)	$9,341	$19,138	$24,475	$60,243
Labor & mgmt. income/operator	$-999	$455	$4,275	$16,090
Farm debt/cow	$2,428	$2,090	$2,050	$2,145
Percent equity	59%	66%	65%	60%

*Average of all farms, not only those reporting data.

Table 50. FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS
146 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1986

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
3.1	58	1,007,751	18,878	4.1	20	34	544,485
2.6	55	873,140	17,368	3.3	17	30	459,871
2.3	54	832,613	16,639	2.9	16	27	428,718
2.2	51	787,319	16,037	2.6	15	26	404,025
2.0	49	740,807	15,438	2.4	14	25	375,361
2.0	47	700,379	15,034	2.2	13	23	343,283
1.9	44	653,090	14,416	2.1	12	21	316,418
1.7	41	580,976	13,938	1.9	10	20	286,500
1.5	36	501,065	12,992	1.6	8	18	255,798
1.2	28	352,058	10,736	1.1	5	14	192,273

Cost Control					
Grain Bought Per Cow	% Feed is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
$189	11%	$177	$520	$338	$2.51
320	17	249	611	455	3.15
386	22	285	666	503	3.44
422	24	323	734	535	3.70
459	25	365	785	580	3.86
488	27	397	827	611	4.05
532	29	429	884	661	4.28
580	30	464	916	721	4.59
631	32	522	1,000	783	4.97
765	38	648	1,176	954	6.06

Value and Cost of Production			Profitability			
			Net Farm Income		Labor & Mgmt. Income	
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	With Apprec.	Without Apprec.	Per Farm	Per Oper.
$2,709	$ 6.23	$11.98	$60,893	$35,087	$22,396	$17,562
2,425	7.49	13.42	35,933	24,247	12,646	10,953
2,294	8.11	13.84	29,970	18,994	7,722	6,887
2,188	8.67	14.32	25,464	14,971	4,609	4,089
2,101	9.26	15.16	20,230	11,729	1,702	1,658
2,000	9.87	15.63	16,582	8,614	-1,464	-1,401
1,937	10.47	16.12	12,687	5,490	-5,240	-4,394
1,853	10.92	17.10	7,202	814	-8,463	-8,524
1,740	11.50	18.57	-257	-3,988	-15,131	-14,528
1,403	13.36	21.95	-12,299	-18,796	-28,918	-26,431

Table 51. FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS
124 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1986

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
4.7	124	2,093,475	19,571	4.8	22	44	652,718
3.7	99	1,649,764	18,016	3.6	19	37	571,684
3.4	90	1,441,447	17,121	3.3	17	34	530,017
3.1	85	1,317,509	16,694	3.0	16	31	496,060
3.0	79	1,251,151	16,141	2.8	15	29	471,986
2.8	76	1,206,039	15,667	2.6	14	28	446,181
2.5	72	1,147,970	15,233	2.4	13	26	425,808
2.4	68	1,074,750	14,662	2.2	12	25	396,893
2.1	65	967,717	13,618	2.0	10	22	346,946
1.8	62	810,022	11,546	1.5	6	18	256,917

Cost Control					
Grain Bought Per Cow	% Feed is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
$186	10%	$191	$476	$342	$2.32
269	14	259	554	428	2.91
333	17	317	625	487	3.29
380	21	353	704	528	3.43
429	22	381	750	579	3.65
473	24	409	800	624	3.95
512	26	456	877	671	4.21
557	27	504	950	713	4.41
624	30	556	1,050	773	4.65
761	37	713	1,219	897	5.52

Value and Cost of Production			Profitability			
			Net Farm Income		Labor & Mgmt. Income	
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	With Apprec.	Without Apprec.	Per Farm	Per Oper.
$2,661	$6.53	$11.61	$137,617	$61,175	$40,774	$27,242
2,517	7.83	12.60	60,290	39,547	21,148	16,925
2,406	8.31	13.14	49,563	32,130	14,942	11,965
2,311	8.68	13.67	42,248	27,056	9,103	7,194
2,201	9.14	14.11	37,685	21,315	3,905	3,225
2,124	9.46	14.43	31,717	18,215	283	175
2,041	9.86	14.81	23,127	14,332	-4,262	-3,498
1,936	10.41	15.66	17,079	7,417	-12,508	-9,625
1,835	10.87	16.56	12,251	-2,565	-20,966	-16,753
1,594	13.21	19.48	-8,813	-20,714	-44,612	-42,011

