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October 1986

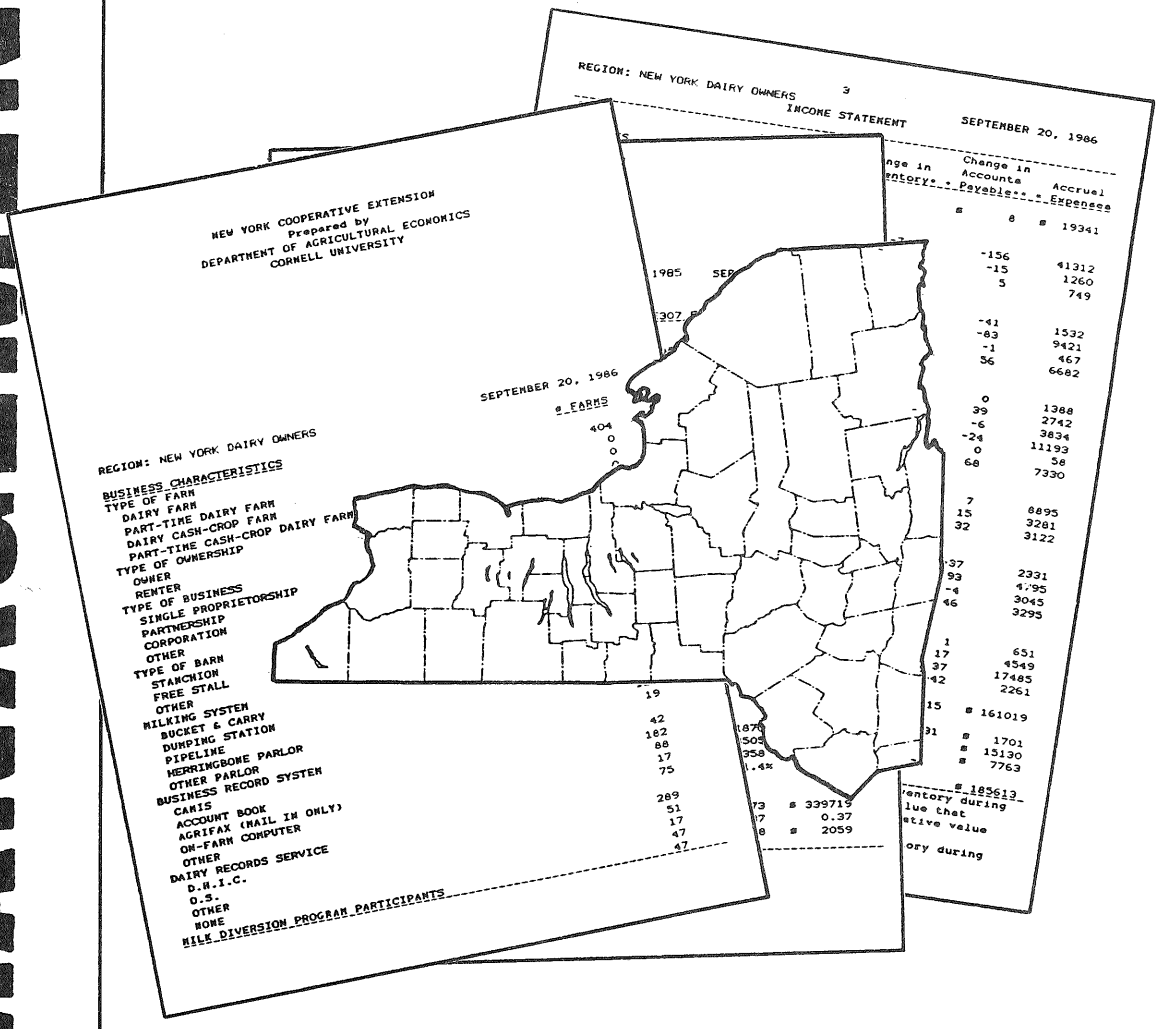
A.E. Res. 86-25

DAIRY FARM MANAGEMENT

BUSINESS SUMMARY

New York

1985



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INTRODUCTION

Dairy farm business summary projects are an integral part of 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 at Cornell University, and County Extension staff, cooperate in sponsoring these projects. In 1985, more than 490 dairy farmers participated. Business records submitted by dairy farmers from 47 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 enrolled the cooperators and collected the records. Regional summary reports were prepared by the college staff. Each cooperator received a summary and analysis of his or her business, and a regional report for making comparisons. These Extension activities enable farmers to develop managerial skills and solve business management problems.

Records from the nine regions of the State have been combined and the results presented in this publication 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 404 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 represented (see Figure 1 on the following page). The 404 farms represent a cross section of better than average commercial dairy farm owner-operators in the State. Forty-seven or 12 percent of the 404 farms were milk diversion program participants in 1985. Dairy farm renters, dairy-cash crop farmers, and part-time dairy operators have been excluded from the main body of this report and summarized separately in the back of the publication. A three-year comparison of milk diversion program participants with nonparticipants is also included.

Program Improvements

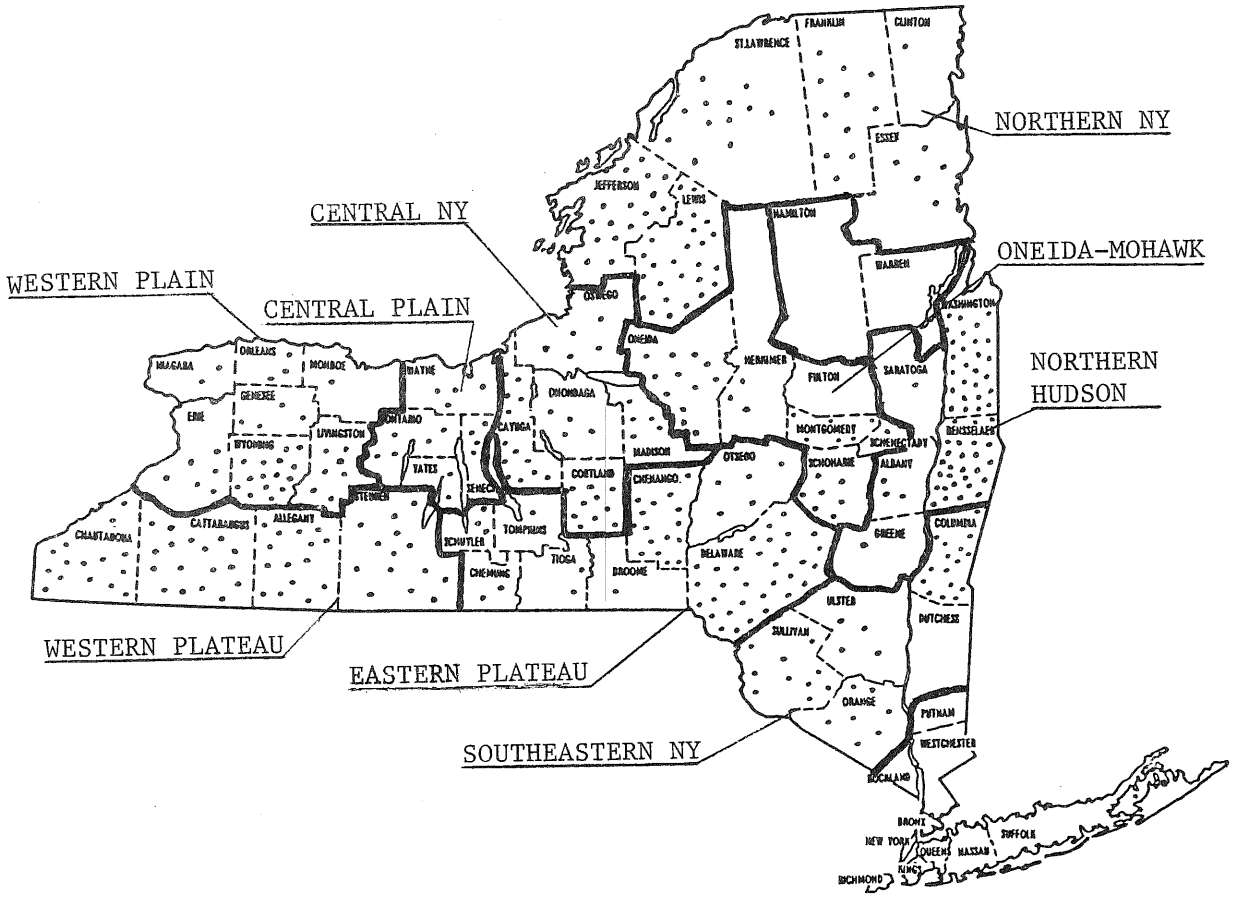
The 1985 Dairy Farm Business Summary report features improved accrual accounting procedures, a new measure of farm profitability, a more indepth balance sheet, an annual cash flow statement, and several major improvements in the business analysis format and the analysis measures used. These and other changes are identified in the body of this report.

The improvements initiated this year also provide an analysis of the farm cropping program and a more complete analysis of the dairy program. Corn and hay crop related expenses are evaluated separately for cooperating farmers. The cost of producing milk per cow and per hundredweight of milk sold has been compiled and an annual cash flow worksheet has been added.

Acknowledgement

The preparation of this report and the processing and organization of the data it contains has been successfully completed by our dedicated support staff, Beverly Carcelli and Cindy Farrell.

Figure 1. LOCATION OF THE 404 NEW YORK DAIRY FARMS IN THE 1985 DAIRY FARM BUSINESS SUMMARY

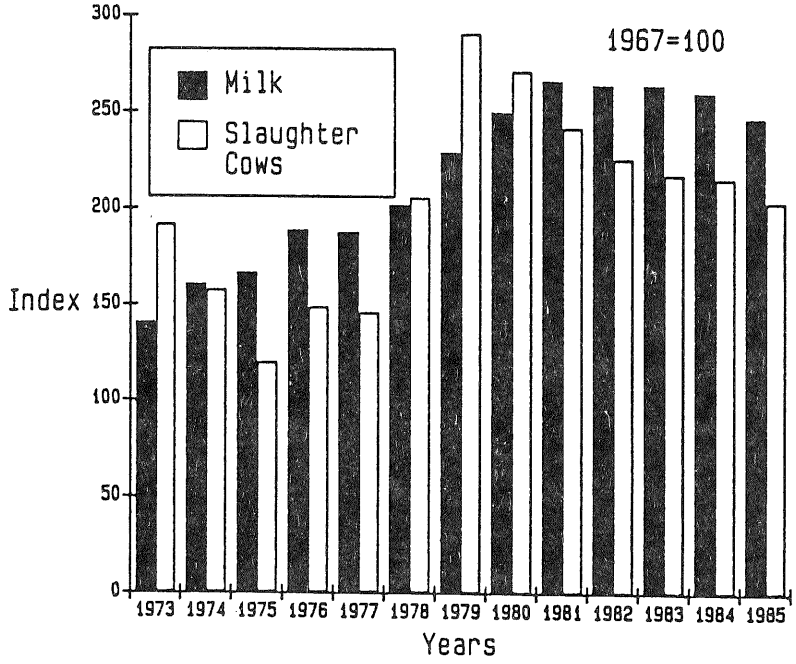


1985 Regional Summary Publications

Region	Publications	Author(s)
Northern New York	A.E. Ext. 86-17	William F. Lazarus & Linda D. Putnam
Western Plain Region	A.E. Ext. 86-18	Stuart F. Smith
Western Plateau Region	A.E. Ext. 86-19	George L. Casler
Central Plain Region	A.E. Ext. 86-21	Robert A. Milligan & Linda D. Putnam
Eastern Plateau Region	A.E. Ext. 86-22	Robert A. Milligan & Linda D. Putnam
Northern Hudson Region	A.E. Ext. 86-23	Stuart F. Smith
Oneida-Mohawk Region	A.E. Ext. 86-24	Eddy L. LaDue
Central New York	A.E. Ext. 86-25	Wayne A. Knoblauch
Southeastern New York	A.E. Ext. 86-26	Stuart F. Smith

THE ECONOMIC ENVIRONMENT FACING NEW YORK DAIRY FARMERS

Chart 1. PRICES RECEIVED BY NEW YORK DAIRY FARMERS, 1973-1985



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 increased steadily from 1973 to 1981, except for a small decline in 1977. Since 1981, milk prices have been declining. Slaughter cow prices exhibited wide fluctuations over the period prior to 1979 not moving in the same direction for more than three consecutive years. Since 1979, prices for slaughter cows have been declining.

Table 1. PRICES RECEIVED BY NEW YORK DAIRY FARMERS, 1973-1985

Year	All Milk	Slaughter Cows	Monthly Farm Price of Milk, 1985	
	($/cwt)	($/cwt)	($/cwt)	
1973	7.32	32.80		
1974	8.39	27.10	January	14.00
1975	8.75	20.60	February	13.80
1976	9.83	25.40	March	13.30
1977	9.75	25.00	April	12.80
			May	12.30
1978	10.50	35.30	June	11.80
1979	11.90	49.80	July	12.30
1980	13.00	46.30	August	12.60
1981	13.80	41.30	September	12.80
1982	13.70	38.60	October	13.00
			November	12.90
1983	13.70	37.20	December	12.70
1984	13.50	36.90		
1985	12.80	34.90		

SOURCE: NYCRS, New York Crop and Livestock Report.

Table 2. PRICES PAID BY NEW YORK FARMERS FOR SELECTED ITEMS, 1975-1985

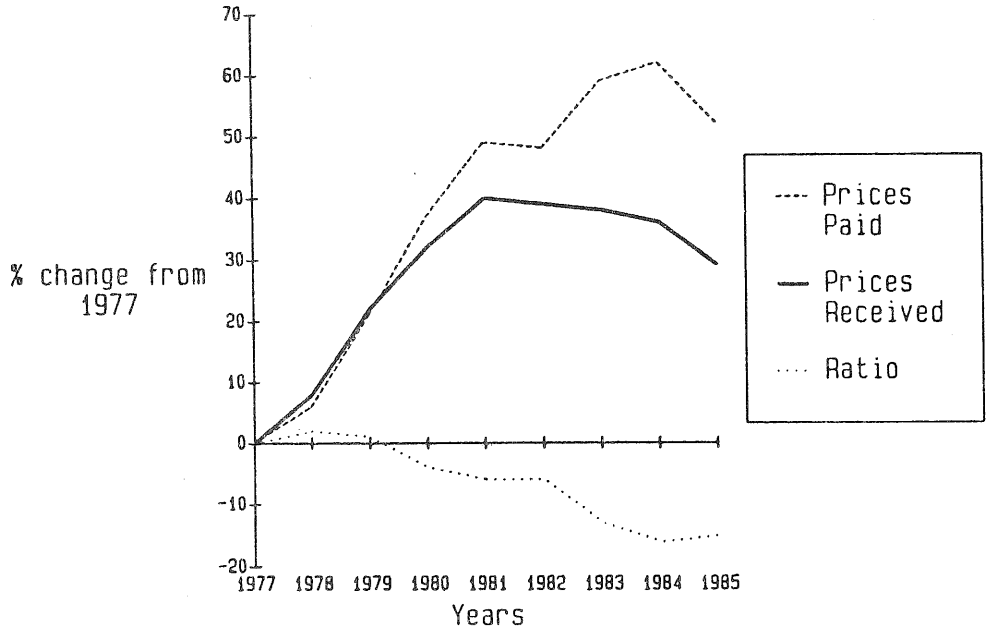
Year	Mixed Dairy Feed 16% Protein ($/ton)	Fertilizer, Urea, 45-46%N ($/ton)	Seed Corn, Hybrid ($/bu)	Diesel Fuel ($/gal)	Tractor 50-59 PTO ($)	Electricity ($/mo)
1975	132.00	230	36.50	0.394	9,250	48.00
1976	139.00	180	36.50	0.420	9,400	56.10
1977	139.40	180	34.00	0.481	10,800	66.60
1978	136.50	189	39.00	0.509	11,300	68.40
1979	156.80	213	39.50	0.723	12,700	73.00
1980	179.60	259	49.00	1.030	13,200	100.00
1981	193.70	275	51.00	1.310	14,800	114.00
1982	176.60	278	61.00	1.240	16,200	126.00
1983	192.60	249	64.00	1.140	17,000	142.00
1984	194.30	250	68.00	1.140	17,800	152.00
1985	164.20	238	66.00	1.080	17,800	167.00

SOURCE: NYCRS, New York Agricultural Statistics.

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 was on a downward trend for the period 1978-1984. In 1985 there was a slight increase in the ratio, primarily due to lower feed and fuel costs.

Chart 2. RATIO OF PRICES RECEIVED FOR MILK AND PRICES PAID BY NEW YORK DAIRY FARMERS, 1977-1985



SOURCE: NYCRS, New York Agricultural Statistics.

