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ONEIDA-MOHAWK REGION
1987

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1987 DAIRY FARM BUSINESS SUMMARY
ONEIDA-MOHAWK REGION

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1987 DAIRY FARM BUSINESS SUMMARY
ONEIDA-MOHAWK REGION*

INTRODUCTION

Dairy farmers throughout the State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Each participating farmer receives a complete business and production summary and analysis of his or her farm business. The information in this report represents an average of the data submitted from farms in the Oneida-Mohawk region (described at the bottom of this page).

Program Objective

The primary objective of the dairy farm business summary, DFBS, is to help farmers improve their management skills through appropriate use of historical farm data and the application of modern farm business management decision-making techniques. In short, DFBS identifies the business and financial information farmers need and demonstrates how it should be used in identifying and evaluating the strengths and weaknesses of the farm business.

Format Features

This regional report follows the same general format as in the 1987 DFBS printout received by all participating dairy farmers. Worksheets have been included to give non-DFBS participants an opportunity to summarize their businesses. The analysis tables include an open column or section labeled My Farm. It may be used by any dairy farmer who wants to compare his or her business with the average data of this region.

This report features: (1) an income statement including accrual accounting for farm business expenses and receipts, as well as measures of profitability with and without appreciation; (2) a complete balance sheet including financial ratios; (3) a cash flow summary including debt repayment ability; (4) a cropping program analysis; (5) a dairy program analysis; and (6) capital and labor efficiency analysis.

Micro DFBS, a computer program which enables Cooperative Extension agents and specialists to calculate and print individual farm business reports in their offices, is now being used by the dairy farm management field staff for more than 70 percent of the farms cooperating. This innovative approach provides faster processing of farm record data and allows immediate correction of data in Cooperative Extension offices.

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*The Oneida-Mohawk region includes Oneida, Schoharie, Montgomery, Herkimer, Fulton, and Schenectady Counties. This publication includes the following number of farms by county: Oneida 10, Schoharie 14, Montgomery 19, Herkimer 1, Fulton 1, and Schenectady 1.

This summary was prepared by Eddy L. LaDue, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University. The farm business data were collected by Brian F. Aldrich, Cooperative Extension agent, Oneida and Herkimer Counties; George M. Andrew, Cooperative Extension Specialist for Schoharie, Montgomery, Fulton, and Schenectady Counties; and Chuck Z. Radick, Farm Accounting, Consulting and Tax Service, Preston Hollow. Analysis and data management assistance was provided by Linda Putnam.

SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics

Finding the right management strategies is an important part of operating a successful farm. Various combinations of farm resources, enterprises, business arrangements, and management techniques are used by the dairy farmers in this region. The following table shows important farm business characteristics and the number of farmers reporting these characteristics.

BUSINESS CHARACTERISTICS
46 Oneida-Mohawk Region Dairy Farms, 1987

Type of Farm	Number
Dairy	45
Part-time dairy	0
Dairy cash-crop	1
Part-time cash-crop dairy	0

Type of Business	Number
Single proprietorship	34
Partnership	11
Corporation	1

Type of Ownership	Number
Owner	38
Renter	8

Type of Barn	Number
Stanchion/Tie-Stall	40
Freestall	5
Combination	1

Milking System	Number
Bucket & carry	0
Dumping station	3
Pipeline	38
Herringbone parlor	4
Other parlor	1

Business Record System	Number
ELFAC	3
Account Book	18
Agrifax (mail-in only)	4
On-Farm Computer	3
Other	18

Production Records	Number
DHIC	36
Owner-Sampler	5

	Number
Other	1
None	4

The averages used in this report were compiled using data from all the participating dairy farms in this region unless noted otherwise. There may be regular dairy farms, part-time farms, dairy cash-crop farms, farm renters, partnerships, and corporations included in the average. Dairy Termination Program participants who sold their cows in 1987 are not included in the report. These specific classifications are used to separate farms in the State Business Summary.

A part-time farm has less than six months of labor from all operators and total labor is less than 12 months.

A dairy cash-crop farm has accrual receipts from crop sales that exceed 10 percent of accrual milk sales. These farms were summarized using 1986 data in Knoblauch, Wayne A. and Linda D. Putnam, Dairy Farm Business Summary, New York Dairy-Cash Crop Summary, 1986, Cornell University, Department of Agricultural Economics, A.E. Ext. 87-20, August 1987.

A farm renter does not own farm real estate at the end of the year or does not own tillable land. These farms were summarized using 1986 data in Putnam, Linda D. and Stuart F. Smith, Dairy Farm Business Summary, Eastern New York Renter Summary, 1986, Cornell University, Department of Agricultural Economics, A.E. Ext. 87-19, August 1987.

Income Statement

The accrual income statement begins with an accounting of all farm business expenses.

CASH AND ACCRUAL FARM EXPENSES
46 Oneida-Mohawk Region Dairy Farms, 1987

Expense Item	Cash Paid +	Change in Inventory or Prepaid Expense* +	Change in Accounts Payable =	Accrual Expenses
Hired Labor	$ 12,372	$ 0	$ 10	$ 12,382
Feed				
Dairy grain & conc.	35,770	-967	-296	34,507
Dairy roughage	370	-83	59	346
Other livestock	401	327	0	728
Machinery				
Mach. hire, rent/lease	2,109	0	0	2,109
Machinery repairs/parts	7,939	-25	-39	7,875
Auto exp. (farm share)	782	0	0	782
Fuel, oil & grease	3,508	-10	-59	3,439
Livestock				
Replacement livestock	2,107	0	-8	2,099
Breeding	2,471	-104	30	2,397
Vet & medicine	2,682	-8	-14	2,660
Milk marketing	9,160	0	0	9,160
Cattle lease/rent	173	0	0	173
Other livestock expense	6,042	-93	-88	5,861
Crops				
Fertilizer & lime	5,653	-571	13	5,095
Seeds & plants	2,608	-80	2	2,530
Spray, other crop exp.	1,834	-84	2	1,752
Real Estate				
Land/bldg./fence repair	1,290	-9	0	1,281
Taxes	3,706	0	122	3,828
Insurance	2,416	0	0	2,416
Rent & lease	4,455	0	13	4,468
Other				
Telephone (farm share)	620	0	0	620
Electricity (farm share)	4,000	0	-11	3,989
Interest paid	11,672	0	0	11,672
Miscellaneous	2,301	-22	0	2,279
Total Operating	$126,441	$ -1,729	$ -264	$124,448
Expansion livestock	1,136	0	0	1,136
Machinery depreciation				11,256
Building depreciation				3,984
TOTAL ACCRUAL EXPENSES				$140,824

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.

Change in inventory: An increase in inventory is subtracted in computing accrual expenses because it represents purchased inputs not actually used during the year. A decrease in inventory is added to expenses because it represents the cost of inputs purchased in a prior year and used this year.