Table 52. FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS
71 Freestall Barn Dairy Farms with 120 or Less Cows, New York, 1986

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
4.3	117	1,964,379	19,630	4.5	21	52	746,199
3.5	110	1,842,322	18,599	3.9	19	40	621,768
3.3	105	1,711,514	17,868	3.5	17	36	565,788
3.0	97	1,588,855	16,927	3.0	16	33	530,646
2.8	91	1,453,928	16,098	2.7	15	31	506,808
2.7	86	1,350,208	15,704	2.5	14	29	484,530
2.6	82	1,277,728	15,246	2.4	14	29	454,169
2.3	74	1,094,868	14,733	2.3	13	27	422,903
2.1	67	975,911	13,879	1.9	11	25	394,665
1.7	52	721,949	10,706	1.4	7	21	304,171

Cost Control

Grain Bought Per Cow	% Feed is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
$183	9%	$239	$546	$383	$2.40
291	14	309	653	449	2.85
321	17	354	682	509	3.35
377	19	393	712	577	3.69
423	22	422	759	607	3.90
489	24	453	822	652	4.06
534	26	488	885	693	4.33
551	28	532	940	719	4.53
597	30	648	1,084	797	5.09
735	35	891	1,323	935	6.15

Value and Cost of Production			Profitability			
			Net Farm Income			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	With Apprec.	Without Apprec.	Labor & Mgmt. Income Per Farm	Labor & Mgmt. Income Per Oper.
$2,763	$ 6.52	$11.16	$119,436	$85,723	$56,843	$31,786
2,517	7.84	12.33	75,141	51,430	29,843	19,619
2,456	8.22	13.18	58,064	39,357	19,804	14,086
2,349	8.83	13.70	45,183	34,141	14,167	9,502
2,247	9.26	14.00	40,801	25,936	7,804	6,962
2,179	9.55	14.48	34,830	20,431	2,896	2,591
2,113	10.11	14.97	27,277	14,804	-1,786	-1,478
2,041	10.62	15.79	19,458	8,785	-5,399	-4,633
1,932	11.55	16.77	11,308	-531	-16,982	-13,373
1,494	13.08	19.53	-6,377	-27,829	-46,468	-39,164

Table 53. FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS
73 Freestall Barn Dairy Farms with More Than 120 Cows, New York, 1986

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
13.3	540	10,200,698	20,554	5.1	20	59	926,835
7.6	311	5,862,327	19,208	4.0	18	46	821,108
6.7	254	4,456,278	17,921	3.7	17	43	728,084
6.0	226	3,713,183	17,284	3.4	16	40	678,995
5.3	194	3,138,231	16,825	3.3	16	39	644,490
4.9	173	2,616,444	16,360	3.1	15	37	611,932
4.4	156	2,458,443	15,867	3.0	15	35	565,128
4.0	145	2,327,342	15,350	2.7	13	33	541,569
3.6	132	2,099,647	14,395	2.4	12	31	476,755
3.0	122	1,739,656	12,476	1.9	9	27	415,285

Cost Control

Grain Bought Per Cow	% Feed is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
$216	12%	$229	$500	$401	$2.71
322	16	284	627	505	3.15
389	19	338	683	564	3.47
425	20	380	715	609	3.73
463	23	397	747	658	4.04
522	25	411	775	690	4.24
578	27	429	830	741	4.40
622	29	446	887	797	4.61
680	31	491	929	848	4.91
776	35	590	1,033	955	5.67

Value and Cost of Production			Profitability			
			Net Farm Income			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	With Apprec.	Without Apprec.	Labor & Mgmt. Income Per Farm	Labor & Mgmt. Income Per Oper.
$2,900	$ 6.73	$10.94	$277,840	$227,537	$163,935	$122,334
2,631	8.21	11.91	144,680	122,770	71,851	48,890
2,554	9.03	12.38	111,557	89,415	47,475	35,630
2,424	9.30	12.81	94,081	67,102	36,270	23,042
2,350	9.47	13.21	79,443	55,090	21,997	16,870
2,257	9.79	13.53	70,133	44,237	13,125	10,248
2,169	10.13	13.78	54,017	27,750	122	-210
2,104	10.55	14.18	40,369	20,173	-11,512	-8,932
1,977	11.16	15.16	26,284	5,277	-30,939	-20,499
1,756	12.73	16.90	-15,577	-30,415	-60,131	-57,094

Table 54. FARM BUSINESS SUMMARIES FOR SINGLE PROPRIETORSHIPS, PARTNERSHIPS, AND CORPORATIONS
413 New York Dairy Farms, 1986