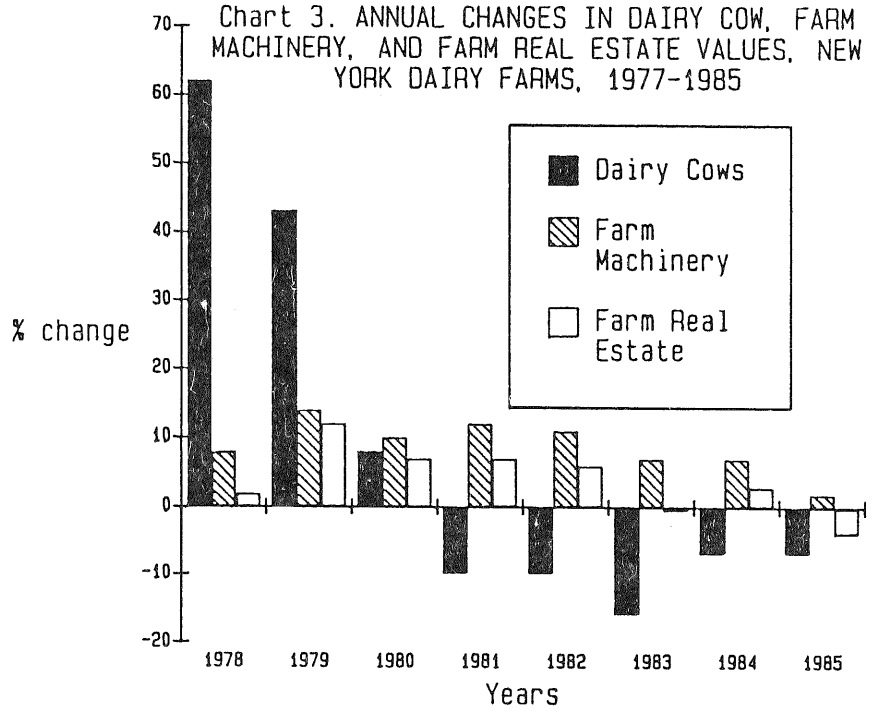
Inflation, farm profitability, supply and demand all have a direct impact on the inventory values on New York dairy farms. The price of new machinery has risen steadily during the past eight years. Dairy cow prices have changed most dramatically as the demand for replacements jumped in 1978 and 1979 but has declined rapidly since 1980. Real estate values decreased four percent in 1985.

Table 3. VALUES OF NEW YORK DAIRY FARM INVENTORY ITEMS, 1977-1985

Year	Dairy Cows		Machinery	Farm Real Estate	
	Value/Head	1977=100	1977=100	Value/Acre	1977=100
1977	$ 495	100	100	$587	100
1978	800	162	108	600	102
1979	1,150	232	123	670	113
1980	1,240	251	135	720	119
1981	1,120	226	151	773	126
1982	1,010	204	167	821	132
1983	850	172	178	817	129
1984	790	160	190	842	133
1985	740	149	194	808	128

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

The table above shows year-end (December) prices paid for dairy cows (replacements), an index of the same cow prices, an index of new machinery prices, the average per acre value of farmland and buildings reported in April, and an index of the real estate prices.



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, 1985

Region	Returns per Cwt. Milk	Returns per Cwt. Total	Costs per Cwt. Variable	Costs per Cwt. Total	Return to Operator's Labor & Mgmt.
1. Pacific (CA,WA)	$12.33	$13.08	$8.13	$10.41	$2.67
2. Southern Plains (TEXAS)	13.78	14.62	9.00	12.27	2.35
3. Appalachia (KY,TN,VA,NC,GA)	13.51	14.37	8.48	13.14	1.23
4. Northeast (NY,PA,OH,NEW ENGLAND)	12.98	13.91	7.55	12.91	1.00
5. Upper Midwest (MN,WI,MI,SD)	12.26	13.42	6.41	12.54	0.88
6. Corn Belt (IN,IL,IA,MO)	12.49	13.44	7.46	13.70	-0.26
National Average	12.66	13.64	7.34	12.54	1.10

SOURCE: USDA, ERS, Economic Indicators of the Farm Sector, Costs of Production, 1985.

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 was issued in 1986 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. The highest prices received nationally are in the South and the lowest in the upper Midwest region. The spread is now about $1.50 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 1985, the Pacific region continues as the region with the highest return to labor and management. The Northeast fell behind the Appalachia region into fourth place 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 404 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 OF THE FARM BUSINESS

Business Characteristics and Resources Used

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

Table 5. BUSINESS CHARACTERISTICS AND RESOURCES USED
404 New York Dairy Farms, 1985

Type of Business	Number	Percent
Sole Proprietorship	289	72
Partnership	102	25
Corporation	13	3
Barn Type		
Stanchion	247	61
Freestall	139	34
Other	18	5
Milking System		
Bucket & Carry	4	1
Dumping Station	42	10
Pipeline	217	54
Herringbone	122	30
Other Parlor	19	5

Business Records	Number	Percent
Account Book	182	45
Agrifax (mail-in)	88	22
CAMIS	42	10
On-Farm Computer	17	4
Other	75	19
Dairy Records		
D.H.I.C.	289	71
Owner Sampler	51	13
Other	17	4
None	47	12

Labor Force	Average	Percent
Operator	17 mo.	45
Family	5 mo.	13
Family unpaid	3 mo.	8
Hired	13 mo.	34
Total Months	38 mo.	100

Land Used	Number of Farms	Average
Total acres:		
Owned	404	341
Rented	338	255
Tillable acres:		
Owned	404	188
Rented	334	112
Total	404	280

	Average
Operators (total = 574)	1.42
Age	43
Education	13 yrs.
Estimated Value of Labor & Management	$22,613

Number of Dairy Livestock	Cows	Heifers
Beginning of Year	87	74
End of Year	92	75
Average for Year	89	73

The most typical dairy farm business was a sole proprietorship with stanchion barn, pipeline milking system, and DHIC records. There were 574 full-time operator equivalents on the 404 dairy farms for an average of 1.42 operators per farm. The operators averaged 43 years of age and 13 years of formal education.

All the 404 farm businesses included in the regular dairy summary own farm real estate. Dairy farm renters are summarized separately later in this publication. However, 334 of the dairy farm owners rented an average of 112 acres of tillable land in 1985. The 404 farms averaged 280 total tillable acres per farm of which 93 acres were rented.

Revised Accounting Procedures

For measuring farm profitability, accrual accounting has been substituted for the cash accounting method which was used from the start of the Dairy Farm Business Summary Project. The cash accounting method reports profitability quite accurately over multiple years, but can be very misleading when examining profitability in a particular year.

For example, increases in inventory resulting from production being placed in storage and not fed or sold in that year will be offset over a period of years by sales of products out of inventory or that were produced in a prior year. However, even in this situation, long-run inventory increases will be unreported in the cash basis accounting system. In any one year, purchases not paid for, and therefore not recorded in a cash system, will balance out over the years. Again, however, the profitability of an individual year will not be accurate if accounts payable build up more than they are paid down during the year or if reductions in accounts payable exceed that year's additions to accounts payable.

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. This procedure compliments our previously developed procedures to separate changes in inventory into changes caused by appreciation and those caused by quality or quantity changes.

Income Statement

The revised 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.

Cash and accrual farm expenses are summarized below. Total operating accrual expenses for the 404 farms averaged $441 per day or $4.96 per cow per day. Total accrual expenses averaged more than $508 per day. The average expenses per farm and percent of total for each item are shown below.

Table 6. CASH AND ACCRUAL FARM EXPENSES
404 New York Dairy Farms, 1985

Expense Item	Cash Paid +	Change in Inventory +	Change in Accounts Payable =	Accrual Expenses	Percent
Hired Labor	$ 19,333		$ 8	$ 19,341	12
Feed					
Dairy grain & conc.	41,542	$-74	-156	41,312	26
Dairy roughage	1,305	-30	-15	1,260	1
Other livestock	717	27	5	749	<1
Machinery					
Mach. hire, rent/lease	1,573		-41	1,532	1
Machinery repairs/parts	9,543	-39	-83	9,421	6
Auto expense (farm share)	468		-1	467	<1
Fuel, oil & grease	6,645	-19	56	6,682	4
Livestock					
Replacement livestock	1,388		0	1,388	1
Breeding	2,703		39	2,742	2
Vet & medicine	3,855	-15	-6	3,834	2
Milk marketing	11,217		-24	11,193	7
Cattle lease/rent	58		0	58	<1
Other livestock expense	7,254	8	68	7,330	5
Crops					
Fertilizer & lime	8,687	177	7	8,871	6
Seeds & plants	3,333	-62	15	3,286	2
Spray, other crop exp.	3,186	-78	32	3,140	2
Real Estate					
Land/bldg./fence repair	2,368		-37	2,331	1
Taxes	4,702		93	4,795	3
Insurance	3,049		-4	3,045	2
Rent & lease	3,249		46	3,295	2
Other					
Telephone (farm share)	650		1	651	<1
Electricity (farm share)	4,532		17	4,549	3
Interest paid	17,448		37	17,485	11
Miscellaneous	2,352	-49	-42	2,261	1
Total Operating	$161,157	$-154	$ 15	$161,018	100
Expansion livestock	$ 1,670		$ 31	$ 1,701	
Machinery depreciation				15,130	
Building depreciation				7,763	
TOTAL ACCRUAL EXPENSES				$185,612	

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 $202,388 per farm. Total accrual receipts averaged $207,582 per farm and $2,332 per cow. Accrual receipts were greater than cash receipts primarily due to dairy herd growth.

Table 7. CASH AND ACCRUAL FARM RECEIPTS
404 New York Dairy Farms, 1985

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts	Percent
Milk sales	$180,532				$ 77		$180,609	87
Dairy cattle	11,261		$4,281		138		15,679	8
Dairy calves	2,184				0		2,184	1
Other livestock	410		-83		19		346	<1
Crops	1,507		684		6		2,197	1
Government receipts	2,944				-571		2,373	1
Custom machine work	208				10		218	<1
Gas tax refund	217				1		218	<1
Other	3,125				633		3,758	2
Total	$202,388		$4,882		$313		$207,582	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.

Participation by 47 of the 404 dairy farmers in the milk diversion program had an impact on average farm receipts. Government receipts remained high during 1985 at $2,944 per farm compared with the 1984 all dairy farm average of $3,180. Diversion payments earned in 1984 but received in 1985 are included in 1985 cash receipts, but are offset by a negative change in accounts receivable.

Profitability Analysis

Farm owners/operators contribute labor, management, and capital to their businesses and 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 livestock, machinery, and real estate 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
404 New York Dairy Farms, 1985

Item	Average 404 Farms	Average Top 10% Farms*
Total accrual receipts	$207,582	$599,245
+ Appreciation: Livestock	-9,409	-24,098
Machinery	2,956	1,536
Real Estate	4,431	13,334
= Total Including Appreciation	$205,560	$590,017
- Total accrual expenses	185,612	502,990
= Net Farm Income (with appreciation)	$ 19,948	$ 87,027
Net Farm Income (without appreciation)	$ 21,970	$ 96,255

*Average of 40 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
404 New York Dairy Farms, 1985

Item	Average 404 Farms		Average Top 10% Farms	
	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	$19,948	$21,970	$87,027	$96,255
- Family labor unpaid @ $550 per month	1,650	1,650	550	550
= Return to operator(s') labor, management, & equity	$18,298	$20,320	$86,477	$95,705

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 each operator's labor and management.

Table 10. LABOR AND MANAGEMENT INCOME
404 New York Dairy Farms, 1985

Item	Average 404 Farms		Average Top 10% Farms
Return to operator(s') labor, management, & equity without appreciation	$20,320		$95,705
- Real interest @ 5% on $325,664 equity capital for average & $813,281 for the top 10%	16,283		40,664
= Labor & Management Income (1.42 operators)	$ 4,037	(1.83)	$55,041
Labor & Management Income per Operator	$ 2,850		$30,022

Labor and management income per operator averaged $2,850 on these 404 dairy farms in 1985. The range in labor and management income per operator was from less than -$50,000 to more than $50,000. Returns to labor and management were negative on more than 45 percent of the farms. Labor and management income per operator ranged from $0 to $19,999 on 34 percent of the farms while only 20 percent showed labor and management incomes of $20,000 or more per operator.

Table 11. DISTRIBUTION OF LABOR INCOMES PER OPERATOR
404 New York Dairy Farms, 1985

Labor Income Per Operator	Farms	
	Number	Percent
Less than -$50,000	13	3
-$50,000 to - 40,001	13	3
- 40,000 to - 30,001	10	2
- 30,000 to - 20,001	20	5
- 20,000 to - 10,001	44	11
- 10,000 to - 1	87	22
0 to 9,999	77	19
10,000 to 19,999	60	15
20,000 to 29,999	27	7
30,000 to 39,999	16	4
40,000 to 49,999	16	4
50,000 or more	21	5

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 12. RETURN ON EQUITY CAPITAL
404 New York Dairy Farms, 1985

Item	Average 404 Farms	Average Top 10% Farms
Return to operator(s') labor, management, & equity capital with appreciation	$18,298	$86,477
- Value of operator(s') labor & management	22,613	37,102
= Return on equity capital with appreciation	$-4,315	$49,375
Rate of return on equity capital with appreciation	-1.3%	6.1%
Return on equity capital without appreciation	$-2,293	$58,603
Rate of return without appreciation	-0.7%	7.2%

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 2.5 percent including appreciation and 2.9 percent not including appreciation on these farms in 1985.

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 13. RETURNS TO ALL LABOR AND MANAGEMENT
404 New York Dairy Farms, 1985

Item	Average
Labor & management income per farm	$ 4,037
+ Cost of hired labor	19,341
+ Value of unpaid labor	1,650
= Total Returns to Labor & Management	$25,028
Average worker equivalent	3.17
Returns per worker equivalent	$7,895
Returns per hour (3,000 hours/worker/year)	$2.63

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 count and value all the assets and list the liabilities and place them on the balance sheet. The second step is to analyze your completed balance sheet by evaluating changes made during the year.

Table 14. 1985 FARM BUSINESS AND NONFARM BALANCE SHEET
404 New York Dairy Farms, 1985

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 3,325	$ 3,449	Accounts payable	$ 6,017	$ 5,831
Accounts rec.	16,275	16,238	Operating debt	2,388	2,826
Feed & supplies	40,147	40,982	Short-term	2,509	3,270
Total	$59,747	$60,669	Total	$10,914	$11,927
Intermediate			Intermediate		
Dairy cows:				$68,368	$68,658
owned	$ 76,945	$ 75,034			
leased	9	3			
Heifers	33,380	30,152			
Bulls/other lvstk.	1,015	943			
Mach./eq. owned	95,673	96,086			
Mach./eq. leased	860	823	Financial lease		
Coop stock & cert.	8,581	9,177	(cattle/mach.)	869	826
Total	$216,463	$212,218	Total	$69,237	$69,484
Long-Term			Long-Term		
Land/buildings:				$108,210	$109,474
owned	$240,166	$243,662			
leased	1,650	1,411	Financial lease		
Total	$241,816	$245,073	(structures)	1,650	1,411
			Total	$109,860	$110,886
Total Farm Assets	$518,025	$517,960	Total Farm Liab.	$190,011	$192,296
			FARM NET WORTH	$328,015	$325,664

Nonfarm Assets*	Jan. 1	Dec. 31	Nonfarm Liabilities* & Net Worth	Jan. 1	Dec. 31
Personal cash, chkg. & savings	$ 5,659	$ 5,585	Nonfarm Liab.	$1,113	$1,356
Cash value life ins.	3,929	4,191	NONFARM NET WORTH	$36,150	$38,275
Nonfarm real estate	7,892	8,432	FARM & NONFARM*	Jan. 1	Dec. 31
Auto (personal sh.)	2,544	2,687	Total Assets	$555,288	$557,591
Stocks & bonds	6,871	7,808	Total Liabilities	191,124	193,652
Household furn.	7,534	7,981			
All other	2,833	2,947	TOTAL FARM & NON-FARM NET WORTH	$364,164	$363,939
Total Nonfarm	$37,263	$39,631			

*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 table below shows a sort of the 404 dairy farms' farm net worth by decile. For each decile, the change in net worth, percent equity, farm debt per cow, and net farm income are also presented. Farms in the top three farm net worth categories reported increases in net worth from the beginning of the year and also the largest net farm incomes without appreciation. These two factors are likely related. Net worth will increase if there has been profitable production, an increase in the price of assets, infusion of cash from a nonfarm source, forgiveness of a liability or gifts/inheritances. Thus, high net farm incomes and increases in net worth are quite compatible. For those farms with net worth decreases, this can be attributed to nonprofitable production, decrease in the price of assets, depreciation or family withdrawals. Assuming all farms faced a similar economic environment, it is quite likely that the farm profitability was a major determinant of the change in net worth.

Table 15. FARM NET WORTH BY DECILE AND RELATED FACTORS
404 New York Dairy Farms, 1985

Decile	Farm Net Worth, End Year	Change in Farm Net Worth from Beg. Year	Percent Equity	Total Farm Debt Per Cow	Net Farm Income w/o Apprec.
1	$928,621	$17,799	73%	$1,563	$68,759
2	544,176	4,187	75	1,465	39,556
3	417,582	4,304	66	1,898	34,332
4	343,267	-8,268	62	2,201	18,535
5	290,263	-2,377	65	1,921	23,189
6	242,614	-5,403	65	1,939	12,996
7	195,346	-6,036	55	2,511	9,536
8	158,891	-9,447	51	2,606	9,470
9	113,103	-9,046	40	3,165	3,736
10	44,449	-8,460	17	3,786	1,246

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. Nineteen farms reported no farm liabilities.