Change in prepaid expenses applies to noninventory categories (labeled with an "a" in the table below). Prepaid expenses are expenses for resources that have been paid for in advance of their use, for example, 1988 rent paid in 1987. An increase in the amount prepaid is subtracted from expenses because more money was spent this year for items to be used in the future than was used this year from the stock of items paid for in prior years. Similarly a decline in prepaid expenses is added to expenses because we have used more resources that were paid for in "other years" than we have paid for this year to be used in "other years".

Change in accounts payable: An increase in payables is added and a decrease is subtracted when calculating accrual expenses. An increase represents resources that were used this year but not paid for. Accrual expenses are the costs of inputs actually used in this year's production. The worksheet below is provided to enable any dairy farmer to compute his or her accrual farm expenses and compare them with the averages on the previous page.

CASH AND ACCRUAL FARM EXPENSES WORKSHEET

Expense Item	Cash Paid +	Change in Inv. or Prepaid Exp.(a) +	Change in Accounts Payable	= Accrual Expenses
Hired Labor	$_____	$_____(a)	$_____	$_____
Feed				
Dairy grain & conc.	_____	_____	_____	_____
Dairy roughage	_____	_____	_____	_____
Other livestock	_____	_____	_____	_____
Machinery				
Mach. hire, rent/lease	_____	_____(a)	_____	_____
Machinery repairs/parts	_____	_____	_____	_____
Auto exp. (farm share)	_____	_____(a)	_____	_____
Fuel, oil & grease	_____	_____	_____	_____
Livestock				
Replacement livestock	_____	_____(a)	_____	_____
Breeding	_____	_____	_____	_____
Vet & medicine	_____	_____	_____	_____
Milk marketing	_____	_____(a)	_____	_____
Cattle lease/rent	_____	_____(a)	_____	_____
Other livestock expense	_____	_____	_____	_____
Crops				
Fertilizer & lime	_____	_____	_____	_____
Seeds & plants	_____	_____	_____	_____
Spray, other crop exp.	_____	_____	_____	_____
Real Estate				
Land/bldg./fence repair	_____	_____	_____	_____
Taxes	_____	_____(a)	_____	_____
Insurance	_____	_____(a)	_____	_____
Rent & lease	_____	_____(a)	_____	_____
Other				
Telephone (farm share)	_____	_____(a)	_____	_____
Electricity (farm share)	_____	_____(a)	_____	_____
Interest paid	_____	_____(a)	_____	_____
Miscellaneous	_____	_____	_____	_____
Total Operating	$_____	$_____	$_____	$_____
Expansion livestock	_____	_____(a)	_____	_____
Machinery depreciation				_____
Building depreciation				_____
TOTAL ACCRUAL EXPENSES				$_____

CASH AND ACCRUAL FARM RECEIPTS
46 Oneida-Mohawk Region Dairy Farms, 1987

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accts. Receivable	=	Accrual Receipts
Milk sales	$148,938				$ 605		$149,543
Dairy cattle	8,468		$ -718		0		7,749
Dairy calves	2,021				0		2,021
Other livestock	2		108		109		219
Crops	2,657		2,334		1		4,992
Government receipts	4,075		0*		164		4,240
Custom machine work	112				-22		90
Gas tax refund	190				0		190
Other	1,243				0		1,243
Less nonfarm noncash cap.**		(-)	0			(-)	0
Total Accrual Receipts	$167,706		$ 1,724		$ 856		$170,286

*Change in advanced government receipts.
**Gifts or inheritances of cattle or crops included in inventory.

Cash receipts include the gross value of milk checks received during the year plus all other payments received from the sale of farm products, services, and government programs. Nonfarm income is not included in calculating farm profitability.

Changes in inventory are calculated by subtracting beginning of year values from end of year values excluding appreciation. Increases in livestock inventory caused by herd growth and/or quality are added and decreases caused by herd reduction and for quality are subtracted. Changes in inventories of crops grown are also included. An increase in advanced government receipts means that you received more funds this year for next year's government programs than you received in prior years for the programs you participated in this year. Thus, this increase must be subtracted from this year's receipts (it belongs in next year's receipts). Similarly, decreases in advanced government receipts are added (balances are listed with the current liabilities on the Balance Sheet).

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. The January milk check for this December's marketings compared with the previous January's check is included because it represents milk that was produced this year but not yet paid for. Accrual receipts represent the value of all farm commodities produced and services actually generated by the farmer during the year.

CASH AND ACCRUAL FARM RECEIPT WORKSHEET

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accts. Receivable	=	Accrual Receipts
Milk sales	$_____				$_____		$_____
Dairy cattle	_____		$_____		_____		_____
Dairy calves	_____		_____		_____		_____
Other livestock	_____		_____		_____		_____
Crops	_____		_____		_____		_____
Government receipts	_____		_____		_____		_____
Custom machine work	_____				_____		_____
Gas tax refund	_____				_____		_____
Other	_____				_____		_____
Less gifts of cattle & crops		(-)	_____			(-)	_____
Total Accrual Receipts	$_____		$_____		$_____		$_____

Profitability Analysis

Farm owners/operators contribute labor, management, and capital to their businesses and the best combination of these resources maximizes income. Farm profitability 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 operators 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 both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than FLB and PCA). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

NET FARM INCOME
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Average	My Farm
Total accrual receipts	$170,286	$_____
Appreciation: Livestock	3,626	_____
Machinery	2,487	_____
Real Estate	8,176	_____
Other Stock/Certificates	5	_____
Total Including Appreciation	$184,581	$_____
Total accrual expenses	-140,824	-_____
Net Farm Income (with appreciation)	$ 43,757	$_____
Net Farm Income (without appreciation)	$ 29,463	$_____

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

RETURN TO OPERATORS' LABOR, MANAGEMENT, AND EQUITY
46 Oneida-Mohawk Region Dairy Farms, 1987

	Average		My Farm	
Item	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	$ 43,757	$ 29,463	$_____	$_____
Family labor unpaid @ $650 per month	- 1,470	- 1,470	-_____	-_____
Return to operators' labor, management, & equity	$ 42,287	$ 27,993	$_____	$_____

Labor and management income is the return which farm operators receive for their labor and management used in operating the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and management income is calculated by deducting the opportunity cost of using equity capital at a real interest rate of five percent, from the return to operators' labor, management, and equity capital excluding appreciation. The interest charge of five percent 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
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Average	My Farm
Return to operators' labor, management, & equity without appreciation	$ 27,993	$_____
Real interest @ 5% on $289,201 average equity capital	- 14,460	-_____
Labor & Management Income	$ 13,533	$_____
Labor & Management Income per 1.27 Operator/Manager	$ 10,656	$_____

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 of operators' 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 average farm net worth or equity capital. Return on total capital is calculated by adding interest paid to the return on equity capital and then dividing by average farm assets to calculate the rate of return on total capital.