Item	295 Single Prop.	100 Partnerships	18 Corporations
ACCRUAL EXPENSES			
Hired labor	$ 18,450	$ 22,567	$ 61,266
Feed	40,574	64,260	88,925
Machinery	14,796	21,349	36,560
Livestock	25,526	38,230	61,807
Crops	11,087	18,286	34,632
Real estate	12,586	17,883	34,306
Other	23,343	31,662	51,279
Total Operating Expenses	$146,362	$214,237	$368,775
Expansion livestock	811	2,080	3,390
Machinery depreciation	12,837	20,037	35,592
Building depreciation	6,638	9,889	22,816
Total Accrual Expenses	$166,648	$246,243	$430,573
ACCRUAL RECEIPTS			
Milk sales	$161,109	$252,861	$419,034
Livestock	15,489	23,727	35,574
Crops	1,241	4,288	8,704
All other	5,201	6,182	18,009
Total Accrual Receipts	$183,040	$287,058	$481,321
PROFITABILITY ANALYSIS			
Net farm income (without appreciation)	$16,392	$40,815	$50,748
Net farm income (with appreciation)	$31,453	$59,560	$87,403
Labor & management income	$175	$17,942	$10,210
Number of operators	1.03	1.98	1.95
Labor & management income per operator	$170	$9,062	$5,236
BUSINESS FACTORS			
Worker equivalent	2.78	3.71	4.97
Number of cows	81	118	191
Number of heifers	66	95	159
Acres of hay crops*	138	156	241
Acres of corn silage*	56	84	140
Total tillable acres	254	335	589
Pounds of milk sold	1,276,719	1,992,631	3,289,405
Pounds of milk sold per cow	15,798	16,852	17,217
Tons hay crop dry matter per acre	2.6	2.8	3.3
Tons corn silage per acre	13.6	15.2	15.8
Cows per worker	29	32	38
Pounds of milk sold per worker	459,251	537,097	661,852
Purc. grain & conc. as % of milk receipts	24%	24%	20%
Feed & crop expense per cwt. milk	$4.00	$4.09	$3.72
Fertilizer & lime per crop acre	$23.97	$29.83	$30.29
Machinery cost per tillable acre	$126	$142	$140
Average price per cwt. milk	$12.62	$12.69	$12.74

*Average of all farms, not only those reporting data.

Table 55. FARM FAMILY FINANCIAL SITUATION FOR SINGLE PROPRIETORSHIPS, PARTNERSHIPS, AND CORPORATIONS
413 New York Dairy Farms, 1986

Farms with:	295 Single Prop.		100 Partnerships		18 Corporations	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS						
Farm cash/chkg./sav.	$ 2,884	$ 3,629	$ 3,981	$ 4,495	$ 6,135	$ 10,305
Accounts receivable	13,456	14,555	21,453	24,861	40,365	39,481
Feed & supplies	34,545	35,385	54,902	56,486	108,578	110,044
Livestock*	93,868	99,093	137,501	141,259	203,499	211,106
Machinery & equip.*	85,666	86,221	123,300	125,578	206,276	208,862
FLB & PCA stock	3,690	3,668	4,159	4,441	10,049	9,675
Coop stocks & cert.	5,083	5,660	6,474	10,523	15,751	20,097
Land & buildings*	223,313	230,865	296,150	316,439	565,468	578,581
Total Farm Assets	$462,505	$479,076	$647,921	$684,082	$1,156,121	$1,188,151
Pers. cash/chkg./sav.	$ 6,768	$ 7,203	$ 3,197	$ 3,255	$ 214	$ 214
Cash value life ins.	3,740	3,921	6,380	3,264	3,714	3,714
Nonfarm real estate	10,792	11,078	3,154	6,393	10,429	10,429
Auto (personal share)	2,600	3,117	3,944	3,981	1,043	2,825
Stocks & bonds	7,788	8,738	1,753	1,961	0	0
Household furnishings	8,856	9,261	4,885	4,885	1,143	1,143
All other	3,621	4,071	4,779	3,359	0	7,707
Total Nonfarm Assets**	$ 44,164	$ 47,389	$ 28,093	$ 27,098	$ 16,543	$ 26,031
Total Farm & Nonfarm Assets	$506,669	$526,465	$676,014	$711,180	$1,172,664	$1,214,182
LIABILITIES						
Accounts payable	$ 5,988	$ 6,496	$ 4,597	$ 5,653	$ 3,617	$ 7,539
Operating debt	3,198	3,407	5,710	7,208	2,871	9,533
Short term	2,132	2,436	2,297	4,381	6,738	4,885
Intermediate***	68,813	68,945	98,010	95,365	210,367	214,863
Long term*	112,720	110,910	114,747	122,556	147,621	132,382
Total Farm Liab.	$192,850	$192,194	$225,360	$235,163	$371,214	$369,202
Total Nonfarm Liab.**	1,550	1,553	2,488	3,481	0	0
Total Farm & Nonfarm Liabilities	$194,400	$193,747	$227,848	$238,644	$371,214	$369,202
Farm Net Worth (Equity Capital)	$269,654	$286,882	$422,561	$448,919	$784,907	$818,949
Farm & Nonfarm Net Worth	$312,269	$332,718	$448,166	$472,536	$801,450	$844,980