Table 16. BALANCE SHEET ANALYSIS
404 New York Dairy Farms, 1985

Item	Average 404 Farms	Average Top 10% Farms
Financial Ratios - Farm:		
Percent equity	63%	66%
Debt/asset ratio: total	0.37	0.34
long-term	0.45	0.38
inter./current	0.30	0.31
Financial Ratios - Farm & Nonfarm:		
Percent equity	65%	66%
Total debt/asset ratio	0.35	0.34
Farm Debt Analysis:		
Accts. payable as % of total debt	3%	2%
Long-term liab. as % of total debt	58%	50%
Current & inter. liab. as % of total debt	42%	50%

Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$2,090	$1,023	$1,767	$1,057
Long-term debt	1,205	590	887	530
Intermediate & current debt	885	433	880	526

Balance sheet analysis concludes with a summary of the inventory balancing procedure for farm real estate, livestock, and machinery and equipment. It is important to account for the value of these assets used on the balance sheet and the changes that occur from the beginning to end of year.

Table 17. FARM INVENTORY BALANCE
404 New York Dairy Farms, 1985

Item	Real Estate		Machinery/Equip.		Livestock
Value beg. of year		$240,166		$95,673	$111,340
Purchases	$10,164*		$12,997		
- Lost capital	1,553				
- Sales	1,784		411		
- Depreciation	7,763		15,130		
= Net investment		-936		-2,544	4,198
+ Appreciation		4,431		2,956	-9,409
Value end of year		$243,662		$96,086	$106,129

*$3,303 land and $6,861 buildings and/or depreciable improvements.

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 in the following table 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, 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. If the imbalance (error) amount is positive, recorded cash inflows exceed outflows by this amount. If it is negative, cash outflows are too high in relation to inflows.

Table 18. ANNUAL CASH FLOW STATEMENT
404 New York Dairy Farms, 1985

Item	Average 404 Farms	Average Top 10% Farms
Cash Inflows		
Beginning farm cash, checking & savings	$ 3,325	$ 9,292
Cash farm receipts	202,388	564,369
Sale of assets: Machinery	411	944
Real estate	1,837	8,304
Money borrowed (intermediate & long-term)	22,966	51,144
Money borrowed (short-term)	2,847	11,992
Increase in operating debt	438	2,188
Nonfarm income	3,891	2,224
Money borrowed - nonfarm	323	0
Total	$238,425	$650,455
Cash Outflows		
Cash farm expenses	$161,157	$432,136
Capital purchases: Expansion livestock	1,670	9,880
Machinery	12,997	37,537
Real estate	10,164	43,781
Principal payments (intermediate & long-term)	21,412	54,107
Principal payments (short-term)	2,086	6,558
Decrease in operating debt	0	0
Nonfarm debt payments	259	0
Personal withdrawals & family exp.	16,723	34,790
Ending farm cash, checking & savings	3,449	9,856
Total	$229,915	$628,645
Imbalance (error)	$ 8,510	$ 21,810

Table 19. ANNUAL CASH FLOW BUDGETING DATA
404 New York Dairy Farms, 1985

Item	Average 404 Farms Total	Average 404 Farms Per Cow	Average Top 10% Farms Total	Average Top 10% Farms Per Cow
Average number of cows	89.3		225.23	
Accrual Operating Receipts				
Milk	$180,609	$2,023	$508,891	$2,259
Dairy cattle	15,679	176	55,735	248
Dairy calves	2,184	24	5,649	25
Other livestock	346	4	493	2
Crops	2,197	25	11,661	52
Miscellaneous receipts	6,566	73	16,817	75
Total	$207,581	$2,325	$599,245	$2,661
Accrual Operating Expenses				
Hired labor	$ 19,341	$ 217	$ 66,350	$ 295
Dairy grain & concentrate	41,312	463	113,840	505
Dairy roughage	1,260	14	3,990	18
Other livestock feed	749	8	670	3
Machinery hire/rent/lease	1,532	17	2,797	12
Machinery repairs/parts & auto	9,888	111	26,299	117
Fuel, oil & grease	6,682	75	16,112	72
Replacement livestock	1,388	15	1,662	7
Breeding	2,742	31	7,482	33
Vet & medicine	3,834	43	11,990	53
Milk marketing	11,193	125	27,216	121
Cattle lease	58	1	129	1
Other livestock expense	7,330	82	19,175	85
Fertilizer & lime	8,871	99	23,905	106
Seeds & plants	3,286	37	8,447	38
Spray/other crop expense	3,140	35	9,509	42
Land, building, fence repair	2,331	26	5,971	27
Taxes	4,795	54	9,794	44
Insurance	3,045	34	7,031	31
Real estate rent/lease	3,295	37	10,370	46
Utilities	5,200	58	12,061	54
Miscellaneous	2,261	25	5,588	25
Total Less Interest Paid	$143,533	$1,607	$390,387	$1,735
Net Accrual Operating Income (without interest paid)	$64,048	$717	$208,858	$928
- Change in livestock/crop inv.	4,881	55	33,052	147
- Change in accounts rec.	313	3	1,823	8
+ Change in feed/supply inv.	-154	-2	-202	-1
+ Change in accounts payable	15	0	1,085	5
NET CASH FLOW	$58,718	$657	$174,868	$777
- Personal withdrawals & family expenditures	16,723	187	34,790	155
Available for Debt Payments, Investments & Savings	$41,995	$470	$140,078	$622
- Farm Debt Payments	41,926	469	103,093	458
Available for Investment & Savings	$ 69	$ 1	$ 36,985	$164
- Capital Purchases: cattle, machinery & improvements	24,862	278	91,328	406
Capital Needed/Excess*	$-24,793	$-277	$-54,343	$-242

*Capital needed is a negative number and an excess is a positive number.

Repayment Analysis

The second step of 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 by using debt payments per unit of production and receipt/debt payment ratios. The data presented below are for the 307 farms that completed Dairy Farm Business Summaries for both 1984 and 1985.

Table 20. FARM DEBT PAYMENTS PLANNED
New York Dairy Farms, 1985

	Same 307 Dairy Farms			Same 33 Top 10% Farms		
	1985 Payments		Planned	1985 Payments		Planned
Debt Payments	Planned	Made	1986	Planned	Made	1986
Long-term	$15,447	$16,191	$15,504	$ 32,467	$37,126	$ 32,114
Intermediate-term	22,000	23,198	21,545	60,536	53,695	60,389
Short-term	3,604	2,197	2,073	7,057	5,809	6,629
Operating (net reduction)	0	0	765	0	0	758
Accounts payable (net reduction)	2,351	1,625	1,446	4,253	1,994	2,840
Total	$43,401	$43,211	$41,333	$104,313	$98,624	$102,729
Per cow	$464	$462		$436	$412	
Per cwt. 1985 milk	$2.96	$2.94		$2.51	$2.37	
Percent of total 1985 receipts	20%	20%		17%	16%	
Percent of 1985 milk receipts	23%	23%		19%	18%	

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 planned payments that could have been made with last year's available cash flow. Farmers that did not participate in DFBS last year will find in their report a cash flow coverage ratio based on this year's planned debt payments.

Table 21. CASH FLOW COVERAGE RATIO
New York Dairy Farms, 1985

Item	Same 307 Dairy Farms	Same 33 Top 10% Farms
Cash farm receipts	$212,395	$593,697
- Cash farm expenses	169,513	457,781
+ Interest paid	18,356	43,226
- Net personal withdrawals from farm*	13,248	30,013
(A) = Amount Available for Debt Service	$47,990	$149,129
(B) = Debt Payments Planned for 1985	$43,401	$104,313
(A ÷ B) = Cash Flow Coverage Ratio for 1985	1.11	1.43

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

ANALYSIS OF THE FARM BUSINESS

The farm business has been divided into three parts to allow a more indepth analysis. The three parts are the cropping program, the dairy program, and the factors affecting capital and labor efficiency.

Cropping Program Analysis

The cropping program is an important part of the dairy farm business and sometimes it 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 purchasing choices.

Table 22. LAND RESOURCES AND CROP PRODUCTION
404 New York Dairy Farms, 1985

Item	Average 404 Farms			Average Top 10% Farms		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	188	93	280	398	184	582
Nontillable	51	13	64	43	14	57
Other nontillable	102	9	111	188	10	199
Total	341	115	455	629	208	838

Crop Yields	Farms	Acres	Prod/Acre	Farms	Acres	Prod/Acre
Hay crop	401	143	2.7 tn DM	40	234	3.3 tn DM
Corn silage	376	74	14.3 tn	40	210	15.4 tn
			4.9 tn DM			5.2 tn DM
Other forage	44	18	1.9 tn DM	5	43	1.8 tn DM
Total forage	404	213	3.4 tn DM	40	449	4.2 tn DM
Corn grain	205	74	92.4 bu	26	136	100.5 bu
Oats	92	32	79.7 bu	10	48	85.7 bu
Wheat	32	30	60.1 bu	5	39	65.1 bu
Other crops	56	25		8	41	
Tillable pasture	120	32		12	27	
Idle	112	27		14	33	
Total Tillable Acres	404	280		40	582	

Average crop acres and yields compiled for the state are for 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 based on dry matter information provided.

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

Table 23. CROP MANAGEMENT FACTORS
404 New York Dairy Farms, 1985

Item	Average 404 Farms	Average Top 10% Farms
Total tillable acres per cow	3.14	2.58
Total forage acres per cow	2.38	1.99
Harvested forage dry matter, tons per cow	8.05	8.27

Cropping Program Analysis (continued)

In the first year of collecting information on individual crop production costs, over 250 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 production has been converted to corn silage equivalent using 5.88 bushels of dry shell equivalent to equal one ton of corn silage as fed. In Table 24, the total per tillable acre represents all 404 farms and the expenses for individual crops are for the 257 farms which submitted data.

Table 24. CROP RELATED ACCRUAL EXPENSES
New York Dairy Farms, 1985

Expense	Average 404 Farms Total Per Tillable Acre	Average 257 Farms Reporting Individual Crop Costs				
		Hay Crop		Corn		Other
		Per Acre	Per Ton DM	Per Acre	Per Ton Corn Silage Equiv.	Crops Per Acre
Fertilizer & lime	$31.65	$19.55	$ 7.51	$53.17	$3.66	$28.78
Seeds & plants	11.73	5.61	2.16	20.21	1.39	19.37
Spray & other crop expense	11.20	2.70	1.04	24.31	1.67	12.03
Total	$54.58	$27.86	$10.71	$97.69	$6.72	$60.18
Average Top 10% Farms:						
Fertilizer & lime	$41.11	$24.40	$ 8.14	$ 52.78	$3.35	$28.84
Seeds & plants	14.53	5.81	1.94	20.74	1.32	13.83
Spray & other crop expense	16.35	3.02	1.01	30.86	1.96	4.23
Total	$71.99	$33.23	$11.09	$104.38	$6.63	$46.90

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. Although machinery costs have not been allocated to individual crops, they are shown per total tillable acre.

Table 25. ACCRUAL MACHINERY EXPENSES
404 New York Dairy Farms, 1985

Machinery Expense Item	Average 404 Farms		Average Top 10% Farms	
	Total Expenses	Per Til. Acre	Total Expenses	Per Til. Acre
Fuel, oil & grease	$ 6,682	$ 23.84	$16,113	$ 27.71
Machinery repairs & parts	9,421	33.62	25,932	44.60
Machine hire, rent & lease	1,533	5.47	2,797	4.81
Auto expense (farm share)	467	1.67	367	0.63
Interest (5%)	4,794	17.11	9,910	17.04
Depreciation	15,130	53.99	36,090	62.07
Total	$38,027	$135.68	$91,209	$156.86

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 30. MILK PRODUCTION
404 New York Dairy Farms, 1985

Item	Average 404 Farms	Average Top 10% Farms
Total milk sold, lbs.	1,400,063	3,963,568
Milk sold per cow, lbs.	15,679	17,598
Average milk plant test, percent butterfat	3.61	3.56

Farms with higher rates of production tend to have higher profits. In 1985, the farms that sold more than 15,000 pounds of milk per cow had substantially higher profit margins and higher than average herd sizes.

Table 31. MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
404 New York Dairy Farms, 1985

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	15	64	$-3,497	$-13,643
11,000 to 11,999	22	72	4,122	-6,742
12,000 to 12,999	30	64	5,307	-5,987
13,000 to 13,999	49	68	6,361	-5,814
14,000 to 14,999	75	76	16,604	549
15,000 to 15,999	65	94	22,406	2,858
16,000 to 16,999	64	98	28,537	6,485
17,000 to 17,999	42	113	43,880	14,523
18,000 & over	42	129	47,577	13,816

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

Table 32. ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK
404 New York Dairy Farms, 1985

Item	Average 404 Farms			Average Top 10% Farms		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Costs of Producing Milk						
Operating costs	$134,046	$1,501	$9.57	$342,668	$1,521	$8.65
Total costs without op(s') labor, mgmt. & capital	$160,290	$1,795	$11.45	$413,189	$1,835	$10.42
Total Costs	$199,186	$2,231	$14.23	$490,955	$2,180	$12.39
Accrual Receipts from Milk	$180,609	$2,023	$12.90	$508,891	$2,259	$12.84

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 the interest charge for using equity capital. Note that the cost of labor, management, and equity capital has been excluded in the intermediate compilation.

The total cost of producing milk on all 404 dairy farms averaged $14.23 per hundredweight, $1.33 more than the average price received for milk sold from these farms during 1985. In 1984 the total cost of producing milk averaged $14.89 on 458 New York dairy farms, $1.39 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 $15.35 for herds with less than 100 cows, and $13.40 for those with 100 cows or more, for a difference of $1.95 per hundredweight. Farms selling less than 16,000 pounds of milk per cow had an average total cost of production of $16.22 while those selling 16,000 pounds and over averaged approximately $13.28 for a difference of $2.94 per hundredweight.

Table 33. FARM COST OF PRODUCING MILK BY HERD SIZE AND MILK SOLD PER COW
404 New York Dairy Farms, 1985

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	$ 9.53	$11.88	$16.67	Under 11,000	$12.26	$15.09	$19.93
40 to 54	9.75	11.69	15.46	11,000 to 11,999	11.01	13.07	16.51
55 to 69	9.70	11.65	15.37	12,000 to 12,999	10.40	12.50	16.08
70 to 84	9.52	11.77	15.00	13,000 to 13,999	10.44	12.47	15.57
85 to 99	9.31	11.29	14.26	14,000 to 14,999	9.51	11.56	14.96
100 to 149	9.63	11.35	14.04	15,000 to 15,999	9.68	11.52	14.27
150 to 199	9.64	11.77	13.97	16,000 to 16,999	9.34	11.12	13.65
200 to 249	10.10	11.52	13.35	17,000 to 17,999	9.01	10.63	13.02
250 & over	9.17	10.74	12.22	18,000 & over	9.15	10.93	13.16

Costs of production are divided into 10 categories and presented for the 404 New York dairy farms and the 357 nonparticipating milk diversion farms in the table on page 26. Non-milk receipts are deducted on the assumption they were produced at cost. Total costs of production are one cent per hundredweight higher when milk diversion farms are excluded from the sample. Machinery and overhead costs per hundredweight of milk were significantly higher on the diversion farms. Milk diversion income is included as a credit or negative cost of production under miscellaneous expenses.

Table 34. TOTAL COST OF PRODUCING MILK BASED ON WHOLE FARM DATA
404 New York Dairy Farms and
357 Nonparticipating Milk Diversion Farms, 1985

Cost Item	Average of 404 New York Dairy Farms Total	Cost/Cwt.	Average of 357 Nonparticipating Div. Farms Total	Cost/Cwt.
Feed & Crop Expense				
Dairy grain & concentrate	$ 41,312		$ 41,268	
Dairy roughage	1,260		1,181	
Other livestock feed	749		804	
Fertilizer & lime	8,871		8,835	
All other crop expenses	6,426		6,424	
(-) Crop sales & payments	-2,197		-2,192	
TOTAL	$ 56,422	$ 4.03	$ 56,320	$ 4.02
Labor Costs				
Value of operator's labor & management & family labor	$ 24,263		$ 24,283	
Hired labor	19,341		19,423	
TOTAL	$ 43,604	$ 3.12	$ 43,706	$ 3.12
Machinery Costs				
Depreciation	$ 15,130		$ 14,997	
Machine repairs, hire & auto	11,420		10,905	
Gas & oil	6,682		6,603	
(-) Gas tax ref & custom work	-436		-459	
TOTAL	$ 32,796	$ 2.34	$ 32,046	$ 2.29
Livestock Expenses				
Breeding fees, vet & medicine	$ 6,576		$ 6,689	
Other livestock expense	7,330		7,415	
TOTAL	$ 13,906	$ 0.99	$ 14,104	$ 1.01
Milk Marketing	$ 11,193	$ 0.80	$ 11,251	$ 0.80
Livestock Ownership				
Purchased livestock	$ 3,089		$ 2,713	
Cattle lease	58		50	
(-) Dairy cattle & lvstk. sales	-18,209		-17,463	
TOTAL	$-15,062	$-1.08	$-14,700	$-1.05
Real Estate Costs				
Land, building & fence repair	$ 2,331		$ 2,275	
Taxes & insurance	7,840		7,628	
Rent/lease	3,295		3,321	
Building depreciation	7,763		7,630	
TOTAL	$ 21,229	$ 1.52	$ 20,854	$ 1.49
Interest Expense				
Interest paid	$17,485		$17,185	
Interest on equity @ 5%	16,283		16,297	
TOTAL	$33,768	$ 2.41	$33,482	$ 2.39
Miscellaneous				
Telephone & electricity	$ 5,200		$ 5,136	
Miscellaneous	2,261		2,093	
(-) Misc. inc. & gov't receipts	-6,131		-4,757	
TOTAL	$ 1,330	$ 0.10	$ 2,472	$ 0.17
TOTAL COST OF PRODUCING MILK	$199,186	$14.23	$199,535	$14.24
- Operator's labor, management & capital	-38,896	-2.78	-38,930	-2.78
TOTAL COST EXCLUDING OPERATOR'S LABOR, MANAGEMENT & CAPITAL	$160,290	$11.45	$160,605	$11.46

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 404 farms was $12.90 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.

