DAIRY FARM BUSINESS SUMMARY

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NORTHERN HUDSON REGION 1988

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NORTHERN HUDSON REGION

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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 comprehensive business 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 Northern Hudson region.

Program Objective

The primary objective of the dairy farm business summary, DFBS, is to help farm managers improve the financial management of their farm business through appropriate use of historical farm data and the application of modern farm business analysis 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 1988 DFBS printout received by all participating dairy farmers. Worksheets are included to give non-DFBS participants an opportunity to summarize their businesses. The analysis tables have an open column or section labeled My Farm. It may be used by any dairy farm manager 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 90 percent of the farms cooperating. This innovative approach provides faster processing of farm record data and increased use of the DFBS in farm management programs.

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*The Northern Hudson Region of New York State, with the number of participating farms in parentheses, is comprised of Albany (3), Greene (1), Rensselaer (23), and Washington (27).

This report was written by Stuart F. Smith, Senior Extension Associate, Farm Management. Linda Putnam was in charge of the data preparation. Cindy Farrell and Beverly Carcelli prepared the publication. Farm Business data was collected by Cooperative Extension agents Tom Gallagher, Cathy Wickswat, and John Thurgood.

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
54 Northern Hudson Region Dairy Farms, 1988

Type of Farm	Number
Dairy	53
Part-time dairy	0
Dairy cash-crop	1
Part-time cash-crop dairy	0

Type of Ownership	Number
Owner	49
Renter	5

Type of Business	Number
Single proprietorship	33
Partnership	16
Corporation	5

Business Record System	Number
ELFAC	7
Account Book	13
Agrifax (mail-in only)	12
On-Farm Computer	7
Other	15

Type of Barn	Number
Stanchion/Tie-Stall	27
Freestall	22
Combination	5

Milking System	Number
Bucket & carry	0
Dumping station	1
Pipeline	30
Herringbone parlor	23
Other parlor	0

Milking Frequency	Number
2x/day	51
3x/day	2
Other	1

Production Records	Number
DHIC	42
Owner-Sampler	6
Other	1
None	5

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. 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 cash receipts from crop sales that exceed 10 percent of accrual milk sales. These farms were summarized using 1987 data on page 56 of Smith, Stuart F., Wayne A. Knoblauch, and Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1987, Cornell University, Department of Agricultural Economics, A.E. Res. 88-8, July 1988.

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 1987 data in Putnam, Linda D. and Stuart F. Smith, Dairy Farm Business Summary, Eastern New York Renter Summary, 1987, Cornell University, Department of Agricultural Economics, A.E. Ext. 88-19, August 1988.

Income Statement

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

CASH AND ACCRUAL FARM EXPENSES
54 Northern Hudson Region Dairy Farms, 1988

Expense Item	Cash Paid +	Change in Inventory or Prepaid Expense* +	Change in Accounts Payable =	Accrual Expenses
Hired Labor	$ 22,604	$ 0	$ 19	$ 22,623
Feed				
Dairy grain & conc.	59,555	-1,514	873	58,914
Dairy roughage	3,257	4	-142	3,119
Nondairy	93	4	0	97
Machinery				
Mach. hire, rent/lease	2,257	0	-176	2,081
Machinery repairs/parts	11,556	-87	245	11,714
Auto exp. (farm share)	248	0	5	253
Fuel, oil & grease	6,223	30	38	6,291
Livestock				
Replacement livestock	3,820	0	37	3,857
Breeding	3,172	36	-32	3,176
Vet & medicine	4,698	-20	37	4,715
Milk marketing	15,309	0	10	15,319
Cattle lease/rent	167	0	0	167
Other livestock expense	9,695	50	148	9,893
Crops				
Fertilizer & lime	9,873	-40	38	9,871
Seeds & plants	3,663	-295	42	3,410
Spray, other crop exp.	3,459	240	51	3,750
Real Estate				
Land/bldg./fence repair	3,410	-21	206	3,595
Taxes	5,912	0	-20	5,892
Rent & lease	4,955	34	5	4,994
Other				
Insurance	3,780	0	0	3,780
Telephone (farm share)	1,099	0	4	1,103
Electricity (farm share)	5,411	0	57	5,468
Interest paid	15,461	0	128	15,589
Miscellaneous	2,102	0	11	2,113
Total Operating	$201,779	$ -1,579	$ 1,584	$201,784
Expansion livestock	2,299	0	0	2,299
Machinery depreciation				12,277
Building depreciation				7,385
TOTAL ACCRUAL EXPENSES				$223,745

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.

Changes in prepaid expenses apply to non-inventory categories. Include any expenses that have been paid in advance of their use, for example, 1989 rent paid in 1988. A positive change is the amount the prepayment account declined from beginning to end year, a negative change indicates an increase in the account.

Change in accounts payable: An increase in payables is added and a decrease is subtracted when calculating accrual expenses.

Accrual expenses are the costs of inputs actually used in this year's production.

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

CASH AND ACCRUAL FARM RECEIPTS
54 Northern Hudson Region Dairy Farms, 1988

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	$216,426				$ 1,583		$218,009
Dairy cattle	15,748		$ 1,423		-199		16,971
Dairy calves	3,781				26		3,807
Other livestock	171		840		0		1,011
Crops	2,380		4,442		10		6,832
Government receipts	6,462		0*		-97		6,364
Custom machine work	445				40		485
Gas tax refund	161				-14		146
Other	3,724				-28		3,696
Less nonfarm noncash cap.**		(-)	0			(-)	0
Total Accrual Receipts	$249,297		$ 6,704		$ 1,321		$257,321

*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 calculated. Changes in advanced government receipts are calculated by subtracting the end year balance from the beginning year balance (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 as a change in accounts receivable.