FINANCIAL MEASURES	295 Single Prop.	100 Partner.	18 Corp.
Percent equity	60%	66%	69%
Debt/asset ratio-long term	0.48	0.39	0.23
Debt/asset ratio-inter. & current	0.33	0.31	0.39
Change in net worth with apprec.	$17,228	$26,358	$34,042
Total farm debt per cow	$2,316	$1,943	$1,893
Debt payments made per cow	$556	$633	$462
Debt payments as % of milk sales	28%	29%	21%
Amount avail. for debt service	$42,698	$63,468	$105,152
Cash flow coverage ratio for 1986	1.11	1.24	1.31

*Includes discounted lease payments. **Average of 234 single proprietorships reporting nonfarm assets and liabilities, 26 partnerships, and 7 corporations. ***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

Table 56. SELECTED BUSINESS FACTORS BY MILKING SYSTEMS
411 New York Dairy Farms, 1986

Item	Dumping Station	Pipeline	Herringbone Parlor	Other Parlors
Number of farms	35	228	135	13
Percent of farms	8%	55%	33%	3%
Cropping Program Analysis				
Total Tillable acres	179	214	441	322
Tillable acres rented*	64	73	154	120
Hay crop acres*	112	124	196	150
Corn silage acres*	22	39	124	77
Hay crop, tons DM/acre	2.1	2.6	3.0	2.7
Corn silage, tons/acre	11.7	13.4	14.8	16.5
Oats, bushels/acre	65.6	65.1	63.9	56.9
Forage DM per cow, tons	7.3	7.6	7.9	6.8
Tillable acres/cow	4.0	3.3	2.8	2.6
Fert. & lime exp./til. acre	$15.29	$22.85	$29.80	$31.08
Total machinery costs	$13,164	$26,435	$62,943	$51,161
Machinery cost/tillable acre	$74	$123	$143	$159
Dairy Analysis				
Number of cows	45	66	156	123
Number of heifers	32	53	127	116
Milk sold, lbs.	637,819	1,030,101	2,601,688	2,062,019
Milk sold/cow, lbs.	14,129	15,723	16,730	16,806
Oper. cost of prod. milk/cwt.	$9.55	$9.37	$9.54	$9.67
Total cost of prod. milk/cwt.	$15.33	$14.63	$13.31	$13.97
Price/cwt. milk sold	$12.40	$12.53	$12.74	$12.85
Purchased dairy feed/cow	$472	$479	$517	$589
Purchased dairy feed/cwt. milk	$3.34	$3.04	$3.09	$3.51
Purc. grain & conc. as % milk receipts	26%	23%	23%	24%
Purc. feed & crop expense/cwt. milk	$4.05	$3.90	$4.04	$4.40
Capital Efficiency				
Farm capital/worker	$115,217	$163,465	$201,089	$158,057
Farm capital/cow	5,334	6,188	5,586	5,217
Farm capital/tillable acre owned	2,094	2,875	3,027	3,169
Real estate/cow	2,683	3,098	2,553	2,280
Machinery investment/cow	1,033	1,189	986	918
Capital turnover, years	2.59	2.51	2.17	1.94
Labor Efficiency				
Worker equivalent	2.09	2.48	4.32	4.05
Operator/manager equivalent	1.15	1.25	1.40	1.71
Milk sold/worker, lbs.	305,177	415,363	602,243	509,140
Cows/worker	22	27	36	30
Work units/worker	229	281	379	320
Labor cost/cow	$421	$388	$381	$379
Labor cost/tillable acre	$106	$119	$134	$144
Profitability & Balance Sheet Analysis				
Net farm income (w/o apprec.)	$9,068	$15,450	$41,195	$33,276
Labor & mgmt. income/operator	-$679	$590	$9,396	$6,440
Farm debt/cow	$2,113	$2,295	$2,111	$1,884
Percent equity	58%	63%	62%	65%

*Average of all farms, not only those reporting data.