Table 35. VARIATION IN AVERAGE MILK PRICE
404 New York Dairy Farms, 1985

Average Price Received For Milk	Number of Farms	Percent of Farms
Below $11.50	6	2
$11.50 to 11.99	22	5
12.00 to 12.49	86	21
12.50 to 12.99	143	36
13.00 to 13.49	65	16
13.50 to 13.99	60	15
14.00 & over	22	5
Total	404	100

Fifty-seven percent of the farms received from $12.00 to $12.99 per hundredweight of milk sold. Thirty-six percent of the farms received $13.00 or more per hundredweight while seven 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.

Table 36. DAIRY RELATED ACCRUAL EXPENSES
404 New York Dairy Farms, 1985

Item	Average 404 Farms		Average Top 10% Farms	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrates	$463	$2.95	$505	$2.87
Purchased dairy roughage	14	0.09	18	0.10
Total Purchased Dairy Feed	$477	$3.04	$523	$2.97
Purchased grain & conc. as % of milk receipts	23%		22%	
Purchased feed & crop exp.	$648	$4.13	$709	$4.03
Purchased feed & crop exp. as % of milk receipts	32%		31%	
Breeding	$31	$0.20	$33	$0.19
Veterinary & medicine	43	0.27	53	0.30
Milk marketing	125	0.80	121	0.69
Cattle lease	1	--	1	--
Other livestock expense	82	0.52	85	0.48

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 37. PERCENT PURCHASED DAIRY GRAIN AND CONCENTRATES ARE OF MILK RECEIPTS AND LABOR AND MANAGEMENT INCOME
404 New York Dairy Farms, 1985

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%	7	55	5.0	13,400	$-9,450
35 to 39	17	55	7.4	14,784	-5,424
30 to 34	50	74	8.7	15,092	957
25 to 29	113	100	7.7	16,079	7,255
20 to 24	103	93	8.0	15,582	2,943
15 to 19	57	94	8.6	15,678	2,637
Under 15%	57	84	8.2	15,742	1,425

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 25 percent of their milk receipts for purchased feed in 1985 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 management's success.

Table 38. CAPITAL EFFICIENCY
404 New York Dairy Farms, 1985

Item (Average for Year)	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	$163,577	$5,801	$1,848	$2,755
Real estate		$2,726		$1,295
Machinery & equipment	$30,543	$1,083	$345	
Capital turnover, years		2.50		
Average Top 10% Farms:				
Farm capital	$205,845	$5,408	$2,095	$3,060
Real estate		$2,423		$1,371
Machinery & equipment	$33,619	$883	$342	
Capital turnover, years		2.03		

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 of 2.5 years or less.

Table 39. CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME
404 New York Dairy Farms, 1985

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 Income (w/o apprec.)
Less than 1.5	8	205	$3,602	$134,425	$32,616	$89,730
1.5 to 1.99	53	123	4,544	145,838	17,789	41,937
2.0 to 2.49	102	104	5,302	165,901	9,899	31,470
2.5 to 2.99	117	77	6,271	165,881	748	18,249
3.0 to 3.49	70	70	6,871	179,588	-4,366	10,890
3.5 & over	54	62	8,068	201,400	-17,712	-3,210

The decile of farms with the highest net farm incomes (without appreciation) were considerably above the average of all 404 farms in the four measures of labor efficiency. The top 10 percent sold 52 percent more milk per worker than the average of all farms.

Table 40. LABOR EFFICIENCY
404 New York Dairy Farms, 1985

Labor Efficiency	Average 404 Farms Total	Average 404 Farms Per Worker	Average Top 10% Farms Total	Average Top 10% Farms Per Worker
Cows, average number	89	28	225	38
Milk sold, pounds	1,400,063	442,125	3,963,568	669,899
Tillable acres	280	89	581	98
Work units	956	302	2,362	399

The labor force averaged 3.17 full-time worker equivalents per farm. Forty-five percent of the labor was supplied by the farm operator/managers, 21 percent came from the operator's family, and 34 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 $33 per cow less on the 40 farms in the top decile.

Table 41. LABOR FORCE INVENTORY AND COST ANALYSIS
404 New York Dairy Farms, 1985

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	12	45	13	$16,936
Operator number 2	4	37	14	4,706
Operator number 3	1	37	13	822
Operator number 4	<1	34	14	149
Family paid	5		Total	$22,613
Family unpaid	3			
Hired	13			
Total	38	÷ 12 = 3.17 Worker Equivalent		
		1.42 Operator/Manager Equiv.		
Average Top 10% Farms:				
Total	71	÷ 12 = 5.92 Worker Equivalent		
Operators'	22	÷ 12 = 1.83 Operator/Manager Equiv.		

	Average 404 Farms			Average Top 10% Farms		
Labor Costs	Total	Per Cow	Per Til. Acre	Total	Per Cow	Per Til. Acre
Value op.s' lab.($800/mo)	$13,600	$152	$ 48.53	$17,600	$ 78	$ 30.27
Family unpd. ($550/mo.)	1,650	18	5.89	550	2	0.95
Hired	19,341	217	69.01	66,351	295	114.11
Total Labor	$34,591	$387	$123.43	$84,501	$375	$145.32
Machinery Cost	38,027	426	135.68	91,209	405	156.86
Total Labor & Mach.	$72,618	$813	$259.11	$175,710	$780	$302.18

The relationship of labor efficiency to net farm income was very positive on the 404 farms. The higher output per worker was achieved by more and better cows.

Table 42. MILK SOLD PER WORKER AND NET FARM INCOME
404 New York Dairy Farms, 1985

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	31	46	12,241	$ 3,724	$-6,736
250,000 to 299,999	36	52	13,476	7,086	-4,205
300,000 to 349,999	58	60	14,703	7,791	-3,807
350,000 to 399,999	57	74	15,289	16,753	584
400,000 to 449,999	60	71	15,100	16,536	607
450,000 to 499,999	47	86	15,747	15,251	-1,653
500,000 to 599,999	65	104	16,149	30,494	7,291
600,000 & over	50	200	16,984	68,119	23,785

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 43. MISCELLANEOUS COST CONTROL MEASURES
404 New York Dairy Farms, 1985

Item	Average 404 Farms	Average Top 10% Farms
Livestock		
Breeding fees per cow	$31	$33
Veterinary & medicine per cow	$43	$53
Other livestock expense per cow	$82	$85
Milk marketing per cow	$125	$121
Milk marketing per hundredweight milk	$0.80	$0.69
Real Estate		
Taxes per cow	$54	$44
Taxes per $1,000 year-end real estate value	$20	$18
Insurance paid per cow	$34	$31
Cash rent paid per cow	$37	$46
Cash rent paid per acre rented	$29	$50
Real estate expense per cow	$151	$147
Capital Cost		
Interest paid per cow	$196	$189
Interest on equity per cow	$182	$181
Interest paid as percent of year-end debt	9.1%	10.1%
Depreciation per cow	$256	$266
Fixed & Variable Costs*		
Total fixed costs per cow	$804	$787
Total variable costs per cow	$1,476	$1,632
Variable Costs per hundredweight milk sold	$9.41	$9.27

*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 two percent below the 404 farm average. This is related to more intensive use of cows and cropland through better management. Variable costs were 14 cents lower 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 percent purchased feed was of milk receipts.

For each factor, the farms were divided on the basis of whether they were above or below the average for the 404 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 44. COMBINATION OF FACTORS ABOVE AVERAGE* AND NET FARM INCOME
404 New York Dairy Farms, 1985

Number of Factors Above Average	Number of Farms	Percent of Farms	Net Farm Income without Appreciation
4 factors better than average	30	7	$76,275
3 factors better than average	78	19	35,507
2 factors better than average	100	25	19,741
1 factor better than average	148	37	8,829
0 factors better than average	48	12	11,152

*Factors were:
Size - number of cows - average 89.
Rate of production - pounds of milk sold per cow - average 15,679
Labor efficiency - pounds of milk sold per worker - average 442,125
Cost control - percent purchased feed was of milk receipts - average 23%

The 30 farms with four factors better than average had 215 cows, 17,928 pounds of milk sold per cow, 643,698 pounds of milk sold per worker, and purchased feed as 27 percent of milk sales. Net farm income averaged $76,275 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 404 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 45. FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
404 New York Dairy Farms, 1985

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
6.8	252	4,319,504	18,980	4.6	21	48	747,314
4.4	134	2,108,684	17,551	3.6	18	37	575,840
3.5	101	1,596,188	16,655	3.1	16	33	516,053
3.1	85	1,304,015	16,116	2.9	15	31	472,387
2.8	73	1,128,297	15,543	2.6	15	29	432,993
2.5	65	972,841	14,953	2.4	14	26	400,211
2.3	58	824,836	14,399	2.2	13	24	367,373
2.0	50	725,500	13,682	2.0	12	23	330,625
1.8	44	628,376	12,849	1.7	10	20	290,454
1.4	34	466,272	11,055	1.3	8	16	215,433

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
$185	10%	$212	$ 503	$375	$2.52
288	15	282	605	464	3.23
352	18	326	670	525	3.60
397	21	370	726	567	3.87
439	23	404	783	605	4.10
476	25	435	832	647	4.31
518	27	471	882	683	4.48
562	28	516	956	731	4.77
608	31	572	1,025	783	5.12
721	36	759	1,251	913	5.85

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 45 (continued) FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
404 New York Dairy Farms, 1985

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.
$2,735	$16.52	$ 901	$ 6.10	$1,667	$11.26
2,508	15.15	1,112	7.70	1,895	12.55
2,399	14.68	1,231	8.39	2,007	13.29
2,290	14.40	1,334	8.93	2,088	13.94
2,197	14.13	1,399	9.39	2,196	14.47
2,097	13.91	1,498	9.82	2,281	15.02
1,999	13.67	1,584	10.32	2,360	15.82
1,898	13.42	1,672	10.94	2,480	16.55
1,760	13.08	1,800	11.82	2,609	17.45
1,507	12.11	2,074	13.81	3,032	20.80

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
$101,576	$98,427	$100,957	$97,616	$67,398	$49,398
51,232	54,238	49,740	52,972	27,247	19,608
34,730	36,084	33,833	35,030	16,338	11,912
26,015	25,033	24,933	23,703	10,248	7,708
19,413	18,975	17,901	17,131	5,056	3,887
13,695	12,180	12,066	9,951	-342	-320
9,055	6,473	6,863	4,834	-5,172	-4,523
2,290	-56	374	-1,936	-10,015	-8,491
-6,727	-9,810	-8,364	-11,125	-19,381	-16,205
-28,801	-39,020	-30,637	-40,495	-46,928	-43,181

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 46. A FARM FINANCE CHECKLIST
404 New York Dairy Farms, 1985

	Average 404 New York Farms		Average Top 10% Farms*	
How farm assets are being used (average for the year):				
Total assets (capital) per cow	$5,801		$5,408	
Farm assets in livestock	21%		23%	
Farm assets in farm real estate	47%		45%	
Farm assets in machinery	19%		16%	
Measures of debt capacity & debt structure:				
Equity in the business	63%		66%	
Farm debt per cow	$2,090		$1,767	
Long term debt/asset ratio**	0.45		0.38	
Intermediate & current term debt/asset ratio**	0.30		0.31	
Intermediate & current term debt as % of total	42%		50%	
Debt repayment ability:				
Cash flow coverage ratio	1.11		1.43	
Debt payments made per cow	$462		$412	
Debt payments made as % of milk check	23%		18%	
Indicators of annual financial progress:	Amount	Percent	Amount	Percent
Annual change in farm assets	-$65	-0.01%	+$31,724	+2.6%
Annual change in farm debts	+$2,285	+1.2%	+$5,263	+1.3%
Annual change in farm net worth	-$2,351	-0.7%	+26,461	+3.4%

*Forty 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 $323 less debt per cow, had a greater ability to make 1985 debt payments, and equity in their business was three percent more than that of the average.

Farm debts grew faster than farm assets during 1985 and net worth decreased about one percent.

Financial Analysis Chart

The farm financial analysis chart is designed just like the Farm Business Chart on pages 33-34 and may be used to measure the financial health of the farm business. Most of the financial measures used are defined on pages 13, 16, 19, and 29 in this publication.

Table 47. FINANCIAL ANALYSIS CHART
404 New York Dairy Farms, 1985

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
$ 25	$1,012	7.03	1%	$ 70
171	780	2.15	9	568
264	674	1.58	14	1,011
332	606	1.30	18	1,489
406	527	1.10	20	1,858
460	460	0.96	24	2,195
518	387	0.80	27	2,584
591	313	0.65	31	3,130
722	244	0.43	37	3,679
1,165	42	-0.04	63	4,795

Solvency				Efficiency & Profitability		
		Debt/Asset Ratio				
Leverage Ratio*	Percent Equity	Current & Intermediate	Long Term	Capital Turnover (years)	Rate of Return on: Equity	Investment**
0.01	99%	0.00	0.00	1.67	14	12
0.11	90	0.04	0.01	2.00	6	7
0.22	82	0.11	0.10	2.19	4	5
0.33	75	0.16	0.25	2.40	1	4
0.47	68	0.23	0.37	2.60	-1	3
0.65	61	0.29	0.50	2.77	-4	1
0.88	53	0.36	0.63	2.93	-6	-1
1.23	44	0.44	0.73	3.14	-11	-3
1.70	36	0.55	0.89	3.46	-20	-5
7.75	16	0.81	1.38	4.57	-83	-11

Efficiency (Capital)		
Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow
$1,276	$ 463	$3,705
1,892	677	4,524
2,180	795	4,960
2,402	911	5,289
2,621	1,036	5,654
2,886	1,155	5,955
3,147	1,282	6,342
3,521	1,451	6,837
4,031	1,676	7,671
5,339	2,300	9,498

*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

Comparisons of business performance for the same farms over time, for milk diversion program participants versus nonparticipants, by herd size, and numerous other factors are contained 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.

Same 307 New York Dairy Farms, 1984 and 1985

Three-hundred and seven farms participated in the Dairy Farm Business Summary Project in both 1984 and 1985 (Table 48). Total operating and total accrual expenses for these farms were almost identical in 1984 and 1985. In 1985, total accrual receipts increased over $2,500, despite a 55¢ per hundredweight decrease in the average price of milk. This occurred as a result of an increase of five in average cow numbers and an increase of 154 pounds in milk sold per cow. All measures of profitability increased, though by small amounts, in 1985 over 1984. The exception to the increase in profitability statement occurs when appreciation is included in the calculation.

Comparison of Milk Diversion Participants with Nonparticipants

Forty-seven of the 404 dairy farms in the summary participated in the Milk Diversion Program (Table 49). Even though the milk diversion program was in effect only for three months of 1985, farms that participated in the program had higher profits than the 357 nonparticipants. Total operating expenses and total accrual expenses were higher on participating farms. Some of this difference is due to larger expansion livestock purchases on participating farms. Milk sales were almost identical for the two groups, but as expected, livestock sales and government payments were greater on participating farms.

Farm net worth for participants decreased almost $9,000, while nonparticipants' net worth decreased less than $1,500 (Table 49). This is the result of participants showing reduced farm assets and increased liabilities, while nonparticipants had a small increase in assets and a very modest increase in liabilities.

The 33 diversion participants who were in the summary project for 1983, 1984, and 1985 attained a herd size in 1985 of only one cow less than the herd size in 1983, the year before the diversion program started (Table 50). Milk sold per cow on these farms had not regained its 1983 level in 1985, but was rebounding from the 1984 low. Profitability as measured by Net Farm Income was greater in 1985 than in 1983 or 1984 for these diversion participants.

Nonparticipating farms who were in the project in each of the last three years have experienced a steady increase in herd size (Table 51). In 1985, the average number of cows was 96, eight greater than 1983. Milk per cow has also steadily increased to 15,945 pounds sold per year, an increase of 414 pounds since 1983. In spite of these increases, profits were less in 1985 than 1983 for these nonparticipants.