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Average	My Farm
Return to operators' labor, management, & equity capital with appreciation	$ 42,287	$_____
Value of operators' labor & management	- 23,195	-_____
Return on equity capital with appreciation	$ 19,092	$_____
Interest paid	$ 11,672	$_____
Return on total capital with appreciation	$ 30,764	$_____
Return on equity capital without appreciation	$ 4,798	$_____
Return on total capital without appreciation	$ 16,470	$_____
Rate of return on average equity capital:		
with appreciation	6.6%	_____%
without appreciation	1.7%	_____%
Rate of return on average total capital:		
with appreciation	7.2%	_____%
without appreciation	3.9%	_____%

Balance Sheet

The first step in evaluating the financial status of the farm is to construct a balance sheet which identifies all the assets and liabilities of the business. The second step is to evaluate the relationship between assets, liabilities, and net worth and changes that occurred during the year.

1987 FARM BUSINESS & NONFARM BALANCE SHEET
46 Oneida-Mohawk Region Dairy Farms, 1987

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 2,883	$ 3,178	Accounts payable	$ 2,363	$ 2,099
Accounts rec.	12,702	13,559	Operating debt	1,287	1,073
Prepaid exp.	74	74	Short-term	4,782	4,469
Feed & supplies	29,257	33,318	Advanced govt. rec.	0	0
Total	$ 44,916	$ 50,129	Total	$ 8,433	$ 7,641
Intermediate			Intermediate		
Dairy cows:			Structured debt		
owned	$ 58,202	$ 62,015	1-10 years	$ 57,927	$ 57,619
leased	542	503	Financial lease		
Heifers	22,785	21,872	(cattle/mach.)	1,015	1,731
Bulls/other lvstk.	266	382	FLB/PCA stock	3,792	3,650
Mach./eq. owned	86,460	91,289			
Mach./eq. leased	473	1,228			
FLB/PCA stock	3,792	3,650	Total	$ 62,735	$ 63,000
Other stock/cert.	2,475	2,635			
Total	$174,995	$183,574	Long Term		
Long-Term			Structured debt		
Land/buildings:			≥10 yrs	$ 65,942	$ 61,558
owned	$194,920	$199,176	Financial lease		
leased	2,184	1,889	(structures)	2,184	1,889
Total	$197,104	$201,065	Total	$ 68,126	$ 63,448
Total Farm Assets	$417,016	$434,768	Total Farm Liab.	$139,293	$134,088
			FARM NET WORTH	$277,723	$300,680

(Average for 27 farms reporting) Nonfarm Assets*	Jan. 1	Dec. 31	Nonfarm Liabilities* & Net Worth	Jan. 1	Dec. 31
Personal cash, chkg. & savings	$ 31,053	$ 28,296	Nonfarm Liab.	$ 2,783	$ 1,998
Cash value life ins.	2,367	3,455	NONFARM NET WORTH	$ 52,692	$ 58,017
Nonfarm real estate	8,407	8,304	FARM & NONFARM*	Jan. 1	Dec. 31
Auto (personal sh.)	2,236	2,305	Total Assets	$472,491	$494,783
Stocks & bonds	4,414	6,255	Total Liabilities	142,076	136,086
Household furn.	6,696	6,315			
All other	301	5,086	TOTAL FARM & NON-FARM NET WORTH	$330,415	$358,697
Total Nonfarm	$ 55,475	$ 60,015			

*Assumes that average nonfarm assets and liabilities for the nonreporting farms were the same as for those reporting.

Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business.

Advanced government receipts are included as current liabilities. Government payments received in 1987 that are for participation in the 1988 program are the end year balance and payments received in 1986 for participation in the 1987 program are the beginning year balance.

Date _____

1987 FARM BUSINESS & NONFARM BALANCE SHEET

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings			Accounts payable		
Accounts rec.			Operating debt:		
Prepaid expense					
Feed & supplies					
Total			Short Term:		
Intermediate			Adv. govt. rec.		
Dairy cows:			Total		
owned			Intermediate		
leased					
Heifers					
Bulls/other lvstk.					
Mach./eq. owned					
Mach./eq. leased					
FLB/PCA stock			Financial lease		
Other stock/cert.			(cattle/mach.)		
Total			FLB/PCA stock		
			Total		
			Long-Term		
Long-Term					
Land/buildings:					
owned					
leased					
			Financial lease		
Total			(structures)		
			Total		
Total Farm Assets			Total Farm Liab.		
			FARM NET WORTH		

Nonfarm Assets	Jan. 1	Dec. 31	Nonfarm Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, chkg. & savings			Nonfarm Liab.:		
Cash val. life ins.					
Nonfarm real est.					
Auto (pres. share)					
Stocks & bonds			Total Nonfarm		
Household furn.			Liabilities		
All other			Nonfarm		
Total Nonfarm			Net Worth		

TOTAL FARM & NONFARM	Jan. 1	Dec. 31
Total Farm & Nonfarm Assets		
Less Total Farm & Nonfarm Liabilities		
Farm & Nonfarm Net Worth		

Balance sheet analysis requires an examination of financial values and debt ratios. Percent equity is calculated by dividing end of year net worth by end of year assets. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect a high level of solvency and the potential capacity to borrow. Debt levels per unit of production include some old standards that are still useful if used with measures of cash flow and repayment ability. The change in farm net worth without appreciation is an excellent indicator of financial progress.

BALANCE SHEET ANALYSIS
46 Oneida-Mohawk Region Dairy Farms, December 31, 1987

Item	Average	My Farm
Financial Ratios - Farm:		
Percent equity	69%	____%
Debt/asset ratio: total	0.31	____
long-term	0.32	____
intermediate/current	0.30	____
Change in Net Worth:		
Without appreciation	$ 8,664	$____
With appreciation	22,958	$____
Farm Debt Analysis:		
Accounts payable as % of total debt	2%	____%
Long-term liabilities as a % of total debt	47%	____%
Current & inter. liab. as a % of total debt	53%	____%

Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$ 1,812	$ 912	$____	$____
Long-term debt	857	432	____	____
Intermediate & current debt	955	481	____	____

Farm inventory balance is an accounting of the value of assets used on the balance sheet and the changes that occur from the beginning to end of year. Changes in the livestock inventory are included in the dairy analysis. Net investment indicates whether the capital stock is being expanded (positive) or depleted (negative).

FARM INVENTORY BALANCE
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Avg. of Regional Farms		My Farm	
	R.E.	Mach./Eq.	R.E.	Mach./Eq.
Value beg. of year	$194,920	$ 86,460	$____	$____
Purchases	$ 3,473*	$ 13,839	$____	$____
Gift/inheritance	+ 0	+ 0	+____	+____
Lost capital	- 376	--	-____	
Sales	- 2,826	- 241	-____	-____
Depreciation	- 3,984	- 11,256	-____	-____
Net investment	= -3,713	= 2,342	=+____	=+____
Appreciation	+ 7,969**	+ 2,487	+____	+____
Value end of year	$199,176	$ 91,289	$____	$____

*$ 697 land and $ 2,776 buildings and/or depreciable improvements.
**Excludes $207 of appreciation on assets sold during the year.