Table 57. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
20 New York Dairy-Cash Crop Farms,* 1986

ACCRUAL EXPENSES	
Labor: Hired	$ 18,553
Feed: Dairy grain & conc.	22,799
Dairy roughage	521
Other livestock	49
Machinery: Mach. hire/rent/lease	2,045
Mach. repairs/parts	11,604
Auto expense (farm share)	614
Fuel, oil, grease	6,480
Livestock: Replacement lvstk.	2,541
Breeding	2,601
Vet & medicine	3,621
Milk marketing	9,823
Cattle lease/rent	0
Other livestock expense	7,656
Crops: Fertilizer & lime	10,651
Seeds & plants	5,527
Spray & other crop expense	6,055
Real Estate: Land/building/ fence repair	2,087
Taxes	4,377
Insurance	3,503
Rent & lease	7,257
Other:	
Telephone (farm share)	713
Electricity (farm share)	4,243
Interest paid	10,677
Miscellaneous	2,756
TOTAL OPERATING EXPENSES	$146,753
Expansion livestock	3,121
Machinery depreciation	21,276
Building depreciation	6,447
TOTAL ACCRUAL EXPENSES	$177,597

ACCRUAL RECEIPTS	
Milk sales	$159,150
Dairy cattle	$12,873
Dairy calves	2,278
Other livestock	36
Crops	22,714
Government receipts	5,494
Custom machine work	1,318
Gas tax refund	214
Other	3,844
- Nonfarm noncash capital	853
TOTAL ACCRUAL RECEIPTS	$207,068

PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$29,471
Net farm inc. (w/apprec.)	$37,281
Labor & mgt. income/farm	$9,094
Number of operators	1.61
Labor & mgt. income/oper.	$5,648
Rate of return on equity capital including apprec.	1.9%

BUSINESS FACTORS	
Number of cows	77
Number of heifers	59
Worker equivalent	3.09
Total tillable acres	392
Milk sold per cow, lbs.	16,371
Hay DM per acre, tons	3.1
Corn silage per acre, tons	14.9
Milk sold per worker, lbs.	409,804
Grain/conc. as % milk sales	14%
Feed & crop exp./cwt. milk	$3.60
Labor & mach. costs/cow	$1,084
Average price/cwt. milk	$12.57

ASSETS	Jan. 1	Dec. 31
Farm cash/chkg./sav.	$ 6,974	$ 6,372
Accounts receivable	14,051	15,261
Feed & supplies	56,760	51,417
Dairy cows**	62,549	63,495
Heifers	22,739	24,623
Bulls & other lvstk.	331	260
Machinery & equip.**	119,805	125,868
FLB & PCA stock	3,004	2,846
Coop stocks & cert.	7,376	7,604
Land & buildings**	226,625	228,182
Total Farm Assets	$520,214	$525,929
Nonfarm Assets****	91,355	104,470
Total Farm & Nonfarm Assets	$611,569	$630,399

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 3,065	$ 2,582
Operating debt	2,078	175
Short-term	5,705	5,110
Intermediate***	61,232	62,233
Long-term**	64,209	57,063
Total Farm Liab.	$136,289	$127,162
Nonfarm Liab.****	2,756	3,355
Total Farm & Nonfarm Liabilities	$139,045	$130,517
Farm Net Worth	$383,926	$398,767
Farm & Nonfarm Net Worth	$472,524	$499,882

*A farm is classified as dairy-cash crop if cash crop sales amounted to 10 percent or more of accrual milk sales. **Includes discounted lease payments. ***Includes FLB/PCA stock and discounted lease payments for cattle and machinery. ****Average of 13 farms reporting nonfarm assets and liabilities.