Herd Size Comparisons

A detailed comparison of profitability, financial situation, and business analysis factors across herd sizes is contained in Tables 52 through 56. As herd size increases, the average profitability also increases (Table 52). Net farm income without appreciation was $131,638 per farm for the 250 or more herd size group and $5,569 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 size increases, percent equity decreases (Table 53). However, farm net worth increases as herd size increases. The average net worth on large farms increased during 1985, while net worth decreased on the smaller size farms.

Crop yields increased as herd size increased, but fertilizer and lime expenses and machinery cost per tillable acre also increased (Table 54). Milk sold per cow also increased as herd size increased, ranging from 14,113 pounds on the farms with less than 40 cows to 18,099 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 18 at the lowest herd size category up to 42 at the largest size category.

Tables 55 and 56 compare selected business factors by herd size for freestall and conventional stall barns. Farm capital per worker and per cow is greater on freestall barn dairy farms than on conventional stall farms. Cows per worker and milk sold per worker is greater for freestall barn dairy farms than the conventional stall farms.

Comparisons by Business Organization

A comparison of profitability, business analysis factors, and financial situation by business organization is contained in Tables 57 and 58. Farms organized as a corporation are larger than partnership-operated farms and 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 as well as the highest cows per worker and profitability (Table 59).

Other Comparisons

The 21 dairy cash crop farms had about the same number of cows as the 404 specialized dairy farms, but had more crop acres and crop sales and were more profitable (Table 60).

Dairy-renter farms were smaller than the 404 owner-operated farms, and were less profitable than the average specialized dairy farm (Table 61).

Data for the top 10 percent of farms by net farm income without appreciation is presented in Table 62. Summary data for the 404 dairy farms is presented for the farm in Table 63 and on a per cow basis in Table 64.

Table 48. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1984 AND 1985
Same 307 New York Dairy Farms

Item	Averages 1984	Averages 1985
ACCRUAL EXPENSES		
Hired labor	$ 19,563	$ 20,753
Feed	48,273	45,506
Machinery	18,600	18,955
Livestock	29,947	28,193
Crops	14,860	16,010
Real estate	13,407	13,782
Other	25,622	26,053
Total Operating	$170,272	$169,252
Expansion livestock	1,010	1,884
Machinery depreciation	15,599	15,646
Building depreciation	7,572	8,080
Total Accrual Expenses	$194,453	$194,862
ACCRUAL RECEIPTS		
Milk sales	$186,648	$189,790
Livestock sales	18,419	19,319
Crops	4,360	3,041
All other	6,903	6,688
Total Accrual Receipts	$216,330	$218,838
PROFITABILITY ANALYSIS		
Net farm income (without appreciation)	$21,877	$23,976
Net farm income (with appreciation)	$28,507	$22,157
Labor & management income	$3,458	$5,328
Number of operators	1.33	1.42
Labor & management income per operator	$2,600	$3,761
BUSINESS FACTORS		
Worker equivalent	3.08	3.17
Number of cows	89	94
Number of heifers	77	77
Acres of hay crops*	140	144
Acres of corn silage*	69	72
Total tillable acres	277	284
Pounds of milk sold	1,385,130	1,467,667
Pounds of milk sold per cow	15,531	15,685
Tons hay crop dry matter per acre	2.7	2.7
Tons corn silage per acre	14	15
Cows per worker	29	30
Pounds of milk sold per worker	449,231	463,474
Percent grain & conc. is of milk receipts	25%	23%
Feed & crop expense per cwt. milk	$4.56	$4.14
Fertilizer & lime per crop acre	$32.31	$32.47
Machinery cost per tillable acre	$141	$139
Average price per cwt. milk	$13.48	$12.93

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

Table 49. COMPARISON OF 47 MILK DIVERSION PROGRAM PARTICIPANTS WITH 357 NONPARTICIPANTS
New York Dairy Farms, 1985

Item	Average of 47 Milk Diversion Farms	Average of 357 Nonparticipants
ACCRUAL EXPENSES		
Hired labor	$ 18,733	$ 19,423
Feed	43,815	43,253
Machinery	22,615	17,508
Livestock	24,901	26,761
Crops	15,585	15,259
Real estate	15,304	13,224
Other	28,992	24,414
Total Operating	$169,945	$159,842
Expansion livestock	4,314	1,357
Machinery depreciation	16,133	14,997
Building depreciation	8,768	7,630
Total Accrual Expenses	$199,160	$183,826
ACCRUAL RECEIPTS		
Milk sales	$180,416	$180,635
Livestock sales	23,946	17,463
Crops	2,233	2,192
All other	16,829	5,216
Total Accrual Receipts	$223,424	$205,506
PROFITABILITY ANALYSIS		
Net farm income (without appreciation)	$24,264	$21,680
Net farm income (with appreciation)	$21,400	$19,779
Labor & management income	$7,455	$3,733
Number of operators	1.33	1.42
Labor & management income per operator	$5,591	$2,635
BUSINESS FACTORS		
Worker equivalent	2.92	3.17
Number of cows	92	89
Number of heifers	73	73
Acres of hay crops*	158	140
Acres of corn silage*	72	69
Total tillable acres	303	277
Pounds of milk sold	1,389,097	1,401,507
Pounds of milk sold per cow	15,141	15,752
Tons hay crop dry matter per acre	2.4	2.7
Tons corn silage per acre	13.4	14.5
Cows per worker	31	28
Pounds of milk sold per worker	476,262	442,581
Percent grain & conc. is of milk receipts	23%	23%
Feed & crop expense per cwt. milk	$4.25	$4.12
Fertilizer & lime per crop acre	$30.88	$31.86
Machinery cost per tillable acre	$144	$134
Average price per cwt. milk	$12.99	$12.89

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

Table 49 (continued) COMPARISON OF 47 MILK DIVERSION PROGRAM PARTICIPANTS WITH 357 NONPARTICIPANTS
New York Dairy Farms, 1985

Item	Average of 47 Milk Diversion Farms Jan. 1	Average of 47 Milk Diversion Farms Dec. 31	Average of 357 Nonparticipants Jan. 1	Average of 357 Nonparticipants Dec. 31
ASSETS				
Farm cash, checking & savings	$ 4,439	$ 5,044	$ 3,178	$ 3,239
Accounts receivable	18,833	18,649	15,938	15,921
Feed & supplies	36,876	38,106	40,577	41,361
Dairy cows*	74,827	81,814	77,234	74,144
Heifers	34,477	27,087	33,236	30,556
Bulls & other livestock	1,205	1,151	1,183	1,129
Machinery & equipment*	101,043	98,066	95,939	96,756
Coop stocks & certificates	11,531	12,106	8,193	8,791
Land & buildings*	284,878	281,284	236,147	240,306
Total Farm Assets	$568,108	$563,307	$511,625	$512,203
Personal cash, checking & savings	$ 3,132	$ 3,259	$ 6,002	$ 5,900
Cash value of life insurance	2,126	2,378	4,174	4,437
Nonfarm real estate	9,550	9,956	7,668	8,225
Auto (personal share)	3,075	2,952	2,472	2,651
Stocks & bonds	2,891	2,742	7,411	8,495
Household furnishings	8,156	9,078	7,450	7,833
All other	403	1,275	3,163	3,174
Total Nonfarm Assets**	$ 29,333	$ 31,641	$ 38,339	$ 40,714
Total Farm & Nonfarm Assets	$597,441	$594,948	$549,964	$552,917
LIABILITIES				
Accounts payable	$ 7,414	$ 7,862	$ 5,833	$ 5,564
Operating debt	2,664	3,732	2,351	2,706
Short term	2,271	2,590	2,540	3,359
Intermediate*	75,963	74,711	68,351	68,796
Long term*	145,645	149,234	105,149	105,837
Total Farm Liabilities	$233,956	$238,130	$184,225	$186,262
Total Nonfarm Liabilities**	2,449	2,810	932	1,158
Total Farm & Nonfarm Liabilities	$236,405	$240,940	$185,157	$187,420
Farm Net Worth (equity capital)	$334,152	$325,177	$327,400	$325,940
Farm & Nonfarm Net Worth	$361,036	$354,008	$364,807	$365,497
FINANCIAL MEASURES				
Percent equity		58%		64%
Debt/asset ratio - long term		0.53		0.44
Debt/asset ratio - intermediate & current		0.32		0.30
Total farm debt per cow		$2,405		$2,047
Annual debt payments made		$44,792		$43,014
Debt payments made per cow		$449		$464
Debt payments as % of milk sales		23%		23%
Amount available for debt service		$56,395		$46,941
Cash flow coverage ratio		1.08		1.11

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1985.

Table 50. SELECTED BUSINESS FACTORS FOR MILK DIVERSION PROGRAM PARTICIPANTS
Same 33 New York Farms, 1983-1985

Item	1983	1984	1985
Size of Business			
Number of cows	97	87	96
Number of heifers	73	74	74
Number of crop acres	301	305	310
Number of workers	2.92	3.08	3.17
Number of operators	1.25	1.25	1.25
Milk sold (pounds)	1,473,279	1,280,381	1,433,906
Rates of Production			
Milk sold per cow (pounds)	15,184	14,635	14,951
Hay DM per acre (tons)	2.4	2.3	2.3
Corn silage per acre (tons)	13.9	13.3	13.5
Labor Efficiency			
Cows per worker	33	28	30
Milk sold per worker (pounds)	505,124	415,259	452,812
Income Analysis & Cost Control*			
Milk sales per cow	$2,073	$1,976	$1,959
Dairy cattle sales per cow	$110	$155	$228
Government receipts per cow	$42	$248	$122
Average gross price per cwt. milk sold	$13.65	$13.50	$13.10
Average effective price**	$13.17	$13.00	$12.98
Purchased grain & conc. % of milk receipts	28%	26%	24%
Feed & crop expenses per cwt. milk	$4.83	$4.91	$4.37
Labor & machinery costs per cow	$759	$874	$827
Profitability			
Net farm income (without appreciation)	$19,523	$14,902	$21,007
Labor & management income per farm	$2,390	$-2,132	$4,804
Labor & management income per operator	$1,912	$-1,706	$3,843
Rate of return on equity (with appreciation)	-1.9%	0.2%	-1.8%
Financial Situation (end year)			
Farm assets	$549,129	$560,926	$565,573
Farm liabilities	$228,466	$242,237	$252,510
Farm net worth	$320,663	$318,689	$313,063
Percent equity	58%	57%	55%
Debt per cow	$2,405	$2,784	$2,476
Debt/asset ratio	0.42	0.43	0.45

*A cash accounting system was used in 1983 and 1984, and an accrual system in 1985. Government receipts per cow for 1984, estimated on an accrual basis, equals $305 per cow.

**Average gross price per hundredweight milk sold minus $0.48 in 1983, $0.50 in 1984, and $0.125 in 1985.

Table 51. SELECTED BUSINESS FACTORS FOR NONPARTICIPATING MILK DIVERSION FARMS
Same 270 New York Farms, 1983-1985

Item	1983	1984	1985
Size of Business			
Number of cows	88	91	96
Number of heifers	74	78	79
Number of crop acres	281	292	304
Number of workers	3.17	3.17	3.33
Number of operators	1.42	1.42	1.42
Milk sold (pounds)	1,371,802	1,434,332	1,532,697
Rates of Production			
Milk sold per cow (pounds)	15,531	15,749	15,945
Hay DM per acre (tons)	2.7	2.8	2.8
Corn silage per acre (tons)	13.7	14.3	14.8
Labor Efficiency			
Cows per worker	28	29	29
Milk sold per worker (pounds)	433,201	452,947	459,809
Income Analysis & Cost Control			
Milk sales per cow	$2,112	$2,117	$2,056
Dairy cattle sales per cow	$175	$194	$169
Government receipts per cow	$15	$10	$17
Average gross price per cwt. milk sold	$13.60	$13.44	$12.89
Average effective price*	$13.12	$12.94	$12.77
Purchased grain & conc. % of milk receipts	24%	24%	22%
Feed & crop expenses per cwt. milk	$4.56	$4.48	$4.10
Labor & machinery costs per cow	$827	$843	$819
Profitability			
Net farm income (without appreciation)	$29,819	$23,874	$25,213
Labor & management income per farm	$11,187	$4,756	$6,116
Labor & management income per operator	$7,897	$3,357	$4,317
Rate of return on equity (with appreciation)	1.8%	1.7%	0.0%
Financial Situation (end year)			
Farm assets	$532,083	$546,168	$550,496
Farm liabilities	$192,452	$196,807	$201,550
Farm net worth	$339,631	$349,361	$348,946
Percent equity	64%	64%	63%
Debt per cow	$2,115	$2,094	$2,015
Debt/asset ratio	0.36	0.36	0.37

*Average gross price per hundredweight milk sold minus $0.48 in 1983, $0.50 in 1984, and $0.125 in 1985.

Table 52. FARM BUSINESS SUMMARY BY HERD SIZE
404 New York Dairy Farms, 1985

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	33	93	82	55	38
ACCRUAL EXPENSES					
Hired labor	$ 4,093	$ 5,937	$ 9,313	$ 13,051	$ 18,026
Dairy grain & concentrate	15,862	22,245	27,169	33,379	37,599
Dairy roughage	813	816	933	1,158	767
Other livestock feed	164	250	555	705	2,234
Machine hire/rent/lease	588	1,018	1,305	1,644	1,251
Machine repairs/parts	2,560	4,470	5,735	7,900	10,291
Auto expense (farm share)	405	488	450	645	368
Fuel, oil & grease	2,442	3,192	4,276	5,625	7,090
Replacement livestock	465	926	1,800	1,350	1,078
Breeding	998	1,300	1,949	2,565	2,491
Veterinary & medicine	1,173	1,672	2,601	2,933	3,664
Milk marketing	4,836	6,395	8,313	10,033	10,296
Cattle lease/rent	3	39	33	80	0
Other livestock expense	2,492	3,684	5,053	5,607	8,095
Fertilizer & lime	2,255	4,002	5,849	7,976	10,357
Seeds & plants	712	1,311	2,131	2,954	4,128
Spray & other crop expense	476	1,033	2,077	2,626	2,881
Land/building/fence repair	778	1,340	1,518	1,989	2,769
Taxes & insurance	3,725	4,505	6,227	6,668	9,482
Telephone & electricity	2,267	3,054	4,025	4,926	5,436
Interest paid	4,443	8,829	12,031	13,163	17,536
Misc. (including rent)	1,660	2,764	3,348	4,895	5,516
Total Operating Expenses	$ 53,210	$79,270	$106,691	$131,872	$161,355
Expansion livestock	968	346	874	774	844
Machinery depreciation	6,124	7,704	10,941	15,593	17,741
Building depreciation	2,193	3,217	5,039	8,144	8,004
Total Accrual Expenses	$62,495	$90,537	$123,545	$156,383	$187,944
ACCRUAL RECEIPTS					
Milk sales	$59,218	$ 88,407	$119,550	$151,834	$183,742
Dairy cattle	4,811	6,521	9,436	11,266	14,400
Dairy calves	933	1,163	1,444	1,798	2,364
Other livestock	97	243	352	436	472
Crops	1,030	806	592	1,949	3,216
Misc. receipts	1,975	3,156	5,102	5,737	7,682
Total Accrual Receipts	$68,064	$100,296	$136,476	$173,020	$211,876
PROFITABILITY ANALYSIS					
Net farm income (w/o apprec.)	$5,569	$9,759	$12,931	$16,637	$23,932
Net farm income (w/apprec.)	$4,706	$8,700	$9,716	$19,487	$19,249
Labor & mgmt. income	$-3,996	$-592	$-718	$-453	$4,124
Number of operators	1.08	1.17	1.33	1.42	1.42
Labor & mgmt. inc./oper.	$-3,689	$-508	$-539	$-320	$2,911
Rate of return on equity capital (w/o apprec.)	-6.6%	-6.4%	-4.0%	-2.3%	-0.6%
Rate of return on equity capital (w/apprec.)	-7.1%	-7.0%	-5.3%	-1.4%	-1.8%

Table 52 (continued) FARM BUSINESS SUMMARY BY HERD SIZE
404 New York Dairy Farms, 1985