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 Accounts 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
54 Northern Hudson Region Dairy Farms, 1988

Item	Average	My Farm
Total accrual receipts	$257,321	$_____
Appreciation: Livestock	4,803	_____
Machinery	646	_____
Real Estate	24,906	_____
Other Stock/Certificates	805	_____
Total Including Appreciation	$288,484	$_____
Total accrual expenses	-223,745	-_____
Net Farm Income (with appreciation)	$ 64,739	$_____
Net Farm Income (without appreciation)	$ 33,579	$_____

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
54 Northern Hudson Region Dairy Farms, 1988

	Average		My Farm	
Item	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	$ 64,739	$ 33,579	$_____	$_____
Family labor unpaid @ $700 per month	- 1,828	- 1,828	-_____	-_____
Return to operators' labor, management, & equity	$ 62,911	$ 31,751	$_____	$_____

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 above inflation that a farmer might expect to earn in comparable risk investments.

LABOR AND MANAGEMENT INCOME
54 Northern Hudson Region Dairy Farms, 1988

Item	Average	My Farm
Return to operators' labor, management, & equity without appreciation	$ 31,751	$_____
Real interest @ 5% on $468,520 average equity capital	- 23,426	-_____
Labor & Management Income	$ 8,325	$_____
Labor & Management Income per 1.37 Operator/Manager	$ 6,077	$_____

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
54 Northern Hudson Region Dairy Farms, 1988

Item	Average	My Farm
Return to operators' labor, management, & equity capital with appreciation	$ 62,911	$_____
Value of operators' labor & management	- 25,024	-_____
Return on equity capital with appreciation	$ 37,887	$_____
Interest paid	$ 15,589	$_____
Return on total capital with appreciation	$ 53,476	$_____
Return on equity capital without appreciation	$ 6,727	$_____
Return on total capital without appreciation	$ 22,316	$_____
Rate of return on average equity capital:		
with appreciation	8.1%	_____%
without appreciation	1.4%	_____%
Rate of return on average total capital:		
with appreciation	8.0%	_____%
without appreciation	3.3%	_____%

Farm and Family Financial Status

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.

1988 FARM BUSINESS & NONFARM BALANCE SHEET
54 Northern Hudson Region Dairy Farms, January 1, 1989

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 9,559	$ 9,216	Accounts payable	$ 6,708	$ 8,289
Accounts rec.	19,082	20,402	Operating debt	6,529	7,371
Prepaid exp.	103	69	Short-term	508	495
Feed & supplies	44,353	50,407	Advanced govt. rec.	0	0
Total	$ 73,097	$ 80,094	Total	$ 13,745	$ 16,155
Intermediate					
Dairy cows:			Intermediate		
owned	$ 84,586	$ 87,503	Structured debt		
leased	0	0	1-10 years	$ 78,075	$ 74,102
Heifers	30,313	33,529	Financial lease		
Bulls/other lvstk.	2,579	3,511	(cattle/mach.)	1,231	957
Mach./eq. owned	101,587	105,843	FLB/PCA stock	9,232	9,520
Mach./eq. leased	1,231	957			
FLB/PCA stock	9,232	9,520	Total	$ 88,538	$ 84,578
Other stock/cert.	13,106	14,288			
Total	$242,634	$255,151	Long Term		
Long-Term			Structured debt		
Land/buildings:			≥10 yrs	$ 98,949	$ 95,771
owned	$333,378	$350,424	Financial lease		
leased	546	232	(structures)	546	232
Total	$333,924	$350,656	Total	$ 99,495	$ 96,003
Total Farm Assets	$649,655	$685,900	Total Farm Liab.	$201,779	$196,736
			FARM NET WORTH	$447,876	$489,164

(Average for 25 farms reporting) Nonfarm Assets*	Jan. 1	Dec. 31	Nonfarm Liabilities* & Net Worth	Jan. 1	Dec. 31
Personal cash, chkg. & savings	$ 6,561	$ 6,654	Nonfarm Liab.	$ 1,458	$ 5,003
Cash value life ins.	2,263	2,601	NONFARM NET WORTH	$ 45,170	$ 44,369
Nonfarm real estate	26,560	25,360	FARM & NONFARM*	Jan. 1	Dec. 31
Auto (personal sh.)	1,800	2,724	Total Assets	$696,283	$735,272
Stocks & bonds	1,064	1,549	Total Liabilities	203,237	201,739
Household furn.	7,160	6,840			
All other	1,220	3,644	TOTAL FARM & NON-FARM NET WORTH	$493,046	$533,533
Total Nonfarm	$ 46,628	$ 49,372			

*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 1988 that are for participation in the 1989 program are the end year balance and payments received in 1987 for participation in the 1988 program are the beginning year balance.

Date _____

1988 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					
Dairy cows:			Adv. govt. rec.		
owned			Total		
leased			Intermediate		
Heifers					
Bulls/other lvstk.					
Mach./eq. owned					
Mach./eq. leased					
FLB/PCA stock					
Other stock/cert.			Financial lease (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 Liabilities		
Household furn.					
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 and debt ratios measuring levels of debt. 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 strength in 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
54 Northern Hudson Region Dairy Farms, 1988

Item	Average	My Farm
Financial Ratios - Farm:		
Percent equity	71%	_____%
Debt/asset ratio: total	0.29	_____
long-term	0.27	_____
intermediate/current	0.30	_____
Change in Net Worth:		
Without appreciation	$ 10,128	$_____
With appreciation	41,288	$_____
Farm Debt Analysis:		
Accounts payable as % of total debt	4%	_____%
Long-term liabilities as a % of total debt	49%	_____%
Current & inter. liab. as a % of total debt	51%	_____%

Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$ 2,008	$ 1,237	$_____	$_____
Long-term debt	980	604	_____	_____
Intermediate & current debt	1,028	634	_____	_____

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
54 Northern Hudson Region Dairy Farms, 1988