Cash Flow Statement

Completing an annual cash flow statement is an important step in understanding the sources and uses of funds for the business. Understanding last year's cash flow is the first step toward planning and managing cash flow for the current and future years.

The annual cash flow statement is structured to compare all the cash inflows with all the cash outflows for the year. A complete list of cash inflows and cash outflows are identified in the following table. By definition, total cash inflows must equal total cash outflows when beginning and ending balances are included. Any imbalance is, therefore, the error from incorrect accounting of cash inflows and cash outflows.

ANNUAL CASH FLOW STATEMENT
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Average	My Farm
Cash Inflows		
Beginning farm cash, checking & savings	$ 2,883	$
Cash farm receipts	167,706	
Sale of assets: Machinery	241	
Real estate	2,206	
Other stock & certificate	77	
Money borrowed (intermediate & long-term)	17,014	
Money borrowed (short-term)	3,169	
Increase in operating debt	0	
Nonfarm income	3,931	
Cash from nonfarm capital used in the business	2,299	
Money borrowed - nonfarm	0	
Total	$199,526	$
Cash Outflows		
Cash farm expenses	$126,443	$
Capital purchases: Expansion livestock	1,136	
Machinery	13,839	
Real estate	3,473	
Other stock & certificate	232	
Principal payments (intermediate & long-term)	21,705	
Principal payments (short-term)	3,482	
Decrease in operating debt	215	
Nonfarm debt payments	580	
Personal withdrawals & family expenditures	24,879	
Ending farm cash, checking & savings	3,178	
Total	$199,162	$
Imbalance (error)	$ 364	$

Repayment Analysis

The second step in cash flow analysis is to compare the debt payments planned for the last year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business. However, the critical question to many farmers and lenders is whether planned payments can be made in 1988. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1988 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Same 30 Oneida-Mohawk Region Dairy Farms, 1986 & 1987

	Average			My Farm		
	1987 Payments		Planned	1987 Payments		Planned
Debt Payments	Planned*	Made	1988	Planned	Made	1988
Long-term	$ 7,896	$ 8,369	$ 7,317	$_____	$_____	$_____
Intermediate-term	14,889	17,208	14,520	_____	_____	_____
Short-term	2,325	4,700	4,316	_____	_____	_____
Operating (net reduction)	796	606	650	_____	_____	_____
Accounts payable (net reduction)	537	386	509	_____	_____	_____
Total	$ 26,444	$ 31,270	$ 27,311	$_____	$_____	$_____
Per cow	$ 381	$ 450		$_____	$_____	
Per cwt. 1987 milk	$ 2.40	$ 2.84		$_____	$_____	
Percent of total 1987 receipts	16%	19%		_____	_____	
Percent of 1987 milk receipts	18%	22%		_____	_____	

*As of December 31, 1986; from 1986 records.

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 planned debt payments for 1988.

CASH FLOW COVERAGE RATIO
Same 30 Oneida-Mohawk Region Dairy Farms, 1986 & 1987

Item	Average	My Farm
Cash farm receipts	$160,734	$_____
- Cash farm expenses	119,713	_____
+ Interest paid	9,612	_____
- Net personal withdrawals from farm*	21,032	_____
(A) = Amount Available for Debt Service	$ 29,601	$_____
(B) = Debt Payments Planned for 1987 (as of December 31, 1986)	$ 26,444	$_____
(A + B) = Cash Flow Coverage Ratio for 1987	1.12	_____

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

ANNUAL CASH FLOW WORKSHEET

Item	Regional Average	My Farm Total	My Farm Per Cow	Expected Change	1988 Projection
	(per cow)				
Average number of cows	73				
Accrual Oper. Receipts					
Milk	$ 2,045	$	$		$
Dairy cattle	106				
Dairy calves	28				
Other livestock	3				
Crops	68				
Misc. receipts	79				
Total	$ 2,329	$	$		$
Accrual Oper. Expenses					
Hired labor	$ 169	$	$		$
Dairy grain & conc.	472				
Dairy roughage	5				
Other lvstk. feed	10				
Mach. hire/rent/lease	29				
Mach. rpr./parts & auto	118				
Fuel, oil & grease	47				
Replacement lvstk.	29				
Breeding	33				
Vet & medicine	36				
Milk marketing	125				
Cattle lease	2				
Other lvstk. exp.	80				
Fertilizer & lime	70				
Seeds & plants	35				
Spray/other crop exp.	24				
Land, bldg.,fence repair	18				
Taxes	52				
Insurance	33				
Real est. rent/lease	61				
Utilities	63				
Miscellaneous	31				
Total Less Int. Paid	$ 1,543				$
Net Accrual Operating Income (without interest paid)	(total) $ 57,512	$			$
- Change in lvstk./crop inv.	1,724				
- Change in accts. rec.	857				
+ Change in feed/supply inv.	-1,729				
+ Change in accts. payable*	-264				
NET CASH FLOW	$ 52,941	$			$
- Net personal withdrawals & family expenditures	20,948				
Available for Farm Debt Payments & Investments	$ 31,993	$			$
- Farm debt payments	37,185				
Available for Farm Investment	$ -5,192	$			$
- Capital purchases: cattle, machinery & improvements	$ 18,680				
Additional Capital Needed		$			$

*Excludes change in interest account payable.

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.

LAND RESOURCES AND CROP PRODUCTION
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Average			My Farm		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	147	113	260			
Nontillable	47	13	61			
Other nontillable	47	31	78			
Total	240	158	398			

Crop Yields	Farms	Acres	Prod/Acre	Acres	Prod/Acre
Hay crop	45	165	2.80 tn DM		tn DM
Corn silage	41	43	14.87 tn		tn
			5.24 tn DM		tn DM
Other forage	3	15	1.07 tn DM		tn DM
Total forage	46	201	3.26 tn DM		tn DM
Corn grain	24	57	101.95 bu		bu
Oats	8	16	58.64 bu		bu
Wheat	0	0	0.00 bu		bu
Other crops	2	33			
Tillable pasture	18	33			
Idle	19	30			
Total Tillable Acres	46	260			

Average crop acres and yields compiled for the region 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.

CROP MANAGEMENT FACTORS
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Average	My Farm
Total tillable acres per cow	3.55	
Total forage acres per cow	2.74	
Harvested forage dry matter, tons per cow	8.94	

Cropping Program Analysis (continued)

A substantial number of cooperators have allocated crop expenses to hay crop, corn, and other crop production. Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per acre and per production unit for hay and corn. Additional expense items such as fuels, labor, and machinery repairs are not included.