Table 58. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
51 New York Dairy-Renter Farms,* 1986

ACCRUAL EXPENSES	
Labor: Hired	$ 10,931
Feed: Dairy grain & conc.	33,849
Dairy roughage	3,448
Other livestock	225
Machinery: Mach. hire/rent/lease	1,829
Mach. repairs/parts	7,462
Auto expense (farm share)	406
Fuel, oil, grease	4,677
Livestock: Replacement lvstk.	3,162
Breeding	2,107
Vet & medicine	2,809
Milk marketing	10,691
Cattle lease/rent	134
Other livestock expense	6,890
Crops: Fertilizer & lime	5,558
Seeds & plants	2,543
Spray & other crop expense	2,273
Real Estate: Land/building/ fence repair	1,954
Taxes	1,152
Insurance	2,167
Rent & lease	12,776
Other:	
Telephone (farm share)	555
Electricity (farm share)	3,865
Interest paid	5,723
Miscellaneous	1,858
TOTAL OPERATING EXPENSES	$129,044
Expansion livestock	3,492
Machinery depreciation	10,286
Building depreciation	1,222
TOTAL ACCRUAL EXPENSES	$144,044

ACCRUAL RECEIPTS	
Milk sales	$148,398
Dairy cattle	15,363
Dairy calves	1,954
Other livestock	111
Crops	4,603
Government receipts	3,452
Custom machine work	197
Gas tax refund	101
Other	1,161
- Nonfarm noncash capital	19
TOTAL ACCRUAL RECEIPTS	$175,321

PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$31,277
Net farm inc. (w/apprec.)	$35,562
Labor & mgt. income/farm	$22,792
Number of operators	1.42
Labor & mgt. income/oper.	$16,051
Rate of return on equity capital including apprec.	6.8%

BUSINESS FACTORS	
Number of cows	75
Number of heifers	52
Worker equivalent	2.64
Total tillable acres	236
Milk sold per cow, lbs.	15,575
Hay DM per acre, tons	2.6
Corn silage per acre, tons	12.7
Milk sold per worker, lbs.	440,149
Grain/conc. as % milk sales	23%
Feed & crop exp./cwt. milk	$4.10
Labor & mach. costs/cow	$736
Average price/cwt. milk	$12.77

ASSETS	Jan. 1	Dec. 31
Farm cash/chkg./sav.	$ 2,863	$ 3,819
Accounts receivable	11,799	13,682
Feed & supplies	30,999	31,967
Dairy cows**	52,348	58,440
Heifers	16,687	19,152
Bulls & other lvstk.	307	358
Machinery & equip**	66,708	69,093
FLB & PCA stock	1,818	1,710
Coop stocks & cert.	4,739	5,427
Land & buildings**	11,029	10,278
Total Farm Assets	$199,297	$213,926
Nonfarm Assets****	24,721	25,500
Total Farm & Nonfarm Assets	$224,018	$239,426

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 2,902	$ 2,878
Operating debt	3,045	2,147
Short-term	2,220	3,069
Intermediate***	47,190	49,317
Long-term**	12,296	9,978
Total Farm Liab.	$ 67,653	$ 67,389
Nonfarm Liab.****	4,279	4,023
Total Farm & Nonfarm Liabilities	$ 71,932	$ 71,412
Farm Net Worth	$131,644	$146,537
Farm & Nonfarm Net Worth	$152,086	$168,014

*A farm is classified as a renter if no farm real estate is owned at the end of the year or no tillable land is owned. **Includes discounted lease payments. ***Includes FLB/PCA stock and discounted lease payments for cattle and machinery. ****Average of 27 farms reporting nonfarm assets and liabilities.

Table 59. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
Top 10 Percent of the Farms by Net Farm Income (without appreciation)
41 New York Dairy Farms, 1986

ACCRUAL EXPENSES	
Labor: Hired	$ 74,532
Feed: Dairy grain & conc.	125,159
Dairy roughage	5,983
Other livestock	444
Machinery: Mach. hire/rent/lease	3,524
Mach. repairs/parts	24,466
Auto expense (farm share)	749
Fuel, oil, grease	11,788
Livestock: Replacement lvstk.	2,496
Breeding	7,852
Vet & medicine	12,797
Milk marketing	33,781
Cattle lease/rent	276
Other livestock expense	21,235
Crops: Fertilizer & lime	19,899
Seeds & plants	8,854
Spray & other crop expense	9,137
Real Estate: Land/building/ fence repair	6,429
Taxes	9,481
Insurance	6,598
Rent & lease	8,598
Other:	
Telephone (farm share)	2,031
Electricity (farm share)	10,787
Interest paid	41,203
Miscellaneous	7,142
TOTAL OPERATING EXPENSES	$455,241
Expansion livestock	5,955
Machinery depreciation	33,577
Building depreciation	19,524
TOTAL ACCRUAL EXPENSES	$514,297