Item	Avg. of Regional Farms		My Farm	
	R.E.	Mach./Eq.	R.E.	Mach./Eq.
Value beg. of year	$333,378	$101,587	$_____	$_____
Purchases	$ 6,887*	$ 16,329	$_____	$_____
Gift/inheritance	+ 431	+ 0	+_____	+_____
Lost capital	- 1,946	--	-_____	
Sales	- 4,774	- 443	-_____	-_____
Depreciation	- 7,385	- 12,277	-_____	-_____
Net investment	= -6,787	= 3,609	=+_____	=+_____
Appreciation	+ 23,833**	+ 646	+_____	+_____
Value end of year	$350,424	$105,843	$_____	$_____

*$ 94 land and $ 6,793 buildings and/or depreciable improvements.
**Excludes $1,073 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
54 Northern Hudson Region Dairy Farms, 1988

Item	Average	My Farm
Cash Inflows		
Beginning farm cash, checking & savings	$ 9,559	$
Cash farm receipts	249,297	
Sale of assets: Machinery	443	
Real estate	5,078	
Other stock & certificate	259	
Money borrowed (intermediate & long-term)	23,233	
Money borrowed (short-term)	489	
Increase in operating debt	842	
Nonfarm income	5,139	
Cash from nonfarm capital used in the business	1,389	
Money borrowed - nonfarm	1,681	
Total	$297,410	$
Cash Outflows		
Cash farm expenses	$201,778	$
Capital purchases: Expansion livestock	2,299	
Machinery	16,329	
Real estate	6,887	
Other stock & certificate	636	
Principal payments (intermediate & long-term)	30,385	
Principal payments (short-term)	502	
Decrease in operating debt	0	
Personal withdrawals & family expenditures including nonfarm debt payments	28,297	
Ending farm cash, checking & savings	9,216	
Total	$296,329	$
Imbalance (error)	$ 1,080	$

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 1989. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1989 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Same 45 Northern Hudson Region Dairy Farms, 1987 & 1988

	Average			My Farm		
	1988 Payments		Planned	1988 Payments		Planned
Debt Payments	Planned	Made*	1989	Planned	Made	1989
Long-term	$ 13,247	$ 15,537	$ 12,919	$_____	$_____	$_____
Intermediate-term	22,250	27,891	19,419	_____	_____	_____
Short-term	256	352	170	_____	_____	_____
Operating (net reduction)	98	0	648	_____	_____	_____
Accounts payable (net reduction)	89	0	756	_____	_____	_____
Total	$ 35,939	$ 43,780	$ 33,912	$_____	$_____	$_____
Per cow	$ 358	$ 436		$_____	$_____	
Per cwt. 1988 milk	$ 2.18	$ 2.66		$_____	$_____	
Percent of total 1988 receipts	14%	17%		_____	_____	
Percent of 1988 milk receipts	16%	20%		_____	_____	

*If refinancing of loans occurred in 1988, the refinanced amount is reflected in debt payments made.

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 1989.

CASH FLOW COVERAGE RATIO
Same 45 Northern Hudson Region Dairy Farms, 1987 & 1988

Item	Average	My Farm
Cash farm receipts	$253,946	$_____
- Cash farm expenses	204,251	_____
+ Interest paid	15,090	_____
- Net personal withdrawals from farm**	22,655	_____
(A) = Amount Available for Debt Service	$ 42,130	$_____
(B) = Debt Payments Planned for 1988 (as of December 31, 1987)	$ 35,939	$_____
(A ÷ B) = Cash Flow Coverage Ratio for 1988	1.17	_____

**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	1989 Projection
	(per cow)				
Average number of cows	98				
Accrual Oper. Receipts					
Milk	$ 2,227	$	$		$
Dairy cattle	173				
Dairy calves	39				
Other livestock	10				
Crops	70				
Misc. receipts	109				
Total	$ 2,628	$	$		$
Accrual Oper. Expenses					
Hired labor	$ 231	$	$		$
Dairy grain & conc.	602				
Dairy roughage	32				
Nondairy feed	1				
Mach. hire/rent/lease	21				
Mach. rpr./parts & auto	122				
Fuel, oil & grease	64				
Replacement lvstk.	39				
Breeding	32				
Vet & medicine	48				
Milk marketing	156				
Cattle lease	2				
Other livestock exp.	101				
Fertilizer & lime	101				
Seeds & plants	35				
Spray/other crop exp.	38				
Land, bldg.,fence repair	37				
Taxes	60				
Real estate rent/lease	51				
Insurance	39				
Utilities	67				
Miscellaneous	22				
Total Less Int. Paid	$ 1,902				$
Net Accrual Operating Income	(total)				
(without interest paid)	$ 71,127	$			$
- Change in lvstk./crop inv.	6,705				
- Change in accts. rec.	1,321				
+ Change in feed/supply inv.	-1,579				
+ Change in accts. payable*	1,452				
NET CASH FLOW	$ 62,974	$			$
- Net personal withdrawals & family expenditures	21,477				
Available for Farm Debt Payments & Investments	$ 41,497	$			$
- Farm debt payments	45,828**				
Available for Farm Investment	$ -4,332	$			$
- Capital purchases: cattle, machinery & improvements	$ 26,151				
Additional Capital Needed		$			$

*Excludes change in interest account payable.

**See page 12.

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
54 Northern Hudson Region Dairy Farms, 1988

Item	Average			My Farm		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	159	132	291			
Nontillable	51	15	66			
Other nontillable	104	14	118			
Total	314	161	475			

Crop Yields	Farms	Acres	Prod/Acre	Acres	Prod/Acre
Hay crop	53	153	2.60 tn DM		tn DM
Corn silage	51	81	13.99 tn		tn
			4.66 tn DM		tn DM
Other forage	1	15	1.60 tn DM		tn DM
Total forage	54	228	3.29 tn DM		tn DM
Corn grain	30	65	107.98 bu		bu
Oats	7	22	44.86 bu		bu
Wheat	4	11	26.00 bu		bu
Other crops	8	20			
Tillable pasture	9	25			
Idle	28	32			
Total Tillable Acres	53	291			

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
54 Northern Hudson Region Dairy Farms, 1988