Item Farm Size:	100 to 149 Cows	150 to 199 Cows	200 to 249 Cows	250 or More Cows
Number of farms	54	20	14	15
ACCRUAL EXPENSES				
Hired labor	$ 26,831	$ 37,871	$ 69,656	$118,623
Dairy grain & concentrate	52,504	69,080	119,361	181,104
Dairy roughage	979	3,007	1,464	6,896
Other livestock feed	1,253	1,581	176	193
Machine hire/rent/lease	1,828	2,514	4,138	3,541
Machine repairs/parts	12,204	17,945	30,301	37,855
Auto expense (farm share)	372	377	829	303
Fuel, oil & grease	9,375	12,763	18,866	24,475
Replacement livestock	1,300	2,816	1,521	3,244
Breeding	3,611	4,415	7,083	11,731
Veterinary & medicine	5,044	6,398	9,844	20,184
Milk marketing	13,992	19,197	30,848	38,127
Cattle lease/rent	68	188	0	344
Other livestock expense	9,665	13,049	17,907	31,495
Fertilizer & lime	11,193	19,173	23,424	33,953
Seeds & plants	4,444	6,000	7,942	14,478
Spray & other crop expense	3,981	7,053	10,397	15,416
Land/building/fence repair	2,981	4,147	4,852	9,358
Taxes & insurance	10,303	12,467	16,682	23,234
Telephone & electricity	6,501	7,470	11,821	17,907
Interest paid	23,255	34,925	45,152	75,543
Misc. (including rent)	6,759	11,814	17,838	21,921
Total Operating Expenses	$208,443	$294,250	$450,102	$689,925
Expansion livestock	1,127	7,108	1,680	16,690
Machinery depreciation	20,258	26,978	32,499	45,087
Building depreciation	9,161	17,114	16,621	35,310
Total Accrual Expenses	$238,989	$345,450	$500,902	$787,012
ACCRUAL RECEIPTS				
Milk sales	$236,108	$320,343	$468,190	$796,157
Dairy cattle	20,211	32,874	46,908	81,554
Dairy calves	2,992	3,559	5,168	8,731
Other livestock	556	21	89	775
Crops	193	5,092	10,339	16,228
Misc. receipts	7,420	16,589	21,994	15,205
Total Accrual Receipts	$267,480	$378,478	$552,688	$918,650
PROFITABILITY ANALYSIS				
Net farm income (w/o apprec.)	$28,491	$33,028	$51,786	$131,638
Net farm income (w/apprec.)	$29,111	$24,269	$44,731	$120,705
Labor & mgmt. income	$5,196	$6,896	$17,279	$76,669
Number of operators	1.50	1.58	1.67	1.58
Labor & mgmt. inc./oper.	$3,464	$4,355	$10,367	$48,423
Rate of return on equity capital (w/o apprec.)	-0.0%	0.6%	2.8%	8.7%
Rate of return on equity capital (w/apprec.)	0.1%	-1.1%	1.8%	7.7%

Table 53. FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
404 New York Dairy Farms, 1985

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.	$ 2,208	$ 1,936	$ 1,264	$ 1,427	$ 2,280	$ 2,584
Accounts receivable	6,052	5,791	7,548	7,173	10,835	10,530
Feed & supplies	11,016	11,551	17,075	17,168	25,038	25,601
Dairy cows*	27,508	25,568	40,790	38,285	55,435	52,811
Heifers	11,583	9,208	15,737	13,815	22,773	19,303
Bulls & other lvstk.	560	479	878	812	599	474
Machinery & equipment*	41,341	40,782	53,683	54,064	80,279	78,950
Coop stocks & cert.	2,024	2,145	2,615	2,487	4,237	4,524
Land & buildings*	110,929	115,967	140,467	144,528	194,568	196,143
Total Farm Assets	$213,221	$213,427	$280,057	$279,759	$396,044	$390,921
Pers. cash/chkg./sav.	$ 7,817	$ 8,760	$ 2,456	$ 2,551	$ 3,725	$ 3,960
Cash value of life ins.	3,230	3,214	3,465	3,561	3,239	3,187
Nonfarm real estate	2,342	2,115	4,371	4,221	8,953	9,312
Auto (personal share)	2,118	2,224	2,246	2,522	2,190	2,416
Stocks & bonds	5,868	5,976	1,643	2,005	16,266	16,945
Household furnishings	7,192	7,365	8,216	8,391	6,930	7,925
All other	1,298	1,121	3,098	2,119	268	1,048
Total Nonfarm Assets**	$ 29,866	$ 30,776	$ 25,495	$ 25,369	$ 41,569	$ 44,793
Total Farm & Nonfarm Assets	$243,087	$244,203	$305,552	$305,128	$437,613	$435,714
LIABILITIES						
Accounts payable	$ 1,955	$ 2,293	$ 4,525	$ 4,396	$ 3,675	$ 3,744
Operating debt	0	0	323	592	798	1,192
Short term	984	871	1,169	1,399	1,450	1,265
Intermediate*	17,813	17,003	36,012	36,825	44,541	44,628
Long term*	32,026	34,951	70,323	73,521	89,325	89,105
Total Farm Liab.	$ 52,777	$ 55,118	$112,353	$116,734	$139,789	$139,933
Total Nonfarm Liab.**	438	579	752	1,181	2,664	2,838
Total Farm & Nonfarm Liabilities	$ 53,215	$ 55,697	$113,105	$117,915	$142,453	$142,771
Farm Net Worth (Equity Capital)	$160,444	$158,310	$167,704	$163,026	$256,255	$250,987
Farm & Nonfarm Net Worth	$189,872	$188,506	$192,447	$187,213	$295,160	$292,943

FINANCIAL MEASURES	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows
Percent equity	74%	58%	64%
Debt/asset ratio-long term	0.30	0.51	0.45
Debt/asset ratio-inter. & current	0.21	0.32	0.26
Total farm debt per cow	$1,621	$2,382	$2,186
Annual debt payments made	$12,166	$20,351	$30,885
Debt payments made per cow	$368	$432	$500
Debt payments as % of milk sales	20%	23%	26%
Amount avail. for debt service	$16,942	$23,026	$30,400
Cash flow coverage ratio for 1985	1.74	1.07	1.04

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1985.

Table 53 (continued) FARM FAMILY FINANCIAL SITUATION
BY HERD SIZE
404 New York Dairy Farms, 1985

Farms with:	70 to 84 Cows		85 to 99 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 5,766	$ 4,884	$ 2,617	$ 3,422
Accounts receivable	14,697	14,487	16,078	15,871
Feed & supplies	35,637	35,228	44,666	46,961
Dairy cows*	65,176	62,650	82,318	78,084
Heifers	29,022	25,175	35,773	32,808
Bulls & other lvstk.	747	981	1,382	1,372
Machinery & equipment*	95,054	98,240	115,793	116,850
Coop stocks & cert.	5,003	5,700	8,095	8,876
Land & buildings*	204,940	208,015	260,816	257,440
Total Farm Assets	$456,042	$455,360	$567,538	$561,684
Pers. cash/chkg./savings	$ 15,519	$ 13,636	$ 4,787	$ 6,288
Cash value of life ins.	4,650	5,373	3,600	3,859
Nonfarm real estate	13,829	13,700	4,813	5,542
Auto (personal share)	2,819	3,158	2,265	2,338
Stocks & bonds	9,052	10,261	1,940	3,000
Household furnishings	7,200	7,223	3,604	4,792
All other	5,321	5,986	4,084	4,752
Total Nonfarm Assets**	$ 58,390	$ 59,336	$ 25,092	$ 30,571
Total Farm & Nonfarm Assets	$514,432	$514,696	$592,630	$592,255
LIABILITIES				
Accounts payable	$ 5,037	$ 6,816	$ 4,539	$ 4,883
Operating debt	1,074	1,924	4,013	4,144
Short term	1,148	2,185	3,724	2,827
Intermediate*	44,336	46,725	68,472	67,533
Long term*	90,933	88,906	116,051	119,142
Total Farm Liab.	$142,529	$146,555	$196,799	$198,529
Total Nonfarm Liab.**	454	1,242	21	21
Total Farm & Nonfarm Liabilities	$142,983	$147,797	$196,820	$198,550
Farm Net Worth (Equity Capital)	$313,513	$308,805	$370,739	$363,155
Farm & Nonfarm Net Worth	$371,449	$366,899	$395,810	$393,705

FINANCIAL MEASURES	70 to 84 Cows	85 to 99 Cows
Percent equity	68%	65%
Debt/asset ratio-long term	0.43	0.46
Debt/asset ratio-inter. & current	0.23	0.26
Total farm debt per cow	$1,879	$2,112
Annual debt payments made	$30,462	$39,392
Debt payments made per cow	$402	$426
Debt payments as % of milk sales	20%	21%
Amount avail. for debt service	$41,194	$45,661
Cash flow coverage ratio for 1985	1.40	1.09

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1985.

Table 53 (continued) FARM FAMILY FINANCIAL SITUATION
BY HERD SIZE
404 New York Dairy Farms, 1985

Farms with:	100 to 149 Cows		150 to 199 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 4,109	$ 3,938	$ 5,551	$ 6,336
Accounts receivable	20,971	20,473	27,818	32,064
Feed & supplies	57,947	56,439	71,818	73,963
Dairy cows*	102,408	98,777	135,614	136,797
Heifers	46,781	45,478	59,207	53,197
Bulls & other lvstk.	1,699	1,255	905	868
Machinery & equipment*	128,332	127,976	157,670	159,826
Coop stocks & cert.	12,808	13,373	24,972	28,919
Land & buildings*	312,736	317,406	411,748	407,082
Total Farm Assets	$687,791	$685,115	$895,303	$899,052
Pers. cash/chkg./savings	$ 3,454	$ 3,103	$ 1,248	$ 1,313
Cash value of life ins.	3,101	3,480	14,353	14,730
Nonfarm real estate	14,212	15,212	8,333	9,167
Auto (personal share)	3,465	3,582	3,550	2,700
Stocks & bonds	6,212	9,026	1,963	3,404
Household furnishings	9,167	9,785	11,417	11,417
All other	2,949	3,461	6,660	6,826
Total Nonfarm Assets**	$ 42,561	$ 47,648	$ 47,523	$ 49,556
Total Farm & Nonfarm Assets	$730,352	$732,763	$942,826	$948,608
LIABILITIES				
Accounts payable	$ 8,457	$ 6,855	$ 15,603	$ 11,279
Operating debt	2,275	2,809	12,751	11,042
Short term	4,442	5,789	4,901	2,918
Intermediate*	95,195	94,518	153,072	153,000
Long term*	129,707	131,237	204,102	220,169
Total Farm Liab.	$240,075	$241,208	$390,429	$398,408
Total Nonfarm Liab.**	1,064	946	4,650	3,984
Total Farm & Nonfarm Liabilities	$241,139	$242,154	$395,079	$402,392
Farm Net Worth (Equity Capital)	$447,716	$443,907	$504,874	$500,644
Farm & Nonfarm Net Worth	$489,213	$490,609	$547,747	$546,216

FINANCIAL MEASURES	100 to 149 Cows	150 to 199 Cows
Percent equity	65%	56%
Debt/asset ratio-long term	0.41	0.54
Debt/asset ratio-inter. & current	0.30	0.36
Total farm debt per cow	$1,977	$2,371
Annual debt payments made	$60,605	$98,620
Debt payments made per cow	$503	$611
Debt payments as % of milk sales	25%	31%
Amount avail. for debt service	$59,930	$75,317
Cash flow coverage ratio for 1985	1.01	0.86

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1985.

Table 53 (continued) FARM FAMILY FINANCIAL SITUATION
BY HERD SIZE
404 New York Dairy Farms, 1985

Farms with:	200 to 249 Cows		More than 250 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 6,837	$ 11,847	$ 8,039	$ 5,409
Accounts receivable	46,843	43,442	68,068	72,250
Feed & supplies	100,424	108,417	172,391	180,862
Dairy cows*	188,896	191,052	282,847	294,830
Heifers	84,355	73,254	128,368	122,225
Bulls & other lvstk.	2,011	2,250	1,938	1,876
Machinery & equipment*	183,392	181,153	252,055	254,436
Coop stocks & cert.	27,566	27,920	43,310	46,142
Land & buildings*	499,166	501,587	781,420	808,694
Total Farm Assets	$1,139,490	$1,140,922	$1,738,436	$1,786,724
Pers. cash/chkg./savings	$ 16,800	$ 13,613	$ 1,068	$ 1,428
Cash value of life ins.	8,038	9,825	5,226	6,400
Nonfarm real estate	12,750	24,000	0	0
Auto (personal share)	4,813	4,000	1,700	1,000
Stocks & bonds	6,875	8,563	1,000	1,000
Household furnishings	11,585	11,460	5,400	4,800
All other	5,483	6,247	3,150	3,086
Total Nonfarm Assets**	$ 66,343	$ 77,707	$ 17,544	$ 17,714
Total Farm & Nonfarm Assets	$1,205,833	$1,218,629	$1,755,980	$1,804,438
LIABILITIES				
Accounts payable	$ 14,599	$ 15,885	$ 14,777	$ 12,388
Operating debt	12,829	14,851	6,667	9,667
Short term	814	1,984	13,302	28,805
Intermediate*	161,140	159,375	325,610	326,324
Long term*	284,505	269,685	332,094	321,161
Total Farm Liab.	$473,887	$461,780	$ 692,450	$ 698,344
Total Nonfarm Liab.**	0	0	0	0
Total Farm & Nonfarm Liabilities	$473,887	$461,780	$ 692,450	$ 698,344
Farm Net Worth (Equity Capital)	$665,603	$679,142	$1,045,986	$1,088,380
Farm & Nonfarm Net Worth	$731,946	$756,849	$1,063,530	$1,106,094

FINANCIAL MEASURES	200 to 249 Cows	More than 250 Cows
Percent equity	60%	61%
Debt/asset ratio-long term	0.54	0.40
Debt/asset ratio-inter. & current	0.30	0.39
Total farm debt per cow	$1,965	$1,962
Annual debt payments made	$92,757	$154,197
Debt payments made per cow	$412	$438
Debt payments as % of milk sales	19%	19%
Amount avail. for debt service	$97,464	$220,436
Cash flow coverage ratio for 1985	0.94	1.31

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1985.

Table 54. SELECTED BUSINESS FACTORS BY HERD SIZE
404 New York Dairy Farms, 1985

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	33	93	82	55	38
Cropping Program Analysis					
Total Tillable acres	107	165	206	258	329
Tillable acres rented*	25	53	63	86	106
Hay crop acres*	74	107	119	132	156
Corn silage acres*	17	29	40	54	73
Hay crop, tons DM/acre	2.1	2.2	2.5	2.4	2.6
Corn silage, tons/acre	13.1	13.2	13.5	14.4	13.7
Oats, bushels/acre	61.4	82.1	86.9	76.9	74.4
Forage DM per cow, tons	6.9	7.7	7.7	7.8	8.2
Tillable acres/cow	3.3	3.5	3.3	3.4	3.6
Fert. & lime exp./til. acre	$21.06	$24.20	$28.35	$30.93	$31.45
Total machinery costs	$14,171	$19,519	$26,647	$36,161	$42,527
Machinery cost/tillable acre	$132	$118	$129	$140	$129
Dairy Analysis					
Number of cows	33	47	62	76	92
Number of heifers	25	37	48	62	77
Milk sold, lbs.	465,289	691,467	924,535	1,162,676	1,430,313
Milk sold/cow, lbs.	14,113	14,722	14,897	15,346	15,485
Operating cost of prod. milk/cwt.	$9.53	$9.75	$9.71	$9.52	$9.31
Total cost of prod. milk/cwt.	$16.67	$15.46	$15.37	$15.00	$14.26
Price/cwt. milk sold	$12.73	$12.79	$12.93	$13.06	$12.85
Purchased dairy feed/cow	$506	$491	$453	$456	$415
Purchased dairy feed/cwt. milk	$3.58	$3.33	$3.04	$2.97	$2.68
Purchased grain & conc. as % of milk receipts	27%	25%	23%	22%	20%
Purchased feed & crop expense/cwt. milk	$4.32	$4.25	$4.13	$4.14	$3.90
Capital Efficiency					
Farm capital/worker	$116,359	$134,356	$162,820	$160,836	$173,727
Farm capital/cow	6,470	5,960	6,340	6,015	6,113
Farm capital/til. acre owned	2,602	2,477	2,752	2,649	2,532
Real estate/cow	3,441	3,034	3,148	2,725	2,805
Machinery investment/cow	1,245	1,147	1,283	1,276	1,259
Capital turnover, years	3.13	2.79	2.88	2.63	2.66
Labor Efficiency					
Worker equivalent	1.83	2.08	2.42	2.83	3.25
Operator/manager equivalent	1.08	1.17	1.33	1.42	1.42
Milk sold/worker, lbs.	253,794	331,904	382,566	410,356	440,096
Cows/worker	18	23	26	27	28
Work units/worker	188	243	272	289	324
Labor cost/cow	$490	$412	$374	$374	$360
Labor cost/tillable acre	$151	$117	$113	$110	$101

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

Table 54 (continued) SELECTED BUSINESS FACTORS BY HERD SIZE
404 New York Dairy Farms, 1985