ACCRUAL RECEIPTS	
Milk sales	$539,217
Dairy cattle	48,326
Dairy calves	5,703
Other livestock	788
Crops	16,421
Government receipts	8,787
Custom machine work	371
Gas tax refund	323
Other	6,846
- Nonfarm noncash capital	0
TOTAL ACCRUAL RECEIPTS	$626,782

PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$112,485
Net farm inc. (w/apprec.)	$131,024
Labor & mgt. income/farm	$71,251
Number of operators	1.79
Labor & mgt. income/oper.	$39,805
Rate of return on equity capital including apprec.	11.1%

BUSINESS FACTORS	
Number of cows	232
Number of heifers	194
Worker equivalent	6.0
Total tillable acres	609
Milk sold per cow, lbs.	18,209
Hay DM per acre, tons	3.1
Corn silage per acre, tons	16.1
Milk sold per worker, lbs.	705,028
Grain/conc. as % milk sales	23%
Feed & crop exp./cwt. milk	$4.00
Labor & mach. costs/cow	$765
Average price/cwt. milk	$12.75

ASSETS	Jan. 1	Dec. 31
Farm cash/chkg./sav.	$ 5,031	$ 9,030
Accounts receivable	45,347	53,036
Feed & supplies	118,929	132,228
Dairy cows*	191,386	201,808
Heifers	79,848	84,464
Bulls & other lvstk.	1,167	1,443
Machinery & equip*	198,173	205,779
FLB & PCA stock	9,006	9,154
Coop stocks & cert.	19,906	30,106
Land & buildings*	537,065	564,391
Total Farm Assets	$1,205,858	$1,291,439
Nonfarm Assets***	45,656	50,311
Total Farm & Nonfarm Assets	$1,251,514	$1,341,750

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 7,853	$ 8,924
Operating debt	14,383	23,417
Short-term	6,571	8,622
Intermediate**	189,653	184,997
Long-term*	206,330	225,259
Total Farm Liab.	$424,790	$451,219
Nonfarm Liab.***	0	1,386
Total Farm & Nonfarm Liabilities	$424,790	$452,605
Farm Net Worth	$781,068	$840,220
Farm & Nonfarm Net Worth	$826,724	$889,145

*Includes discounted lease payments. **Includes FLB/PCA stock and discounted lease payments for cattle and machinery. ***Average of 13 farms reporting nonfarm assets and liabilities.

Table 60. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
Average of 414 New York Dairy Farms, 1986

ACCRUAL EXPENSES	
Labor: Hired	$ 21,281
Feed: Dairy grain & conc.	45,789
Dairy roughage	1,819
Other livestock	760
Machinery: Mach. hire/rent/lease	1,838
Mach. repairs/parts	9,660
Auto expense (farm share)	565
Fuel, oil, grease	5,282
Livestock: Replacement lvstk.	1,964
Breeding	2,848
Vet & medicine	4,300
Milk marketing	12,966
Cattle lease/rent	80
Other livestock expense	7,988
Crops: Fertilizer & lime	7,536
Seeds & plants	3,272
Spray & other crop expense	3,040
Real Estate: Land/building/ fence repair	2,438
Taxes	5,076
Insurance	3,421
Rent & lease	3,894
Other:	
Telephone (farm share)	770
Electricity (farm share)	5,187
Interest paid	18,114
Miscellaneous	2,552
TOTAL OPERATING EXPENSES	$172,440
Expansion livestock	1,228
Machinery depreciation	15,545
Building depreciation	8,135
TOTAL ACCRUAL EXPENSES	$197,348

ACCRUAL RECEIPTS	
Milk sales	$194,522
Dairy cattle	15,431
Dairy calves	2,378
Other livestock	573
Crops	2,303
Government receipts	3,329
Custom machine work	232
Gas tax refund	152
Other	2,471
- Nonfarm noncash capital	190
TOTAL ACCRUAL RECEIPTS	$221,201

PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$23,853
Net farm inc. (w/apprec.)	$40,756
Labor & mgt. income/farm	$4,988
Number of operators	1.3
Labor & mgt. income/oper.	$3,837
Rate of return on equity capital including apprec.	4.3%

BUSINESS FACTORS	
Number of cows	95
Number of heifers	77
Worker equivalent	3.09
Total tillable acres	288
Milk sold per cow, lbs.	16,237
Hay DM per acre, tons	2.7
Corn silage per acre, tons	14.3
Milk sold per worker, lbs.	497,555
Grain/conc. as % milk sales	24%
Feed & crop exp./cwt. milk	$4.00
Labor & mach. costs/cow	$785
Average price/cwt. milk	$12.65