Item	Average	My Farm
Total tillable acres per cow	2.98	
Total forage acres per cow	2.33	
Harvested forage dry matter, tons per cow	7.66	

Cropping Program Analysis (continued)

A substantial number of cooperators have allocated crop expenses to the hay crop, corn, and other crops produced. 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
Northern Hudson Region Dairy Farms Reporting, 1988

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	53	26		28		
Average number of acres	291	162		107		
Fertilizer & lime	$ 33.88	$ 8.68	$ 3.34	$ 27.59	$ 5.93	$ 0.26
Seeds & plants	11.70	3.57	1.37	10.49	2.25	0.10
Spray & other crop expense	12.87	3.80	1.46	12.23	2.63	0.11
Total	$ 58.46	$ 16.05	$ 6.17	$ 50.31	$ 10.81	$ 0.47
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
54 Northern Hudson Region Dairy Farms, 1988

Machinery Expense Item	Average Total Expenses	Average Per Til. Acre	My Farm Total Expenses	My Farm Per Til. Acre
Fuel, oil & grease	$ 6,291	$ 21.60	$	$
Machinery repairs & parts	11,714	40.21		
Machine hire, rent & lease	2,081	7.14		
Auto expense (farm share)	253	0.87		
Interest (5%)	5,186	17.80		
Depreciation	12,277	42.14		
Total	$ 37,802	$ 129.76	$	$

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 all of the profitability measures on pages 6 and 7.

DAIRY HERD INVENTORY
54 Northern Hudson Region Dairy Farms, 1988

	Dairy Cows		Heifers					
			Bred		Open		Calves	
Item	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	99	$ 84,586	24	$ 16,153	22	$ 8,919	25	$ 5,241
+ Change w/o apprec.		-511		1,475		558		-99
+ Appreciation		3,428		613		466		203
End year (owned)	98	$ 87,503	26	$ 18,241	23	$ 9,943	26	$ 5,345
End incl. leased	98							
Average number	98		73 (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 their rolling herd average on the test date nearest December 31.

MILK PRODUCTION
54 Northern Hudson Region Dairy Farms, 1988

Item	Average	My Farm
Total milk sold, lbs.	1,604,507	_____
Milk sold per cow, lbs.	16,388	_____
Average milk plant test, percent butterfat	3.78	_____

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 including expansion livestock purchased. Total costs of producing milk include the operating costs of producing milk plus 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
54 Northern Hudson Region Dairy Farms, 1988

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Costs of Producing Milk						
Operating costs	$164,768	$ 1,683	$ 10.27	$_____	$_____	$_____
Total costs w/o opers' labor, mgmt. & capital	$186,258	$ 1,902	$ 11.61	$_____	$_____	$_____
Total Costs	$234,708	$ 2,397	$ 14.63	$_____	$_____	$_____
Accrual Receipts From Milk	$218,009	$ 2,227	$ 13.59	$_____	$_____	$_____

The accrual operating expenses most commonly associated with the dairy enterprise are listed in the table below. Analysis of these costs per unit of production enables further evaluation of the dairy enterprise.

DAIRY RELATED ACCRUAL EXPENSES
54 Northern Hudson Region Dairy Farms, 1988

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrates	$ 602	$ 3.67	$_____	$_____
Purchased dairy roughage	32	0.19	_____	_____
Total Purchased Dairy Feed	$ 634	$ 3.87	$_____	$_____
Purchased grain & conc. as % of milk receipts	27%		____%	
Purchased feed & crop exp.	$ 808	$ 4.93	$_____	$_____
Purchased feed & crop exp. as % of milk receipts	36%		____%	
Breeding	$ 32	$ 0.20	$_____	$_____
Veterinary & medicine	48	0.29	_____	_____
Milk marketing	156	0.95	_____	_____
Cattle lease	2	0.01	_____	_____
Other livestock expense	101	0.62	_____	_____

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
54 Northern Hudson Region Dairy Farms, 1988

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	$229,316	$ 6,821	$ 2,292	$ 4,200
Real estate		3,496		2,153
Machinery & equipment	35,992	1,070	360	
Capital turnover, years	2.31			
My Farm:				
Farm capital	$_____	$_____	$_____	$_____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
Capital turnover, years	_____			

LABOR FORCE INVENTORY AND ANALYSIS
54 Northern Hudson Region Dairy Farms, 1988

Labor Force	Months	Age	Years of of Educ.	Value of Labor & Mgmt.
Operator number 1	12	47	13	$ 17,875
Operator number 2	4	39	14	5,667
Operator number 3	1	31	13	1,482
Family paid	5			
Family unpaid	3			
Hired	10			
Total	35	÷ 12 =	2.91 Worker Equivalent	
			1.37 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	98	34	_____	_____
Milk sold, pounds	1,604,507	550,991	_____	_____
Tillable acres	291	100	_____	_____
Work units	1,016	349	_____	_____

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 ($1,000/mo.)	$ 16,481	$ 168	$56.58	$_____	$_____	$_____
Family unpd.($700/mo.)	1,828	19	6.27	_____	_____	_____
Hired	22,623	231	77.66	_____	_____	_____
Total Labor	$ 40,932	$ 418	$140.51	$_____	$_____	$_____
Machinery Cost	$ 37,802	$ 386	$129.76	$_____	$_____	$_____
Total Labor & Mach.	$ 78,734	$ 804	$270.27	$_____	$_____	$_____

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
Same 45 Northern Hudson Dairy Farms, 1987 & 1988