CROP RELATED ACCRUAL EXPENSES
Oneida-Mohawk Region Dairy Farms, 1987

Item	Total Per Till. Acre	Hay Crop Per Acre	Hay Crop Per Ton DM	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Shell Bu.
Number of farms reporting	46	39		38		
Average number of acres	260	171		72		
Fertilizer & lime	$ 19.61	$ 11.18	$ 3.99	$ 36.42	$ 6.96	$ 0.36
Seeds & plants	9.74	4.96	1.77	18.94	3.62	0.19
Spray & other crop expense	6.74	2.23	0.80	16.02	3.06	0.16
Total	$ 36.09	$ 18.37	$ 6.56	$ 71.38	$ 13.63	$ 0.70
My Farm:						
Fertilizer & lime	$	$	$	$	$	$
Seeds & plants						
Spray & other crop expense						
Total	$	$	$	$	$	$

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 below per total tillable acre.

ACCRUAL MACHINERY EXPENSES
46 Oneida-Mohawk Region Dairy Farms, 1987

Machinery Expense Item	Average Total Expenses	Average Per Til. Acre	My Farm Total Expenses	My Farm Per Til. Acre
Fuel, oil & grease	$ 3,439	$ 13.24	$	$
Machinery repairs & parts	7,875	30.31		
Machine hire, rent & lease	2,109	8.12		
Auto expense (farm share)	782	3.01		
Interest (5%)	4,444	17.10		
Depreciation	11,256	43.32		
Total	$ 29,905	$ 115.10	$	$

Dairy Program Analysis

Analysis of the dairy enterprise can tell a great deal about the strengths and weaknesses of the dairy farm business. Information on this page should be used in conjunction with DHI and other dairy production information. Changes in dairy herd size and market values that occur during the year are identified in the table below. The change in inventory value without appreciation is attributed to physical changes in herd size and quality. This increase in inventory is included as an accrual farm receipt when calculating profitability without appreciation.

DAIRY HERD INVENTORY
46 Oneida-Mohawk Region Dairy Farms, 1987

	Dairy Cows		Heifers					
			Bred		Open		Calves	
Item	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	71	$58,202	20	$12,056	18	$ 8,253	16	$ 2,476
+ Change w/o apprec.		1,425		-438		-2,066		362
+ Appreciation		2,388		345		493		391
End year (owned)	72	$62,015	18	$11,963	18	$ 6,680	19	$ 3,229
End incl. leased	74							
Average number	73		54 (all age groups)					
My Farm:								
Beg. of year (owned)	___	$____	___	$____	___	$____	___	$____
+ Change w/o apprec.		____		____		____		____
+ Appreciation		____		____		____		____
End of year (owned)	___	$____	___	$____	___	$____	___	$____
End including leased	___							
Average number	___		___ (all age groups)					

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. Farm managers on DHI should compare milk sold per cow with rolling herd average on the test date nearest December 31.

MILK PRODUCTION
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Average	My Farm
Total milk sold, lbs.	1,158,487	_____
Milk sold per cow, lbs.	15,846	_____
Average milk plant test, percent butterfat	2.93	_____

The cost of producing milk has been compiled using the whole farm method, and is featured in the following table. Accrual receipts from milk sales can be compared with the accrual costs of producing milk per cow and per hundredweight of milk. Using the whole farm method, operating costs of producing milk are estimated by deducting nonmilk 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 operators' 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 calculation.

ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Costs of Producing Milk						
Operating costs	$103,704	$ 1,418	$ 8.95	$_____	$_____	$_____
Total costs w/o opers' labor, mgmt. & capital	$121,550	$ 1,663	$ 10.49	$_____	$_____	$_____
Total Costs	$159,205	$ 2,178	$ 13.74	$_____	$_____	$_____
Accrual Receipts From Milk	$149,543	$ 2,045	$ 12.91	$_____	$_____	$_____

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 an evaluation of the dairy enterprise.

DAIRY RELATED ACCRUAL EXPENSES
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrates	$ 472	$ 2.98	$_____	$_____
Purchased dairy roughage	5	0.03	_____	_____
Total Purchased Dairy Feed	$ 477	$ 3.01	$_____	$_____
Purchased grain & conc. as % of milk receipts		23%	____%	
Purchased feed & crop exp.	$ 605	$ 3.82	$_____	$_____
Purchased feed & crop exp. as % of milk receipts		30%	____%	
Breeding	$ 33	$ 0.21	$_____	$_____
Veterinary & medicine	36	0.23	_____	_____
Milk marketing	125	0.79	_____	_____
Cattle lease	2	0.01	_____	_____
Other livestock expense	80	0.51	_____	_____

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 in generating products per unit of labor input.

CAPITAL EFFICIENCY
46 Oneida-Mohawk Region Dairy Farms, 1987

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	$155,279	$ 5,825	$ 1,639	$ 2,897
Real estate		2,723		1,354
Machinery & equipment	32,713	1,227	345	
Capital turnover, years	2.31			
My Farm:				
Farm capital	$_____	$_____	$_____	$_____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
Capital turnover, years	_____			

LABOR FORCE INVENTORY AND ANALYSIS
46 Oneida-Mohawk Region Dairy Farms, 1987

Labor Force	Months	Age	Years of of Educ.	Value of Labor & Mgmt.
Operator number 1	12	44	13	$ 17,739
Operator number 2	3	39	14	4,565
Operator number 3	1	34	13	891
Family paid	5			
Family unpaid	2			
Hired	11			
Total	33	+ 12 =	2.74 Worker Equivalent	
			1.27 Operator/Manager Equiv.	
My Farm: Total	____	+ 12 = _____	Worker Equivalent	
Operator's	____	+ 12 = _____	Operator/Manager Equiv.	

Labor Efficiency	Average Total	Average Per Worker	My Farm Total	My Farm Per Worker
Cows, average number	73	27	_____	_____
Milk sold, pounds	1,158,487	422,381	_____	_____
Tillable acres	260	95	_____	_____
Work units	769	280	_____	_____

Labor Costs	Average Total	Average Per Cow	Average Per Til. Acre	My Farm Total	My Farm Per Cow	My Farm Per Til. Acre
Value of operator(s) labor ($900/mo.)	$ 13,813	$ 189	$53.16	$_____	$_____	$_____
Family unpd.($650/mo.)	1,470	20	5.66	_____	_____	_____
Hired	12,382	169	47.65	_____	_____	_____
Total Labor	$ 27,665	$ 378	$106.47	$_____	$_____	$_____
Machinery Cost	$ 29,905	$ 409	$115.10	$_____	$_____	$_____
Total Labor & Mach.	$ 57,569	$ 787	$221.57	$_____	$_____	$_____

COMPARATIVE ANALYSIS OF THE FARM BUSINESS

Progress of the Farm Business

Comparing your business with average data from regional DFBS cooperators that participated in both of the last two years is one part of a business checkup. It is equally important for you to determine the progress your business has made over the past two or three years and to set targets or goals for the future.