ASSETS	Jan. 1	Dec. 31
Farm cash/chkg./sav.	$ 3,283	$ 4,120
Accounts receivable	16,556	18,136
Feed & supplies	42,670	43,722
Dairy cows*	76,909	80,370
Heifers	31,276	32,817
Bulls & other lvstk.	1,028	1,050
Machinery & equip.*	100,070	101,118
FLB & PCA stock	4,071	4,107
Coop stocks & cert.	5,871	7,449
Land & buildings*	255,739	266,591
Total Farm Assets	$537,474	$559,479
Nonfarm Assets***	41,843	44,814
Total Farm & Nonfarm Assets	$579,317	$604,293

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 5,563	$ 6,346
Operating debt	3,783	4,598
Short-term	2,391	3,028
Intermediate**	82,273	81,839
Long-term*	114,830	114,758
Total Farm Liab.	$208,840	$210,570
Nonfarm Liab.***	1,595	1,694
Total Farm & Nonfarm Liabilities	$210,435	$212,264
Farm Net Worth	$328,634	$348,909
Farm & Nonfarm Net Worth	$368,882	$392,029

*Includes discounted lease payments. **Includes FLB/PCA stock and discounted lease payments for cattle and machinery. ***Average of 268 farms reporting nonfarm assets and liabilities.

Table 61. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
Average per Cow, 414 New York Dairy Farms, 1986

ACCRUAL EXPENSES	
Labor: Hired	$ 225
Feed: Dairy grain & conc.	484
Dairy roughage	19
Other livestock	8
Machinery:Mach. hire/rent/lease	19
Mach. repairs/parts	102
Auto expense (farm share)	6
Fuel, oil, grease	56
Livestock: Replacement lvstk.	21
Breeding	30
Vet & medicine	45
Milk marketing	137
Cattle lease/rent	1
Other livestock expense	84
Crops: Fertilizer & lime	80
Seeds & plants	34
Spray & other crop expense	32
Real Estate: Land/building/ fence repair	26
Taxes	54
Insurance	36
Rent & lease	41
Other:	
Telephone (farm share)	8
Electricity (farm share)	55
Interest paid	191
Miscellaneous	27
TOTAL OPERATING EXPENSES	$1,821
Expansion livestock	13
Machinery depreciation	164
Building depreciation	86
TOTAL ACCRUAL EXPENSES	$2,084

ACCRUAL RECEIPTS	
Milk sales	$2,054
Dairy cattle	163
Dairy calves	25
Other livestock	6
Crops	24
Government receipts	35
Custom machine work	3
Gas tax refund	2
Other	26
- Nonfarm noncash capital	2
TOTAL ACCRUAL RECEIPTS	$2,336

PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$252
Net farm inc. (w/apprec.)	$430
Labor & mgt. income/farm	$53
Number of operators	(1.30)
Labor & mgt. income/oper.	$41
Rate of return on equity capital including apprec.	4.3%

BUSINESS FACTORS	
Number of cows	(95)
Number of heifers	0.81
Worker equivalent	0.033
Total tillable acres	3.0
Milk sold, lbs.	16,237
Hay DM, tons	4.2
Corn silage, tons	10.0
Dairy feed & crop expense	$649
Labor & mach. costs	$785
Total debt	$2,171
Debt payment	$572

ASSETS	Jan. 1	Dec. 31
Farm cash/chkg./sav.	$ 35	$ 43
Accounts receivable	175	192
Feed & supplies	450	462
Dairy cows*	812	849
Heifers	330	347
Bulls & other lvstk.	11	11
Machinery & equip.*	1,057	1,068
FLB & PCA stock	43	43
Coop stocks & cert.	62	79
Land & buildings*	2,701	2,815
Total Farm Assets	$5,676	$5,909
Nonfarm Assets***	442	473
Total Farm & Nonfarm Assets	$6,118	$6,382

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 59	$ 67
Operating debt	40	49
Short-term	25	32
Intermediate**	869	864
Long-term*	1,213	1,212
Total Farm Liab.	$2,206	$2,224
Nonfarm Liab.***	17	18
Total Farm & Nonfarm Liabilities	$2,223	$2,242
Farm Net Worth	$3,470	$3,685
Farm & Nonfarm Net Worth	$3,895	$4,140

*Includes discounted lease payments. **Includes FLB/PCA stock and discounted lease payments for cattle and machinery. ***Average of 268 farms reporting nonfarm assets and liabilities.

NOTES