	Average of 45 Farms*		My Farm		
Selected Factors	1987	1988	1987	1988	Goal
Size of Business					
Average number of cows	100	100			
Average number of heifers	71	75			
Milk sold, lbs.	1,617,058	1,648,257			
Worker equivalent	2.94	3.00			
Total tillable acres	276	286			
Rates of Production					
Milk sold per cow, lbs.	16,135	16,428			
Hay DM per acre, tons	2.80	2.68			
Corn silage per acre, tons	14	14			
Labor Efficiency					
Cows per worker	34	33			
Milk sold/worker, lbs.	550,922	548,742			
Cost Control					
Grain & conc. purchased as % of milk sales	23%	27%	%	%	%
Dairy feed & crop exp. per cwt. milk	$ 4.31	$ 4.89	$	$	$
Labor & mach. costs/cow	$ 761	$ 799	$	$	$
Capital Efficiency**					
Farm capital per cow	$ 6,071	$ 6,609	$	$	$
Mach. & equip. per cow	$ 1,024	$ 1,060	$	$	$
Capital turnover, years	2.12	2.27			
Profitability					
Net farm inc. w/o apprec.	$ 35,992	$ 35,159	$	$	$
Net farm inc. w/apprec.	$ 72,211	$ 65,164	$	$	$
Labor & mgt. income per oper./manager	$ 14,187	$ 10,143	$	$	$
Rate of return on eq. capital w/apprec.	10.79%	8.11%	%	%	%
Rate of return on all capital w/apprec.	8.61%	8.00%	%	%	%
Financial Summary					
Farm net worth, end year	$438,466	$485,740	$	$	$
Debt to asset ratio	0.31	0.29			
Farm debt per cow	$ 1,966	$ 1,950	$	$	$

*Farms participating both years. **Average for the year.

Farm Business Charts

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 426 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
426 New York Dairy Farms, 1987

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
(DFBS pg. 10)	(10)	(10)	(9)	(8)	(8)	(10)	(10)
7.4	288	5,050,360	19,730	4.5	24	49	799,099
4.6	157	2,574,309	18,109	3.7	20	39	639,739
3.7	117	1,895,640	17,473	3.2	18	36	575,793
3.3	96	1,560,906	16,851	3.0	17	32	527,968
2.9	82	1,343,837	16,370	2.7	16	31	486,445
2.6	73	1,140,151	15,925	2.5	15	29	454,799
2.4	64	972,139	15,394	2.3	14	27	424,189
2.1	56	842,732	14,675	2.0	13	25	381,809
1.8	47	709,379	13,608	1.8	12	22	337,608
1.3	35	512,284	11,275	1.3	9	17	251,762

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)
$209	19%	$220	$ 524	$349	$2.46
312	24	285	631	469	3.11
383	27	320	690	531	3.47
431	29	351	734	573	3.68
468	31	383	778	627	3.93
508	33	415	831	678	4.19
547	35	451	894	711	4.40
595	36	493	953	759	4.70
666	39	549	1,033	823	5.01
769	44	706	1,190	943	5.63

The next section of the Farm Business Chart provides for comparative analysis of the value and costs of dairy production.

The 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
426 New York Dairy Farms, 1987

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.
(9)	(9)	(9)	(9)	(9)	(9)
$2,544	$14.27	$ 890	$ 6.03	$1,656	$11.12
2,351	13.56	1,137	7.31	1,893	12.17
2,259	13.18	1,242	8.01	2,006	12.75
2,174	12.97	1,324	8.54	2,101	13.23
2,110	12.81	1,423	9.04	2,190	13.73
2,037	12.72	1,509	9.39	2,289	14.25
1,968	12.61	1,590	9.87	2,390	14.73
1,889	12.51	1,690	10.49	2,470	15.33
1,733	12.36	1,824	11.22	2,607	16.63
1,462	11.96	2,098	13.10	3,024	19.71

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
(3)	(3)	(3)	(3)	(3)	(3)
$197,621	$136,964	$196,383	$136,268	$95,478	$71,503
92,938	62,277	91,549	61,167	36,159	28,206
75,433	46,889	74,352	44,671	25,310	20,638
59,966	37,085	58,410	35,784	19,308	14,620
50,071	29,409	48,144	28,474	13,697	9,894
40,312	24,442	38,795	23,170	7,936	6,437
32,360	17,870	30,644	15,931	2,912	2,277
23,593	12,737	21,911	10,230	-3,450	-2,909
16,232	4,764	14,494	2,719	-11,217	-9,828
-3,558	-17,210	-5,512	-18,986	-37,719	-32,962

Farm Business Charts for farms with freestall barns and 120 cows or less and more than 120 cows, and farms with conventional barns with 60 cows or less and more than 60 cows are discussed in the section on pages 23-28.

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 defined on pages 7, 10, 12, and 18 of this publication. References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FINANCIAL ANALYSIS CHART
426 New York Dairy Farms, 1987

Liquidity (repayment)				
Debt Payments Made Per Cow	Debt Payments as Percent of Milk Receipts	Cash Flow Coverage Ratio	Available for Debt Service Per Cow	Debt Per Cow
(DFBS pg. 7)	(7)	(7)	(11)	(5)
$ 51	2%	14.14	$937	$ 96
210	10	2.18	710	636
303	15	1.63	634	1,137
373	18	1.35	569	1,508
441	21	1.22	520	1,840
500	24	1.06	466	2,199
568	29	0.93	414	2,523
646	33	0.79	340	2,904
808	40	0.57	246	3,407
1,610	81	-0.19	72	4,837

Solvency			Efficiency & Profitability		
	Debt/Asset Ratio				
Percent Equity	Current & Intermediate	Long Term	Total Farm Cap. Per Cow	Capital Turnover (years)	Rate of Return on Equity Cap.
(DFBS pg. 5)	(5)	(5)	(10)	(10)	(3)
99%	0.00	0.00	$3,792	1.47	35%
90	0.05	0.01	4,577	1.78	17
82	0.12	0.12	5,089	1.95	12
75	0.18	0.26	5,391	2.07	9
69	0.24	0.34	5,695	2.18	7
63	0.31	0.44	6,070	2.31	5
57	0.37	0.55	6,482	2.49	3
50	0.43	0.65	7,046	2.69	1
42	0.50	0.80	7,888	3.04	-3
22	0.77	1.21	9,829	4.07	-34

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 has as many of the same physical characteristics as possible as the farm being analyzed. To assist in this endeavor, dairy farms in the 1987 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 $208,798 per farm for the 300 or more herd size group and $11,140 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 generally decreases (pages 31-34). The most dramatic decline occurs above 100 cows. However, farm net worth increases substantially as herd size increases. The average net worth for all size farms increased during 1987.