PROGRESS OF THE FARM BUSINESS
30 Oneida-Mohawk Region Dairy Farms, 1986 & 1987

	Average		My Farm		
Selected Factors	1986	1987	1986	1987	Goal
Size of Business					
Average number of cows	67	69			
Average number of heifers	55	52			
Milk sold, lbs.	1,056,825	1,102,756			
Worker equivalent	2.73	2.88			
Total tillable acres	240	247			
Rates of Production					
Milk sold per cow, lbs.	15,750	15,875			
Hay DM per acre, tons	2.50	2.49			
Corn silage per acre, tons	13	15			
Labor Efficiency					
Cows per worker	25	24			
Milk sold/worker, lbs.	387,037	382,459			
Cost Control					
Grain & conc. purchased as % of milk sales	22%	22%	%	%	%
Dairy feed & crop exp. per cwt. milk	$ 3.76	$ 3.74	$	$	$
Labor & mach. costs/cow	$ 840	$ 840	$	$	$
Capital Efficiency*					
Farm capital per cow	$ 5,791	$ 5,888	$	$	$
Mach. & equip. per cow	$ 1,284	$ 1,260	$	$	$
Capital turnover, years	2.40	2.30			
Profitability					
Net farm inc. w/o apprec.	$ 26,674	$ 30,874	$	$	$
Net farm inc. w/apprec.	$ 31,961	$ 42,798	$	$	$
Labor & mgmt. income	$ 11,921	$ 14,527	$	$	$
Rate of return on eq. capital w/apprec.	3.70%	6.19%	%	%	%
Rate of return on all capital w/apprec.	5.80%	6.78%	%	%	%
Financial Summary					
Farm net worth, end year	$279,597	$303,369	$	$	$
Debt to asset ratio	0.30	0.26			
Farm debt per cow	$ 1,703	$ 1,630	$	$	$

*Average for the year.

Farm Business Chart

The Farm Business Chart is a tool which can be used in analyzing a business by drawing a line through the figure in each column which represents the current level of management performance. The figure at the top of each column is the average of the top 10 percent of the 414 farms for that factor. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. Each column of the chart is independent of the others. The farms which are in the top 10 percent for one factor would not necessarily be the same farms which make up the top 10 percent for any other factor.

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

References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

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

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent (DFBS pg. 10)	No. of Cows (10)	Pounds Milk Sold (10)	Pounds Milk Sold Per Cow (9)	Tons Hay Crop DM/Acre (8)	Tons Corn Silage Per Acre (8)	Cows Per Worker (10)	Pounds Milk Sold Per Worker (10)
7.4	286	5,067,341	19,686	4.6	21	48	767,478
4.2	137	2,199,034	18,065	3.7	18	38	614,002
3.5	106	1,711,440	17,165	3.3	17	34	545,894
3.1	88	1,394,330	16,585	3.0	15	32	499,543
2.8	77	1,214,123	15,981	2.7	15	29	462,369
2.5	68	1,053,490	15,498	2.5	14	27	432,308
2.3	59	896,427	15,025	2.3	13	26	402,824
2.0	52	779,541	14,393	2.1	12	24	358,752
1.9	45	671,587	13,423	1.8	10	21	304,576
1.4	34	468,617	11,150	1.4	6	16	230,949

Cost Control					
Grain Bought Per Cow (9)	% Feed is of Milk Receipts (9)	Machinery Costs Per Cow (10)	Labor & Machinery Costs Per Cow (10)	Feed & Crop Expenses Per Cow (9)	Feed & Crop Expenses Per Cwt. Milk (9)
$188	10%	$197	$ 496	$352	$2.44
290	15	262	599	449	3.00
354	18	310	663	502	3.36
402	21	351	712	550	3.59
445	23	384	757	590	3.83
483	25	411	805	632	4.04
528	27	441	868	682	4.28
573	29	481	916	728	4.50
629	31	542	1,007	794	4.85
765	37	712	1,201	936	5.86

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

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

Value and Cost of Production

Milk Receipts Per Cow (9)	Dairy Receipts Per Cwt. (9)	Oper. Cost Milk Per Cow (9)	Oper. Cost Milk Per Cwt. (9)	Total Cost Production Per Cow (9)	Total Cost Production Per Cwt. (9)
$2,747	$15.65	$ 922	$ 6.41	$1,678	$11.39
2,518	14.69	1,149	7.69	1,920	12.48
2,401	14.30	1,274	8.29	2,026	13.19
2,293	14.01	1,368	8.80	2,124	13.69
2,189	13.82	1,445	9.26	2,218	14.04
2,115	13.57	1,533	9.59	2,308	14.54
2,026	13.36	1,599	10.12	2,415	15.23
1,932	13.11	1,693	10.64	2,522	15.97
1,812	12.80	1,798	11.20	2,671	16.98
1,517	12.10	2,039	13.18	3,026	20.35

Profitability

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

Financial Analysis Chart

The farm financial analysis chart is designed just like the Farm Business Chart and may be used to measure the financial health of the farm business. Most of the financial measures used in the chart are presented on pages 7, 10, 13, and 18 of this publication. References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FINANCIAL ANALYSIS CHART
414 New York Dairy Farms, 1986

Liquidity (repayment)				
Debt Payments Made Per Cow (DFBS pg. 7)	Debt Payments as Percent of Milk Receipts (7)	Cash Flow Coverage Ratio (7)	Available for Debt Service Per Cow (11)	Debt Per Cow (5)
$ 48	2%	4.68	$984	$ 136
204	10	1.99	726	705
291	15	1.56	635	1,249
367	19	1.31	571	1,670
426	22	1.16	522	2,036
488	25	1.02	461	2,402
578	29	0.89	400	2,751
670	35	0.76	336	3,053
804	42	0.53	244	3,567
1,525	78	0.02	76	4,482

Solvency			Efficiency & Profitability		
	Debt/Asset Ratio				
Percent Equity (DFBS pg. 5)	Current & Intermediate (5)	Long Term (5)	Total Farm Cap. Per Cow (10)	Capital Turnover (years) (10)	Rate of Return on Equity Cap. (3)
98%	0.01	0.00	$3,753	1.52	38%
88	0.07	0.02	4,529	1.88	12
79	0.14	0.15	4,963	2.06	8
73	0.20	0.30	5,276	2.20	5
65	0.26	0.38	5,620	2.34	3
58	0.32	0.48	5,901	2.50	1
52	0.39	0.60	6,322	2.68	-1
46	0.47	0.71	6,945	2.90	-4
37	0.56	0.86	7,751	3.19	-9
15	0.88	1.33	9,489	4.39	-45

Summarize Your Business Performance

The Farm Business and Financial Analysis Charts can be used to help identify strengths and weaknesses of your farm business. Identify three major strengths and three areas of your farm business that need improvement.