Item — Farms with:	100 to 149 Cows	150 to 199 Cows	200 to 249 Cows	250 or More Cows
Number of farms	54	20	14	15
Cropping Program Analysis				
Total Tillable acres	364	529	595	809
Tillable acres rented*	120	194	237	276
Hay crop acres*	180	235	237	280
Corn silage acres*	89	128	220	348
Hay crop, tons DM/acre	3.0	2.9	3.2	3.8
Corn silage, tons/acre	14.2	14.0	14.8	15.9
Oats, bushels/acre	81.7	64.9	71.4	93.6
Forage DM per cow, tons	8.2	8.1	8.3	8.5
Tillable acres/cow	3.1	3.3	2.7	2.4
Fert. & lime exp./til. acre	$30.74	$36.27	$39.35	$41.99
Total machinery costs	$50,416	$68,482	$95,644	$123,924
Machinery cost/tillable acre	$138	$130	$161	$153
Dairy Analysis				
Number of cows	119	160	223	342
Number of heifers	107	129	182	286
Milk sold, lbs.	1,839,601	2,450,256	3,618,728	6,189,863
Milk sold/cow, lbs.	15,524	15,295	16,233	18,099
Operating cost of prod. milk/cwt.	$9.63	$9.64	$10.10	$9.17
Total cost of prod. milk/cwt.	$14.04	$13.97	$13.35	$12.22
Price/cwt. milk sold	$12.83	$13.07	$12.94	$12.86
Purchased dairy feed/cow	$451	$450	$542	$550
Purchased dairy feed/cwt. milk	$2.91	$2.94	$3.34	$3.04
Purchased grain & conc. as % of milk receipts	22%	22%	25%	23%
Purchased feed & crop expense/cwt. milk	$3.97	$4.26	$4.49	$4.07
Capital Efficiency				
Farm capital/worker	$179,075	$199,373	$187,431	$215,826
Farm capital/cow	5,793	5,600	5,115	5,154
Farm capital/til. acre owned	2,813	2,678	3,185	3,307
Real estate/cow	2,659	2,556	2,245	2,325
Machinery investment/cow	1,081	991	818	740
Capital turnover, years	2.57	2.37	2.06	1.92
Labor Efficiency				
Worker equivalent	3.83	4.50	6.08	8.17
Operator/manager equivalent	1.50	1.58	1.67	1.58
Milk sold/worker, lbs.	479,896	544,501	594,859	757,942
Cows/worker	31	36	37	42
Work units/worker	332	379	382	439
Labor cost/cow	$357	$338	$387	$393
Labor cost/tillable acre	$116	$102	$145	$166

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

Table 55. SELECTED BUSINESS FACTORS BY HERD SIZE AND TYPE OF BARN
139 Freestall Barn Dairy Farms, New York, 1985

Item / Farms with:	Less than 55 Cows	55 to 69 Cows	70 to 99 Cows	100 to 149 Cows	150 or More Cows
Number of farms	3	19	31	40	46
Cropping Program Analysis					
Total Tillable acres	136	245	300	354	641
Tillable acres rented*	23	68	84	124	231
Hay crop acres*	69	132	139	175	249
Corn silage acres*	34	51	73	96	230
Hay crop, tons DM/acre	2.5	2.5	2.6	3.0	3.2
Corn silage, tons/acre	11.1	13.8	13.6	14.6	15.1
Oats, bushels/acre	55.0	93.9	70.0	76.6	86.9
Forage DM per cow, tons	7.7	8.9	8.4	8.4	8.3
Tillable acres/cow	3.4	3.8	3.5	3.0	2.7
Fert. & lime exp./til. acre	$15.62	$31.05	$30.49	$31.55	$39.40
Total machinery costs	$16,320	$32,035	$41,381	$49,511	$95,083
Machinery cost/tillable acre	$120	$131	$138	$140	$148
Dairy Analysis					
Number of cows	40	64	85	120	239
Number of heifers	36	51	73	111	196
Milk sold, lbs.	614,644	973,193	1,330,223	1,844,735	4,013,039
Milk sold/cow, lbs.	15,366	15,269	15,620	15,315	16,826
Operating cost of prod. milk/cwt.	$7.96	$9.89	$9.14	$9.82	$9.63
Total cost of prod. milk/cwt.	$14.84	$15.36	$14.42	$14.03	$13.01
Price/cwt. milk sold	$12.28	$13.17	$12.98	$12.92	$12.95
Purchased dairy feed/cow	$488	$412	$443	$471	$526
Purchased dairy feed/cwt. milk	$3.18	$2.70	$2.84	$3.07	$3.13
Purc. grain & conc. as % milk rec.	26%	20%	21%	23%	23%
Purc. feed & crop exp./cwt. milk	$3.83	$4.03	$4.03	$4.12	$4.25
Capital Efficiency					
Farm capital/worker	$193,851	$175,892	$171,684	$184,419	$201,571
Farm capital/cow	7,673	6,669	6,048	5,486	5,282
Farm capital/til. acre owned	2,740	2,402	2,385	2,886	3,073
Real estate/cow	3,675	3,384	2,699	2,424	2,388
Machinery investment/cow	1,669	1,327	1,264	1,045	830
Capital turnover, years	3.38	2.81	2.56	2.47	2.08
Labor Efficiency					
Worker equivalent	1.58	2.42	3.00	3.58	6.25
Operator/manager equivalent	1.00	1.33	1.50	1.25	1.58
Milk sold/worker, lbs.	388,196	402,701	443,408	514,810	642,086
Cows/worker	25	26	28	34	38
Work units/worker	280	293	332	360	401
Labor cost/cow	$416	$403	$350	$332	$381
Labor cost/tillable acre	$123	$105	$99	$113	$142
Profitability & Balance Sheet Analysis					
Net farm income (w/o apprec.)	$14,320	$13,468	$23,775	$26,817	$66,924
Labor & mgmt. income/operator	$-63	$-229	$3,041	$4,449	$18,313
Farm debt/cow	$635	$2,406	$1,869	$2,042	$2,086
Percent equity	91%	61%	68%	61%	59%

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

Table 56. SELECTED BUSINESS FACTORS BY HERD SIZE AND TYPE OF BARN
265 Conventional Stall Barn Dairy Farms, New York, 1985

Item / Farms with:	Less than 55 Cows	55 to 69 Cows	70 to 99 Cows	100 to 149 Cows	150 or More Cows
Number of farms	123	63	62	14	3
Cropping Program Analysis					
Total Tillable acres	150	195	281	394	518
Tillable acres rented*	46	62	99	109	243
Hay crop acres*	99	115	143	193	256
Corn silage acres*	26	36	56	69	95
Hay crop, tons DM/acre	2.1	2.5	2.5	2.9	3.5
Corn silage, tons/acre	13.2	13.4	14.4	13.0	15.0
Oats, bushels/acre	79.1	82.8	77.8	86.6	48.3
Forage DM per cow, tons	7.6	7.3	7.8	7.9	8.8
Tillable acres/cow	3.5	3.2	3.5	3.5	3.2
Fert. & lime exp./til. acre	$23.79	$27.33	$31.54	$28.66	$44.24
Total machinery costs	$18,162	$25,024	$37,451	$53,003	$64,568
Machinery cost/tillable acre	$121	$129	$133	$134	$125
Dairy Analysis					
Number of cows	43	62	81	113	161
Number of heifers	33	47	66	96	139
Milk sold, lbs.	632,658	909,860	1,242,938	1,824,932	2,638,493
Milk sold/cow, lbs.	14,583	14,781	15,299	16,160	16,354
Operating cost of prod. milk/cwt.	$9.75	$9.65	$9.58	$9.07	$7.25
Total cost of prod. milk/cwt.	$15.73	$15.42	$14.79	$14.04	$11.84
Price/cwt. milk sold	$12.79	$12.85	$12.95	$12.58	$12.50
Purchased dairy feed/cow	$494	$466	$434	$393	$368
Purchased dairy feed/cwt. milk	$3.39	$3.15	$2.84	$2.43	$2.25
Purc. grain & conc. as % milk rec.	25%	24%	21%	19%	18%
Purc. feed & crop exp./cwt. milk	$4.28	$4.16	$4.03	$3.55	$3.68
Capital Efficiency					
Farm capital/worker	$125,466	$148,627	$164,259	$193,952	$165,073
Farm capital/cow	6,025	6,238	6,066	6,727	4,945
Farm capital/til. acre owned	2,489	2,887	2,708	2,665	2,901
Real estate/cow	3,103	3,074	2,795	3,374	1,896
Machinery investment/cow	1,155	1,269	1,270	1,193	866
Capital turnover, years	2.84	2.91	2.70	2.85	2.04
Labor Efficiency					
Worker equivalent	2.08	2.58	3.00	3.92	4.83
Operator/manager equivalent	1.17	1.42	1.42	1.92	2.67
Milk sold/worker, lbs.	303,676	352,204	414,313	465,940	545,895
Cows/worker	21	24	27	29	33
Work units/worker	222	248	291	310	358
Labor cost/cow	$434	$384	$381	$403	$297
Labor cost/tillable acre	$125	$121	$110	$115	$92
Profitability & Balance Sheet Analysis					
Net farm income (w/o apprec.)	$8,526	$12,762	$17,539	$33,278	$93,871
Labor & mgmt. income/operator	$-1,392	$-871	$-109	$2,455	$24,850
Farm debt/cow	$2,327	$2,130	$2,066	$1,734	$1,851
Percent equity	61%	65%	65%	74%	61%

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

Table 57. FARM BUSINESS SUMMARIES FOR SINGLE PROPRIETORSHIPS, PARTNERSHIPS, AND CORPORATIONS
404 New York Dairy Farms, 1985

Item	289 Single Prop.	102 Partnerships	13 Corporations
ACCRUAL EXPENSES			
Hired labor	$ 17,633	$ 20,596	$ 47,452
Feed	37,886	54,741	74,495
Machinery	15,533	22,950	37,208
Livestock	23,288	32,655	51,034
Crops	12,789	20,081	33,549
Real estate	11,631	16,527	30,204
Other	22,311	29,503	47,798
Total Operating Expenses	$141,071	$197,053	$321,740
Expansion livestock	1,300	2,472	4,593
Machinery depreciation	13,009	18,934	32,414
Building depreciation	6,731	9,365	18,128
Total Accrual Expenses	$162,111	$227,824	$376,875
ACCRUAL RECEIPTS			
Milk sales	$154,366	$230,167	$375,166
Livestock sales	14,550	25,291	43,972
Crops	1,892	2,589	5,880
All other	5,644	8,127	14,832
Total Accrual Receipts	$176,452	$266,174	$439,850
PROFITABILITY ANALYSIS			
Net farm income (without appreciation)	$14,341	$38,350	$62,975
Net farm income (with appreciation)	$13,412	$32,878	$63,744
Labor & management income	$-977	$15,980	$27,129
Number of operators	1.08	2.00	1.92
Labor & management income per operator	$-902	$7,990	$14,154
BUSINESS FACTORS			
Worker equivalent	2.83	3.58	4.67
Number of cows	78	111	161
Number of heifers	64	91	149
Acres of hay crops*	131	161	224
Acres of corn silage*	60	89	117
Total tillable acres	248	345	490
Pounds of milk sold	1,202,186	1,781,265	2,808,064
Pounds of milk sold per cow	15,358	15,998	17,408
Tons hay crop dry matter per acre	2.6	2.7	3.4
Tons corn silage per acre	14.3	14.1	16.2
Cows per worker	28	31	35
Pounds of milk sold per worker	424,301	497,097	601,728
Purc. grain & conc. as % of milk receipts	24%	22%	19%
Feed & crop expense per cwt. milk	$4.18	$4.10	$3.85
Fertilizer & lime per crop acre	$30.10	$33.84	$38.49
Machinery cost per tillable acre	$132	$139	$160
Average price per cwt. milk	$12.84	$12.92	$13.36

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

Table 58. FARM FAMILY FINANCIAL SITUATION FOR SINGLE PROPRIETORSHIPS, PARTNERSHIPS, AND CORPORATIONS
404 New York Dairy Farms, 1985

Farms with:	289 Single Prop.		102 Partnerships		13 Corporations	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS						
Farm cash/chkg./sav.	$ 2,539	$ 2,716	$ 4,077	$ 4,629	$ 14,899	$ 10,497
Accounts receivable	13,575	13,520	20,794	21,262	40,847	37,242
Feed & supplies	33,767	34,832	50,736	51,830	98,888	92,596
Dairy cows*	67,858	65,733	96,256	94,292	127,708	130,792
Heifers	29,321	26,267	41,467	37,806	60,162	56,487
Bulls & other lvstk.	1,200	1,055	545	649	589	765
Machinery & equip.*	84,590	84,848	119,651	121,553	180,643	171,686
Coop stocks & cert.	7,808	8,483	8,411	8,820	27,110	27,396
Land & buildings*	213,081	216,089	290,474	291,071	498,831	528,510
Total Farm Assets	$453,740	$453,542	$632,412	$631,912	$1,049,677	$1,055,971
Pers. cash/chkg./sav.	$ 5,361	$ 5,307	$ 7,837	$ 7,454	$ 7,350	$ 8,375
Cash value life ins.	3,823	3,996	4,800	5,813	3,875	3,883
Nonfarm real estate	7,307	7,424	4,241	8,034	68,750	70,500
Auto (personal share)	2,290	2,441	4,779	4,876	1,250	1,275
Stocks & bonds	6,017	6,756	10,254	12,929	32,500	32,500
Household furnishings	7,597	8,054	7,586	8,028	3,500	3,375
All other	2,606	2,690	4,999	5,363	500	500
Total Nonfarm Assets**	$ 35,001	$ 36,668	$ 44,498	$ 52,497	$ 117,725	$ 120,408
Total Farm & Nonfarm Assets	$488,741	$490,210	$676,910	$684,409	$1,167,402	$1,176,379
LIABILITIES						
Accounts payable	$ 6,168	$ 6,217	$ 5,682	$ 5,058	$ 5,291	$ 3,314
Operating debt	2,145	2,265	3,202	4,566	1,393	1,627
Short term	2,131	2,797	3,164	4,710	5,769	2,489
Intermediate*	63,413	63,631	81,283	79,850	104,205	118,266
Long term*	102,823	105,270	115,647	112,334	220,895	224,359
Total Farm Liab.	$176,679	$180,180	$208,978	$206,519	$337,554	$350,055
Total Nonfarm Liab.**	983	1,267	1,049	1,000	9,191	9,125
Total Farm & Nonfarm Liabilities	$177,662	$181,447	$210,027	$207,519	$346,745	$359,180
Farm Net Worth (Equity Capital)	$277,060	$273,362	$423,433	$425,394	$712,123	$705,916
Farm & Nonfarm Net Worth	$311,079	$308,763	$466,883	$476,890	$820,657	$817,199

FINANCIAL MEASURES	289 Single Prop.	102 Partner.	13 Corp.
Percent equity	60%	67%	67%
Debt/asset ratio-long term	0.49	0.39	0.42
Debt/asset ratio-inter. & current	0.32	0.28	0.24
Total farm debt per cow	$2,252	$1,796	$2,047
Annual debt payments made	$38,912	$53,131	$65,875
Debt payments made per cow	$477	$456	$331
Debt payments as % of milk sales	24%	22%	14%
Amount avail. for debt service	$39,545	$61,975	$144,858
Cash flow coverage ratio for 1985	0.99	1.24	1.88

*Includes discounted lease payments.
**Average of 235 single proprietorships reporting nonfarm assets and liabilities, 29 partnerships, and 4 corporations.

Table 59. SELECTED BUSINESS FACTORS BY MILKING SYSTEMS
404 New York Dairy Farms, 1985

Item	Bucket & Carry	Dumping Station	Pipeline	Herringbone Parlor	Other Parlors
Number of farms	4	42	217	122	19
Percent of farms	1%	10%	54%	30%	5%
Cropping Program Analysis					
Total Tillable acres	77	182	214	433	316
Tillable acres rented*	5	67	69	142	120
Hay crop acres*	62	117	121	192	130
Corn silage acres*	8	32	41	132	86
Hay crop, tons DM/acre	2.0	2.0	2.5	3.0	2.9
Corn silage, tons/acre	10.2	12.7	13.9	14.7	14.7
Oats, bushels/acre	--	74.4	80.1	81.7	72.6
Forage DM per cow, tons	4.8	7.5	7.7	8.5	7.7
Tillable acres/cow	2.4	3.7	3.3	3.0	3.0
Fert. & lime exp./til. acre	$29.44	$18.01	$30.15	$34.64	$36.04
Total machinery costs	$15,006	$18,772	$28,317	$61,382	$46,376
Machinery cost/tillable acre	$194	$103	$132	$142	$147
Dairy Analysis					
Number of cows	32	49	65	145	107
Number of heifers	24	38	52	123	94
Milk sold, lbs.	446,738	692,219	993,032	2,346,257	1,738,628
Milk sold/cow, lbs.	13,852	14,011	15,227	16,179	16,289
Oper. cost of prod. milk/cwt.	$10.20	$9.30	$9.49	$9.67	$9.51
Total cost of prod. milk/cwt.	$18.91	$15.05	$14.89	$13.61	$14.13
Price/cwt. milk sold	$12.27	$12.76	$12.81	$12.96	$13.16
Purchased dairy feed/cow	$589	$488	$451	$490	$519
Purchased dairy feed/cwt. milk	$4.25	$3.49	$2.96	$3.03	$3.19
Purc. grain & conc. as % milk rec.	29%	26%	22%	23%	22%
Purc. feed & crop exp./cwt. milk	$5.07	$4.28	$4.04	$4.16	$4.29
Capital Efficiency					
Farm capital/worker	$95,032	$127,297	$154,209	$191,291	$168,399
Farm capital/cow	6,630	5,583	6,108	5,606	5,522
Farm capital/til. acre owned	2,929	2,398	2,747	2,794	3,007
Real estate/cow	3,880	2,802	2,954	2,550	2,520
Machinery investment/cow	1,200	1,082	1,204	998	980
Capital turnover, years	3.37	2.78	2.75	2.31	2.23
Labor Efficiency					
Worker equivalent	2.25	2.17	2.58	4.25	3.50
Operator/manager equivalent	1.25	1.33	1.33	1.42	1.50
Milk sold/worker, lbs.	198,550	319,486	384,399	552,060	496,751
Cows/worker	14	23	25	34	30
Work units/worker	143	247	272	365	321
Labor cost/cow	$604	$399	$387	$373	$366
Labor cost/tillable acre	$252	$109	$118	$125	$123
Profitability & Balance Sheet Analysis					
Net farm income (w/o apprec.)	$-3,155	$13,652	$15,109	$36,954	$27,702
Labor & mgmt. income/operator	$-12,317	$2,560	$438	$7,384	$7,112
Farm debt/cow	$1,236	$2,081	$2,098	$2,046	$2,522
Percent equity	80%	62%	65%	62%	52%