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 15,234 pounds on the farms with less than 40 cows to 18,808 pounds on farms with 300 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 22 at the lowest herd size category up to 45 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, 1987, Department of Agricultural Economics, Cornell University, A.E. Res. 88-8, July 1988.

SELECTED BUSINESS FACTORS BY TYPE OF BARN
AND HERD SIZE
426 New York Dairy Farms, 1987

Farms with:	Conventional		Freestall	
Item	≤60 Cows	>60 Cows	≤120 Cows	>120 Cows
Number of farms	117	151	72	86
Cropping Program Analysis				
Total Tillable acres	152	298	265	560
Tillable acres rented*	44	104	89	206
Hay crop acres*	93	167	138	221
Corn silage acres*	25	52	55	159
Hay crop, tons DM/acre	2.3	2.6	2.6	3.1
Corn silage, tons/acre	14.5	15.5	15.7	17.1
Oats, bushels/acre	52.7	59.8	52.1	51.1
Forage DM per cow, tons	7.5	8.2	8.0	7.6
Tillable acres/cow	3.4	3.4	3.2	2.6
Fert. & lime exp./til. acre	$21.10	$23.60	$28.16	$31.88
Total machinery costs	$17,902	$35,641	$38,982	$87,013
Machinery cost/tillable acre	$118	$120	$147	$155
Dairy Analysis				
Number of cows	45	88	83	213
Number of heifers	33	70	68	167
Milk sold, lbs.	701,939	1,404,638	1,336,813	3,631,580
Milk sold/cow, lbs.	15,446	15,949	16,026	17,012
Operating cost of prod. milk/cwt.	$9.34	$9.19	$9.38	$9.40
Total cost of prod. milk/cwt.	$15.12	$13.76	$14.31	$12.77
Price/cwt. milk sold	$12.82	$12.78	$13.04	$12.93
Purchased dairy feed/cow	$507	$496	$498	$559
Purchased dairy feed/cwt. milk	$3.28	$3.11	$3.11	$3.29
Purc. grain & conc. as % milk rec.	24%	24%	23%	24%
Purc. feed & crop exp./cwt. milk	$4.05	$3.99	$4.09	$4.21
Capital Efficiency				
Farm capital/worker	$154,317	$174,550	$185,631	$212,849
Farm capital/cow	$6,467	$6,056	$6,166	$5,522
Farm capital/til. acre owned	$2,721	$2,735	$2,922	$3,330
Real estate/cow	$3,436	$2,910	$2,858	$2,528
Machinery investment/cow	$1,156	$1,137	$1,236	$913
Capital turnover, years	2.51	2.34	2.34	1.96
Labor Efficiency				
Worker equivalent	1.90	3.06	2.77	5.54
Operator/manager equivalent	1.14	1.33	1.41	1.48
Milk sold/worker, lbs.	368,557	459,672	482,459	655,667
Cows/worker	24	29	30	39
Work units/worker	248	308	318	393
Labor cost/cow	$432	$388	$393	$403
Labor cost/tillable acre	$129	$115	$124	$154
Profitability & Balance Sheet Analysis				
Net farm income (w/o apprec.)	$14,305	$31,007	$27,432	$77,458
Labor & mgmt. income/operator	$2,778	$8,414	$6,525	$27,394
Farm debt/cow	$2,216	$1,901	$2,102	$2,098
Percent equity	65%	69%	66%	62%

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

FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARM
117 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1987

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	1,012,310	18,894	4.1	25	38	593,294
2.5	55	890,128	17,803	3.2	20	32	508,786
2.3	53	841,029	17,100	2.9	18	29	443,085
2.1	50	777,411	16,529	2.6	16	27	424,821
2.0	48	747,174	16,027	2.4	15	26	401,656
1.8	46	684,453	15,530	2.2	14	24	375,007
1.6	43	648,948	14,825	2.0	13	23	344,267
1.5	39	587,566	14,114	1.8	12	21	324,239
1.3	35	515,571	12,986	1.6	11	19	281,813
1.1	29	367,936	10,705	1.2	8	15	205,714

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)
$239	20%	$185	$ 531	$329	$2.57
325	25	256	627	457	3.21
383	27	300	687	511	3.52
430	29	335	732	552	3.64
464	30	367	786	590	3.84
497	32	398	851	646	4.07
546	34	437	921	699	4.31
589	37	475	974	740	4.77
666	39	549	1,057	819	5.11
756	44	640	1,159	953	5.55

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)
$2,512	$ 5.84	$11.72	$74,553	$39,463	$25,389	$22,783
2,298	6.83	13.04	48,887	29,518	19,481	17,388
2,208	7.67	13.54	38,477	26,217	13,599	11,512
2,129	8.33	14.12	34,212	21,938	9,849	8,406
2,062	8.89	14.64	30,235	15,948	6,294	5,676
1,969	9.31	15.12	23,800	14,364	2,907	2,572
1,887	10.01	15.82	19,827	10,674	568	508
1,774	10.80	16.97	15,627	4,889	-3,763	-3,179
1,637	11.64	18.11	8,111	-1,628	-10,700	-9,683
1,350	13.39	20.88	-4,719	-14,006	-27,903	-26,962

FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS
151 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1987

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)
5.6	163	2,674,310	19,172	4.5	22	44	673,277
3.9	112	1,819,161	17,935	3.7	19	37	603,935
3.5	94	1,583,874	17,322	3.2	18	34	555,170
3.1	87	1,425,022	16,735	3.0	17	32	517,283
3.0	82	1,318,364	16,412	2.6	16	30	484,731
2.6	77	1,235,135	16,146	2.5	15	29	463,541
2.5	73	1,145,273	15,545	2.2	14	27	436,780
2.4	69	1,058,575	14,696	2.0	13	25	393,204
2.2	65	969,689	13,740	1.7	12	23	349,386
1.8	61	853,701	11,741	1.4	10	18	271,522