Strengths: _____ Need Improvement: _____

_____ _____

_____ _____

Comparisons by Type of Barn and Herd Size

When analyzing a dairy farm business by comparing it to a group of farms, it is important that the group of farms used have as many of the same physical characteristics as possible as the farm being analyzed. To assist in this endeavor, dairy farms in the 1986 State Summary[1] have been divided into those with freestall and those with conventional housing. Within each group is a further classification by size of the dairy herd.

The table on page 24 shows the average values for the resulting four groups of dairy farms. Within each housing type, the larger herd size has the highest crop yields and pounds of milk sold per cow. The cost of producing milk was lower on the larger farms and labor efficiency greater. Profitability was also greater on the larger farms within each housing type.

Farm business charts have been computed for each of the four housing and herd size categories. From these charts on pages 25-28 the range in size of business rates of production, labor efficiency, value and cost of producing milk, and profitability can be observed. The range in every category of business performance is tremendous.

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

Herd Size Comparisons

A detailed comparison of profitability, financial situation, and business analysis factors across herd sizes is contained on pages 29-36. As herd size increases, the average profitability also increases (pages 29-30). Net farm income without appreciation was $123,246 per farm for the 250 or more herd size group and $6,845 per farm for those with less than 40 cows. This relationship holds for all measures of profitability including rate of return on equity capital.

As herd sizes increase above 55 cows, percent equity decreases (pages 31-34). However, farm net worth increases substantially as herd size increases. The average net worth for all size farms increased during 1986.

Crop yields increased as herd size increased, but fertilizer and lime expenses and machinery cost per tillable acre also increased (pages 35-36). Milk sold per cow also increased as herd size increased, ranging from 14,525 pounds on the farms with less than 40 cows to 18,593 pounds on farms with 250 or more cows. Farm capital per worker increased as herd size increased, while farm capital per cow decreased as herd size increased. Cows per worker increased dramatically as herd size increased, ranging from 20 at the lowest herd size category up to 41 at the largest size category.

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[1]Smith, Stuart F., Wayne A. Knoblauch, and Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1986, Department of Agricultural Economics, Cornell University, A.E. Res. 87-20, July 1987.

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

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

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

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

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent (DFBS pg. 10)	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
	(10)	(10)	(9)	(8)	(8)	(10)	(10)
3.1	58	1,007,751	18,878	4.1	20	34	544,485
2.6	55	873,140	17,368	3.3	17	30	459,871
2.3	54	832,613	16,639	2.9	16	27	428,718
2.2	51	787,319	16,037	2.6	15	26	404,025
2.0	49	740,807	15,438	2.4	14	25	375,361
2.0	47	700,379	15,034	2.2	13	23	343,283
1.9	44	653,090	14,416	2.1	12	21	316,418
1.7	41	580,976	13,938	1.9	10	20	286,500
1.5	36	501,065	12,992	1.6	8	18	255,798
1.2	28	352,058	10,736	1.1	5	14	192,273

Cost Control					
Grain Bought Per Cow	% Feed is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(9)	(9)	(10)	(10)	(9)	(9)
$189	11%	$177	$520	$338	$2.51
320	17	249	611	455	3.15
386	22	285	666	503	3.44
422	24	323	734	535	3.70
459	25	365	785	580	3.86
488	27	397	827	611	4.05
532	29	429	884	661	4.28
580	30	464	916	721	4.59
631	32	522	1,000	783	4.97
765	38	648	1,176	954	6.06

Value and Cost of Production			Profitability			
			Net Farm Income			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	With Apprec.	Without Apprec.	Labor & Mgmt. Income Per Farm	Per Oper.
(9)	(9)	(9)	(3)	(3)	(3)	(3)
$2,709	$ 6.23	$11.98	$60,893	$35,087	$22,396	$17,562
2,425	7.49	13.42	35,933	24,247	12,646	10,953
2,294	8.11	13.84	29,970	18,994	7,722	6,887
2,188	8.67	14.32	25,464	14,971	4,609	4,089
2,101	9.26	15.16	20,230	11,729	1,702	1,658
2,000	9.87	15.63	16,582	8,614	-1,464	-1,401
1,937	10.47	16.12	12,687	5,490	-5,240	-4,394
1,853	10.92	17.10	7,202	814	-8,463	-8,524
1,740	11.50	18.57	-257	-3,988	-15,131	-14,528
1,403	13.36	21.95	-12,299	-18,796	-28,918	-26,431

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

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent (DFBS pg. 10)	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
	(10)	(10)	(9)	(8)	(8)	(10)	(10)
4.7	124	2,093,475	19,571	4.8	22	44	652,718
3.7	99	1,649,764	18,016	3.6	19	37	571,684
3.4	90	1,441,447	17,121	3.3	17	34	530,017
3.1	85	1,317,509	16,694	3.0	16	31	496,060
3.0	79	1,251,151	16,141	2.8	15	29	471,986
2.8	76	1,206,039	15,667	2.6	14	28	446,181
2.5	72	1,147,970	15,233	2.4	13	26	425,808
2.4	68	1,074,750	14,662	2.2	12	25	396,893
2.1	65	967,717	13,618	2.0	10	22	346,946
1.8	62	810,022	11,546	1.5	6	18	256,917

Cost Control					
Grain Bought Per Cow	% Feed is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(9)	(9)	(10)	(10)	(9)	(9)
$186	10%	$191	$476	$342	$2.32
269	14	259	554	428	2.91
333	17	317	625	487	3.29
380	21	353	704	528	3.43
429	22	381	750	579	3.65
473	24	409	800	624	3.95
512	26	456	877	671	4.21
557	27	504	950	713	4.41
624	30	556	1,050	773	4.65
761	37	713	1,219	897	5.52

Value and Cost of Production			Profitability			
			Net Farm Income			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	With Apprec.	Without Apprec.	Labor & Mgmt. Income Per Farm	Per Oper.
(9)	(9)	(9)	(3)	(3)	(3)	(3)
$2,661	$6.53	$11.61	$137,617	$61,175	$40,774	$27,242
2,517	7.83	12.60	60,290	39,547	21,148	16,925
2,406	8.31	13.14	49,563	32,130	14,942	11,965
2,311	8.68	13.67	42,248	27,056	9,103	7,194
2,201	9.14	14.11	37,685	21,315	3,905	3,225
2,124	9.46	14.43	31,717	18,215	283	175
2,041	9.86	14.81	23,127	14,332	-4,262	-3,498
1,936	10.41	15.66	17,079	7,417	-12,508	-9.625
1,835	10.87	16.56	12,251	-2,565	-20,966	-16,753
1,594	13.21	19.48	-8,813	-20,714	-44,612	-42,011