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

Table 60. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
21 New York Dairy-Cash Crop Farms,* 1985

ACCRUAL EXPENSES	
Labor: Hired	$ 25,003
Feed: Dairy grain & conc.	21,823
Dairy roughage	3,158
Other livestock	2,337
Machinery:Mach. hire/rent/lease	3,260
Mach. repairs/parts	11,520
Auto expense (farm share)	330
Fuel, oil, grease	9,342
Livestock: Replacement lvstk.	2,371
Breeding	2,648
Vet & medicine	3,949
Milk marketing	9,243
Cattle lease/rent	0
Other livestock expense	6,439
Crops: Fertilizer & lime	16,417
Seeds & plants	6,772
Spray & other crop expense	6,447
Real Estate: Land/building/ fence repair	1,865
Taxes	5,455
Insurance	4,019
Rent & lease	9,200
Other:	
Telephone (farm share)	933
Electricity (farm share)	4,458
Interest paid	21,151
Miscellaneous	3,148
TOTAL OPERATING EXPENSES	$181,288
Expansion livestock	298
Machinery depreciation	24,627
Building depreciation	8,436
TOTAL ACCRUAL EXPENSES	$214,649

ACCRUAL RECEIPTS	
Milk sales	$170,169
Dairy cattle	12,248
Dairy calves	3,336
Other livestock	4,152
Crops	38,358
Government receipts	7,450
Custom machine work	372
Gas tax refund	527
Other	5,285
TOTAL ACCRUAL RECEIPTS	$241,897

PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$27,248
Net farm inc. (w/apprec.)	$33,545
Labor & mgt. income/farm	$4,496
Number of operators	1.67
Labor & mgt. income/oper.	$2,698
Rate of return on equity capital including apprec.	1.5%

BUSINESS FACTORS	
Number of cows	88
Number of heifers	72
Worker equivalent	3.50
Total tillable acres	449
Milk sold per cow, lbs.	15,548
Hay DM per acre, tons	3.0
Corn silage per acre, tons	16.0
Milk sold per worker, lbs.	388,805
Grain/conc. as % milk sales	13%
Feed & crop exp./cwt. milk	$4.01
Labor & mach. costs/cow	$1,119
Average price/cwt. milk	$12.50

ASSETS	Jan. 1	Dec. 31
Farm cash/ chkg./sav.	$ 4,807	$ 4,388
Accounts receivable	17,701	17,709
Feed & supplies	68,180	67,252
Dairy cows**	73,548	70,492
Heifers	34,925	32,813
Bulls & other lvstk.	3,969	3,449
Machinery & equip.**	150,201	145,753
Coop stocks & cert.	16,709	16,638
Land & buildings**	318,886	312,404
Total Farm Assets	$688,927	$670,898
Nonfarm Assets***	50,819	54,266
Total Farm & Nonfarm Assets	$739,746	$725,164

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 6,633	$ 8,490
Operating debt	7,143	3,843
Short-term	1,043	5,117
Intermediate**	106,888	97,667
Long-term**	114,477	111,745
Total Farm Liab.	$236,183	$226,863
Nonfarm Liab.***	5,786	5,064
Total Farm & Nonfarm Liabilities	$241,969	$231,927
Farm Net Worth	$452,743	$444,035
Farm & Nonfarm Net Worth	$497,777	$493,237

*A farm is classified as dairy-cash crop if crop sales amounted to 10 percent or more of milk sales. **Includes discounted lease payments. ***Average of 11 farms reporting nonfarm assets and liabilities.

Table 61. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
38 New York Dairy-Renter Farms,* 1985

ACCRUAL EXPENSES	
Labor: Hired	$ 9,782
Feed: Dairy grain & conc.	33,131
Dairy roughage	2,035
Other livestock	35
Machinery:Mach. hire/rent/lease	1,582
Mach. repairs/parts	6,772
Auto expense (farm share)	590
Fuel, oil, grease	5,538
Livestock: Replacement lvstk.	3,714
Breeding	2,018
Vet & medicine	2,833
Milk marketing	8,932
Cattle lease/rent	408
Other livestock expense	5,859
Crops: Fertilizer & lime	6,828
Seeds & plants	2,432
Spray & other crop expense	2,621
Real Estate: Land/building/ fence repair	1,802
Taxes	845
Insurance	2,527
Rent & lease	14,583
Other:	
Telephone (farm share)	761
Electricity (farm share)	3,615
Interest paid	7,680
Miscellaneous	1,682
TOTAL OPERATING EXPENSES	$128,605
Expansion livestock	1,044
Machinery depreciation	13,438
Building depreciation	784
TOTAL ACCRUAL EXPENSES	$143,871

ACCRUAL RECEIPTS	
Milk sales	$145,818
Dairy cattle	8,961
Dairy calves	1,873
Other livestock	477
Crops	3,827
Government receipts	2,288
Custom machine work	149
Gas tax refund	79
Other	933
TOTAL ACCRUAL RECEIPTS	$164,405

PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$20,534
Net farm inc. (w/apprec.)	$18,483
Labor & mgt. income/farm	$13,216
Number of operators	1.42
Labor & mgt. income/oper.	$9,329
Rate of return on equity capital including apprec.	-5.0%

BUSINESS FACTORS	
Number of cows	72
Number of heifers	51
Worker equivalent	2.33
Total tillable acres	239
Milk sold per cow, lbs.	15,407
Hay DM per acre, tons	2.4
Corn silage per acre, tons	13.1
Milk sold per worker, lbs.	478,209
Grain/conc. as % milk sales	23%
Feed & crop exp./cwt. milk	$4.22
Labor & mach. costs/cow	$775
Average price/cwt. milk	$13.07

ASSETS	Jan. 1	Dec. 31
Farm cash/ chkg./sav.	$ 2,870	$ 2,189
Accounts receivable	$12,522	$13,465
Feed & supplies	29,430	30,213
Dairy cows**	60,226	57,452
Heifers	20,698	16,958
Bulls & other lvstk.	227	548
Machinery & equip**	74,999	75,979
Coop stocks & cert.	6,511	6,873
Land & buildings**	10,419	10,221
Total Farm Assets	$217,902	$213,897
Nonfarm Assets***	23,840	25,935
Total Farm & Nonfarm Assets	$241,742	$239,832

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 6,631	$ 6,453
Operating debt	3,338	3,987
Short-term	2,308	1,753
Intermediate**	52,628	50,051
Long-term**	27,606	27,303
Total Farm Liab.	$ 92,512	$ 89,546
Nonfarm Liab.***	6,165	6,057
Total Farm & Nonfarm Liabilities	$ 98,677	$ 95,603
Farm Net Worth	$125,390	$124,351
Farm & Nonfarm Net Worth	$143,065	$144,229

*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. ***Average of 24 farms reporting nonfarm assets and liabilities.

Table 62. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
Top 10 Percent of the Farms by Net Farm Income (without appreciation)
40 New York Dairy Farms, 1985

ACCRUAL EXPENSES	
Labor: Hired	$ 66,350
Feed: Dairy grain & conc.	113,840
Dairy roughage	3,990
Other livestock	670
Machinery:Mach. hire/rent/lease	2,797
Mach. repairs/parts	25,932
Auto expense (farm share)	367
Fuel, oil, grease	16,112
Livestock: Replacement lvstk.	1,662
Breeding	7,482
Vet & medicine	11,990
Milk marketing	27,216
Cattle lease/rent	129
Other livestock expense	19,175
Crops: Fertilizer & lime	23,905
Seeds & plants	8,447
Spray & other crop expense	9,509
Real Estate: Land/building/ fence repair	5,971
Taxes	9,794
Insurance	7,031
Rent & lease	10,370
Other:	
Telephone (farm share)	940
Electricity (farm share)	11,120
Interest paid	42,632
Miscellaneous	5,588
TOTAL OPERATING EXPENSES	$433,019
Expansion livestock	10,010
Machinery depreciation	36,090
Building depreciation	23,871
TOTAL ACCRUAL EXPENSES	$502,990

ACCRUAL RECEIPTS	
Milk sales	$508,890
Dairy cattle	55,735
Dairy calves	5,649
Other livestock	493
Crops	11,661
Government receipts	7,898
Custom machine work	151
Gas tax refund	659
Other	8,109
TOTAL ACCRUAL RECEIPTS	$599,245

PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$96,256
Net farm inc. (w/apprec.)	$87,027
Labor & mgt. income/farm	$55,041
Number of operators	1.83
Labor & mgt. income/oper.	$30,022
Rate of return on equity capital including apprec.	6.1%

BUSINESS FACTORS	
Number of cows	225
Number of heifers	189
Worker equivalent	5.92
Total tillable acres	582
Milk sold per cow, lbs.	17,598
Hay DM per acre, tons	3.3
Corn silage per acre, tons	15.4
Milk sold per worker, lbs.	669,899
Grain/conc. as % milk sales	22%
Feed & crop exp./cwt. milk	$4.03
Labor & mach. costs/cow	$780
Average price/cwt. milk	$12.84

ASSETS	Jan. 1	Dec. 31
Farm cash/ chkg./sav.	$ 9,292	$ 9,856
Accounts receivable	45,670	46,508
Feed & supplies	109,446	118,224
Dairy cows*	191,737	198,347
Heifers	86,362	79,996
Bulls & other lvstk.	955	1,090
Machinery & equip*	197,970	199,857
Coop stocks & cert.	23,861	25,272
Land & buildings*	536,762	554,629
Total Farm Assets	$1,202,055	$1,233,779
Nonfarm Assets**	49,923	59,445
Total Farm & Nonfarm Assets	$1,251,978	$1,293,224

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 8,622	$ 9,666
Operating debt	5,214	7,402
Short-term	6,208	11,642
Intermediate*	180,383	180,653
Long-term*	214,808	211,135
Total Farm Liab.	$415,235	$420,498
Nonfarm Liab.**	0	0
Total Farm & Nonfarm Liabilities	$415,235	$420,498
Farm Net Worth	$786,820	$813,281
Farm & Nonfarm Net Worth	$836,743	$872,726

*Includes discounted lease payments. **Average of 14 farms reporting nonfarm assets and liabilities.

Table 63. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
Average of 404 New York Dairy Farms, 1985

ACCRUAL EXPENSES	
Labor: Hired	$ 19,341
Feed: Dairy grain & conc.	41,312
Dairy roughage	1,260
Other livestock	749
Machinery:Mach. hire/rent/lease	1,532
Mach. repairs/parts	9,421
Auto expense (farm share)	467
Fuel, oil, grease	6,682
Livestock: Replacement lvstk.	1,388
Breeding	2,742
Vet & medicine	3,834
Milk marketing	11,193
Cattle lease/rent	58
Other livestock expense	7,330
Crops: Fertilizer & lime	8,871
Seeds & plants	3,286
Spray & other crop expense	3,140
Real Estate: Land/building/ fence repair	2,331
Taxes	4,795
Insurance	3,045
Rent & lease	3,295
Other:	
Telephone (farm share)	651
Electricity (farm share)	4,549
Interest paid	17,485
Miscellaneous	2,261
TOTAL OPERATING EXPENSES	$161,018
Expansion livestock	1,701
Machinery depreciation	15,130
Building depreciation	7,763
TOTAL ACCRUAL EXPENSES	$185,612

ACCRUAL RECEIPTS	
Milk sales	$180,609
Dairy cattle	15,679
Dairy calves	2,184
Other livestock	346
Crops	2,197
Government receipts	2,373
Custom machine work	218
Gas tax refund	218
Other	3,758
TOTAL ACCRUAL RECEIPTS	$207,582

PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$21,970
Net farm inc. (w/apprec.)	$19,948
Labor & mgt. income/farm	$4,037
Number of operators	1.42
Labor & mgt. income/oper.	$2,850
Rate of return on equity capital including apprec.	-1.3%

BUSINESS FACTORS	
Number of cows	89
Number of heifers	73
Worker equivalent	3.17
Total tillable acres	280
Milk sold per cow, lbs.	15,679
Hay DM per acre, tons	2.7
Corn silage per acre, tons	14.3
Milk sold per worker, lbs.	442,125
Grain/conc. as % milk sales	23%
Feed & crop exp./cwt. milk	$4.13
Labor & mach. costs/cow	$813
Average price/cwt. milk	$12.90

ASSETS	Jan. 1	Dec. 31
Farm cash/ chkg./sav.	$ 3,325	$ 3,449
Accounts receivable	16,275	16,238
Feed & supplies	40,147	40,982
Dairy cows*	76,954	75,037
Heifers	33,380	30,152
Bulls & other lvstk.	1,015	943
Machinery & equip.*	96,533	96,909
Coop stocks & cert.	8,581	9,177
Land & buildings*	241,816	245,073
Total Farm Assets	$518,025	$517,960
Nonfarm Assets**	37,263	39,631
Total Farm & Nonfarm Assets	$555,288	$557,591

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 6,017	$ 5,831
Operating debt	2,388	2,826
Short-term	2,509	3,270
Intermediate*	69,237	69,484
Long-term*	109,860	110,886
Total Farm Liab.	$190,011	$192,296
Nonfarm Liab.**	1,113	1,356
Total Farm & Nonfarm Liabilities	$191,124	$193,652
Farm Net Worth	$328,015	$325,664
Farm & Nonfarm Net Worth	$364,164	$363,939

*Includes discounted lease payments. **Average of 268 farms reporting nonfarm assets and liabilities.

Table 64. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
Average per Cow, 404 New York Dairy Farms, 1985

ACCRUAL EXPENSES	
Labor: Hired	$ 217
Feed: Dairy grain & conc.	463
Dairy roughage	14
Other livestock	8
Machinery:Mach. hire/rent/lease	17
Mach. repairs/parts	105
Auto expense (farm share)	5
Fuel, oil, grease	75
Livestock: Replacement lvstk.	16
Breeding	31
Vet & medicine	43
Milk marketing	125
Cattle lease/rent	1
Other livestock expense	82
Crops: Fertilizer & lime	99
Seeds & plants	37
Spray & other crop expense	35
Real Estate: Land/building/ fence repair	26
Taxes	54
Insurance	34
Rent & lease	37
Other:	
Telephone (farm share)	7
Electricity (farm share)	51
Interest paid	196
Miscellaneous	25
TOTAL OPERATING EXPENSES	$1,803
Expansion livestock	19
Machinery depreciation	169
Building depreciation	87
TOTAL ACCRUAL EXPENSES	$2,078

ACCRUAL RECEIPTS	
Milk sales	$2,023
Dairy cattle	176
Dairy calves	24
Other livestock	4
Crops	25
Government receipts	27
Custom machine work	2
Gas tax refund	2
Other	42
TOTAL ACCRUAL RECEIPTS	$2,325
PROFITABILITY ANALYSIS	
Net farm inc. (w/o apprec.)	$246
Net farm inc. (w/apprec.)	$223
Labor & mgt. income/farm	$45
Number of operators	(1.42)
Labor & mgt. income/oper.	32
Rate of return on equity capital including apprec.	-1.3%
BUSINESS FACTORS	
Number of cows	(89)
Number of heifers	0.82
Worker equivalent	0.035
Total tillable acres	3.1
Milk sold, lbs.	15,679
Hay DM, tons	4.2
Corn silage, tons	11.1
Dairy feed & crop expense	$648
Labor & mach. costs	$813
Total debt	$2,090
Debt payment	$462

ASSETS	Jan. 1	Dec. 31
Farm cash/ chkg./sav.	$ 37	$ 39
Accounts receivable	182	182
Feed & supplies	450	459
Dairy cows*	862	840
Heifers	374	338
Bulls & other lvstk.	11	11
Machinery & equip.*	1,081	1,085
Coop stocks & cert.	96	103
Land & buildings*	2,708	2,744
Total Farm Assets	$5,801	$5,801
Nonfarm Assets**	417	444
Total Farm & Nonfarm Assets	$6,218	$6,245

LIABILITIES	Jan. 1	Dec. 31
Accounts payable	$ 67	$ 65
Operating debt	27	32
Short-term	28	37
Intermediate*	775	778
Long-term*	1,230	1,242
Total Farm Liab.	$2,127	$2,154
Nonfarm Liab.**	12	15
Total Farm & Nonfarm Liabilities	$2,139	$2,169
Farm Net Worth	$3,674	$3,647
Farm & Nonfarm Net Worth	$4,079	$4,076

*Includes discounted lease payments. **Average of 268 farms reporting nonfarm assets and liabilities.

NOTES