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)
$202	18%	$220	$ 506	$341	$2.34
295	24	281	605	460	3.03
369	27	313	669	523	3.46
418	29	350	723	573	3.68
455	31	377	760	621	3.92
510	32	407	797	670	4.16
548	34	445	863	694	4.34
591	36	478	938	740	4.54
656	37	532	1,015	798	4.84
754	42	677	1,164	893	5.31

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)
$2,452	$ 6.24	$11.00	$110,663	$78,030	$54,066	$41,523
2,323	7.28	11.99	80,747	55,205	34,079	29,685
2,216	7.92	12.47	69,626	46,659	27,268	23,376
2,138	8.35	12.91	58,272	41,337	22,167	16,361
2,092	8.74	13.42	50,783	34,419	16,612	11,210
2,033	9.21	14.00	43,296	27,185	9,802	7,495
1,962	9.65	14.49	35,577	21,584	2,691	1,833
1,902	10.19	14.99	27,732	14,827	-4,619	-3,704
1,750	10.87	15.90	19,127	8,686	-10,022	-8,233
1,517	12.97	19.22	-2,597	-14,835	-36,963	-33,558

FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS
72 Freestall Barn Dairy Farms with 120 or Less Cows, New York, 1987

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)
4.0	113	2,031,232	19,930	4.5	28	49	779,317
3.4	107	1,778,804	18,585	3.6	20	41	631,701
3.2	101	1,597,490	18,005	3.2	19	34	547,217
3.0	95	1,548,436	17,433	3.0	18	32	503,134
2.9	87	1,460,707	16,469	2.7	17	30	486,247
2.7	81	1,360,485	15,965	2.5	16	29	463,207
2.5	76	1,188,903	15,526	2.3	15	27	443,127
2.3	72	1,016,927	14,898	2.1	13	26	418,694
2.1	64	867,848	13,759	1.9	11	24	373,532
1.7	48	678,354	10,362	1.4	8	20	289,432

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)
$197	19%	$267	$ 567	$ 361	$2.49
322	23	311	667	479	3.05
378	25	335	727	535	3.31
426	28	363	788	568	3.64
470	31	407	829	627	3.96
508	32	462	887	690	4.31
541	35	514	928	722	4.63
594	37	550	979	768	4.92
666	40	613	1,071	845	5.13
831	49	870	1,307	1,024	6.23

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)
$2,594	$ 6.29	$11.99	$108,959	$85,873	$61,245	$34,091
2,419	7.89	12.78	78,885	55,778	32,705	22,189
2,293	8.32	13.07	64,609	42,618	21,656	16,354
2,225	8.81	13.49	57,524	32,163	16,779	12,477
2,168	9.22	13.93	51,908	29,625	12,551	9,268
2,075	9.44	14.32	45,040	26,072	8,294	6,544
2,016	10.16	15.03	35,648	20,544	5,663	4,359
1,968	10.96	16.09	26,102	13,664	-3,715	-3,493
1,798	11.89	17.13	18,387	610	-15,345	-11,684
1,384	13.58	20.29	-5,701	-21,765	-38,033	-33,341

FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS
86 Freestall Barn Dairy Farms with More Than 120 Cows, New York, 1987

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)
11.5	475	9,122,233	20,926	5.0	23	59	978,334
7.5	303	5,443,620	19,082	4.0	20	48	831,859
6.4	253	4,155,570	17,701	3.7	19	45	741,638
5.8	217	3,557,779	17,409	3.5	18	41	682,912
5.2	198	3,195,642	16,973	3.2	18	39	641,707
4.8	176	2,895,944	16,268	3.0	17	37	611,788
4.4	158	2,599,715	15,691	3.9	16	35	572,578
4.0	144	2,349,436	15,355	2.6	15	32	530,718
3.6	132	2,078,626	14,712	2.3	14	30	486,868
3.2	123	1,778,664	12,906	1.7	11	26	421,041

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)
$211	21%	$269	$ 547	$415	$2.67
354	26	312	675	529	3.31
434	27	345	704	592	3.63
466	30	378	743	651	3.87
494	33	405	787	692	4.17
531	34	433	834	722	4.36
571	35	464	883	775	4.59
638	37	490	940	813	4.82
691	39	541	1,018	858	5.10
766	43	690	1,177	932	5.69

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)
$2,650	$ 6.33	$10.56	$371,960	$269,426	$207,317	$167,283
2,442	7.76	11.72	211,706	146,148	95,881	69,329
2,349	8.66	12.22	166,309	105,100	63,094	44,853
2,280	9.18	12.53	127,460	77,994	42,020	31,897
2,205	9.44	13.14	99,991	66,929	33,156	22,003
2,146	9.75	13.66	89,278	54,629	22,169	17,498
2,032	10.11	13.97	82,461	41,867	16,389	9,426
1,968	10.54	14.35	64,958	30,225	5,583	3,831
1,891	11.03	14.90	48,918	19,518	-7,955	-7,224
1,709	12.11	16.25	17,051	-5,150	-44,860	-35,341