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

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent (DFBS pg. 10)	No. of Cows (10)	Pounds Milk Sold (10)	Pounds Milk Sold Per Cow (9)	Tons Hay Crop DM/Acre (8)	Tons Corn Silage Per Acre (8)	Cows Per Worker (10)	Pounds Milk Sold Per Worker (10)
4.3	117	1,964,379	19,630	4.5	21	52	746,199
3.5	110	1,842,322	18,599	3.9	19	40	621,768
3.3	105	1,711,514	17,868	3.5	17	36	565,788
3.0	97	1,588,855	16,927	3.0	16	33	530,646
2.8	91	1,453,928	16,098	2.7	15	31	506,808
2.7	86	1,350,208	15,704	2.5	14	29	484,530
2.6	82	1,277,728	15,246	2.4	14	29	454,169
2.3	74	1,094,868	14,733	2.3	13	27	422,903
2.1	67	975,911	13,879	1.9	11	25	394,665
1.7	52	721,949	10,706	1.4	7	21	304,171

Cost Control

Grain Bought Per Cow (9)	% Feed is of Milk Receipts (9)	Machinery Costs Per Cow (10)	Labor & Machinery Costs Per Cow (10)	Feed & Crop Expenses Per Cow (9)	Feed & Crop Expenses Per Cwt. Milk (9)
$183	9%	$239	$546	$383	$2.40
291	14	309	653	449	2.85
321	17	354	682	509	3.35
377	19	393	712	577	3.69
423	22	422	759	607	3.90
489	24	453	822	652	4.06
534	26	488	885	693	4.33
551	28	532	940	719	4.53
597	30	648	1,084	797	5.09
735	35	891	1,323	935	6.15

Value and Cost of Production			Profitability			
			Net Farm Income			
Milk Receipts Per Cow (9)	Oper. Cost Milk Per Cwt. (9)	Total Cost Production Per Cwt. (9)	With Apprec. (3)	Without Apprec. (3)	Labor & Mgmt. Income Per Farm (3)	Per Oper. (3)
$2,763	$ 6.52	$11.16	$119,436	$85,723	$56,843	$31,786
2,517	7.84	12.33	75,141	51,430	29,843	19,619
2,456	8.22	13.18	58,064	39,357	19,804	14,086
2,349	8.83	13.70	45,183	34,141	14,167	9,502
2,247	9.26	14.00	40,801	25,936	7,804	6,962
2,179	9.55	14.48	34,830	20,431	2,896	2,591
2,113	10.11	14.97	27,277	14,804	-1,786	-1,478
2,041	10.62	15.79	19,458	8,785	-5,399	-4,633
1,932	11.55	16.77	11,308	-531	-16,982	-13,373
1,494	13.08	19.53	-6,377	-27,829	-46,468	-39,164

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

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent (DFBS pg. 10)	No. of Cows (10)	Pounds Milk Sold (10)	Pounds Milk Sold Per Cow (9)	Tons Hay Crop DM/Acre (8)	Tons Corn Silage Per Acre (8)	Cows Per Worker (10)	Pounds Milk Sold Per Worker (10)
13.3	540	10,200,698	20,554	5.1	20	59	926,835
7.6	311	5,862,327	19,208	4.0	18	46	821,108
6.7	254	4,456,278	17,921	3.7	17	43	728,084
6.0	226	3,713,183	17,284	3.4	16	40	678,995
5.3	194	3,138,231	16,825	3.3	16	39	644,490
4.9	173	2,616,444	16,360	3.1	15	37	611,932
4.4	156	2,458,443	15,867	3.0	15	35	565,128
4.0	145	2,327,342	15,350	2.7	13	33	541,569
3.6	132	2,099,647	14,395	2.4	12	31	476,755
3.0	122	1,739,656	12,476	1.9	9	27	415,285

Cost Control

Grain Bought Per Cow (9)	% Feed is of Milk Receipts (9)	Machinery Costs Per Cow (10)	Labor & Machinery Costs Per Cow (10)	Feed & Crop Expenses Per Cow (9)	Feed & Crop Expenses Per Cwt. Milk (9)
$216	12%	$229	$500	$401	$2.71
322	16	284	627	505	3.15
389	19	338	683	564	3.47
425	20	380	715	609	3.73
463	23	397	747	658	4.04
522	25	411	775	690	4.24
578	27	429	830	741	4.40
622	29	446	887	797	4.61
680	31	491	929	848	4.91
776	35	590	1,033	955	5.67

Value and Cost of Production			Profitability			
			Net Farm Income			
Milk Receipts Per Cow (9)	Oper. Cost Milk Per Cwt. (9)	Total Cost Production Per Cwt. (9)	With Apprec. (3)	Without Apprec. (3)	Labor & Mgmt. Income Per Farm (3)	Per Oper. (3)
$2,900	$ 6.73	$10.94	$277,840	$227,537	$163,935	$122,334
2,631	8.21	11.91	144,680	122,770	71,851	48,890
2,554	9.03	12.38	111,557	89,415	47,475	35,630
2,424	9.30	12.81	94,081	67,102	36,270	23,042
2,350	9.47	13.21	79,443	55,090	21,997	16,870
2,257	9.79	13.53	70,133	44,237	13,125	10,248
2,169	10.13	13.78	54,017	27,750	122	-210
2,104	10.55	14.18	40,369	20,173	-11,512	-8,932
1,977	11.16	15.16	26,284	5,277	-30,939	-20,499
1,756	12.73	16.90	-15,577	-30,415	-60,131	-57,094

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

IDENTIFY AND SET GOALS

If businesses are to be successful, they must have direction. Written goals help provide businesses with an identifiable direction over both the long and the short term. Goal setting is as important on a dairy farm as it is in other businesses. Written goals are a tool which farm operators can use to ensure that the business continues to move in the proper direction.

1. Goals should be specific.

2. Goals should be realistic and achievable.

3. The achievement of the goal should be verifiable.

4. You should designate a time when each goal will be achieved.

Goal setting on a dairy farm does not have to be a complex process. In many cases it provides a process for writing down and agreeing on goals that you have already given some thought to. It is also important to remember that once you write out your goals they are not cast in concrete. If a change takes place which has a major impact on the farm business, the goals should be reworked to accommodate that change. Refer to your goals as often as necessary to keep the farm business progressing.

It is important to identify both long and short range goals when looking at the future of your farm business.

A suggested format for writing out your goals is as follows:

a. Begin with a general philosophy statement which incorporates both business and family goals.

b. Identify 4-6 long range goals.

c. Identify specific short range goals for a given time period (i.e., one year).

Worksheet for Setting Goals

I. General Philosophy and Objectives

_____

_____

_____

_____

_____

_____

_____

_____

_____

Worksheet for Setting Goals (continued)

II. Long Range Goals (require two or more years to achieve)

III. Short Range Goals (possible to achieve in one or two years).

What	How	When

NOTE: Once long and short range goals have been identified, it is helpful to rank them in order of priority.

Prepared by T.R. Maloney, Extension Associate, Cornell University