FARM BUSINESS SUMMARY BY HERD SIZE
426 New York Dairy Farms, 1987

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	69	74	71	41
ACCRUAL EXPENSES					
Hired labor	$ 2,757	$ 5,999	$ 11,494	$ 15,070	$ 18,684
Dairy grain & concentrate	17,025	22,287	29,046	37,345	42,482
Dairy roughage	933	1,098	954	1,427	624
Other livestock feed	444	358	696	686	1,063
Machine hire/rent/lease	1,163	817	1,632	1,720	2,416
Machine repairs/parts	3,091	5,150	6,947	8,775	11,089
Auto expense (farm share)	302	556	740	655	686
Fuel, oil & grease	1,653	2,204	3,539	3,995	5,046
Replacement livestock	2,470	988	1,930	1,753	1,858
Breeding	1,081	1,535	2,029	2,576	2,647
Veterinary & medicine	1,280	1,663	2,759	3,420	3,466
Milk marketing	4,718	6,109	7,384	9,569	9,458
Cattle lease/rent	14	46	37	175	109
Other livestock expense	2,503	4,154	5,310	6,835	7,604
Fertilizer & lime	2,070	3,431	4,903	6,178	8,386
Seeds & plants	728	1,218	2,053	2,522	2,898
Spray & other crop expense	521	942	1,801	1,939	2,738
Land/building/fence repair	803	1,075	1,988	2,025	2,752
Taxes & insurance	3,729	4,746	7,161	7,526	9,326
Telephone & electricity	2,724	3,329	4,399	5,311	5,812
Interest paid	5,878	9,279	9,839	12,703	15,433
Misc. (including rent)	2,030	2,846	4,403	5,395	6,403
Total Operating Expenses	$57,917	$ 79,830	$111,044	$137,600	$160,980
Expansion livestock	154	750	1,145	1,101	196
Machinery depreciation	4,540	6,811	9,935	13,227	13,545
Building depreciation	2,612	3,154	5,331	5,305	6,692
Total Accrual Expenses	$65,223	$ 90,545	$127,455	$157,233	$181,413
ACCRUAL RECEIPTS					
Milk sales	$65,663	$ 93,254	$125,036	$157,419	$185,624
Dairy cattle	6,599	7,778	8,596	13,744	15,933
Dairy calves	1,217	1,651	2,086	2,608	2,914
Other livestock	605	131	317	338	153
Crops	900	713	3,183	2,440	4,441
Misc. receipts	1,380	2,564	5,336	6,708	7,118
Total Accrual Receipts	$76,363	$106,091	$144,554	$183,257	$216,186
PROFITABILITY ANALYSIS					
Net farm income (w/o apprec.)	$11,140	$15,546	$17,099	$26,024	$34,773
Net farm income (w/apprec.)	$21,927	$30,098	$31,811	$44,375	$55,411
Labor & mgmt. income	$1,277	$5,093	$1,771	$8,413	$16,249
Number of operators	1.04	1.15	1.30	1.28	1.25
Labor & mgmt. inc./oper.	$1,228	$4,429	$1,362	$6,573	$12,999
Rates of return on:					
Equity capital w/o apprec.	-4.6%	-3.2%	-2.8%	0.4%	2.5%
Equity capital w/apprec.	1.8%	5.3%	2.4%	6.3%	8.8%
All capital w/o apprec.	-0.8%	1.3%	0.5%	2.9%	4.6%
All capital w/apprec.	3.7%	6.2%	4.1%	6.8%	8.5%

FARM BUSINESS SUMMARY BY HERD SIZE
426 New York Dairy Farms, 1987

Item — Farm Size:	100 to 149 Cows	150 to 199 Cows	200 to 299 Cows	300 or More Cows
Number of farms	70	31	27	11
ACCRUAL EXPENSES				
Hired labor	$ 25,102	$ 47,877	$ 75,549	$ 179,681
Dairy grain & concentrate	56,974	86,662	133,931	257,093
Dairy roughage	801	1,387	6,292	21,695
Other livestock feed	616	2,337	1,925	1,356
Machine hire/rent/lease	2,516	3,678	6,636	9,670
Machine repairs/parts	15,054	24,145	31,332	43,448
Auto expense (farm share)	668	610	656	2,512
Fuel, oil & grease	6,981	12,430	14,265	20,939
Replacement livestock	1,519	4,468	6,034	1,248
Breeding	3,546	5,002	7,259	12,662
Veterinary & medicine	4,968	7,667	12,604	26,205
Milk marketing	14,281	21,327	28,600	52,360
Cattle lease/rent	14	814	0	557
Other livestock expense	9,821	13,907	21,022	37,220
Fertilizer & lime	10,411	14,729	20,450	29,461
Seeds & plants	4,520	6,186	8,655	15,239
Spray & other crop expense	4,299	5,252	7,839	18,550
Land/building/fence repair	3,890	5,188	6,828	25,692
Taxes & insurance	10,856	15,566	19,405	28,402
Telephone & electricity	7,238	10,360	13,821	20,876
Interest paid	18,586	29,497	42,206	77,461
Misc. (including rent)	8,560	12,652	20,694	34,966
Total Operating Expenses	$211,221	$331,741	$486,003	$ 917,293
Expansion livestock	2,114	2,976	3,044	16,232
Machinery depreciation	19,857	28,073	31,247	58,995
Building depreciation	9,604	13,753	21,805	37,605
Total Accrual Expenses	$242,796	$376,543	$542,099	$1,030,125
ACCRUAL RECEIPTS				
Milk sales	$246,068	$361,325	$521,194	$1,045,845
Dairy cattle	20,536	34,740	48,174	94,637
Dairy calves	3,653	5,566	8,117	15,121
Other livestock	266	435	4,624	166
Crops	4,088	5,451	16,749	43,415
Misc. receipts	9,593	21,616	24,655	39,740
Total Accrual Receipts	$284,207	$429,132	$623,513	$1,238,923
PROFITABILITY ANALYSIS				
Net farm income (w/o apprec.)	$41,411	$52,589	$81,414	$208,798
Net farm income (w/apprec.)	$64,485	$107,614	$119,890	$280,560
Labor & mgmt. income	$15,647	$19,218	$43,070	$142,561
Number of operators	1.49	1.57	1.54	1.43
Labor & mgmt. inc./oper.	$10,501	$12,241	$27,968	$99,693
Rate of return on:				
Equity capital w/o apprec.	1.7%	2.8%	6.2%	12.7%
Equity capital w/apprec.	6.5%	11.4%	11.3%	18.2%
All capital w/o apprec.	3.8%	4.7%	7.0%	10.7%
All capital w/apprec.	7.0%	10.2%	10.1%	13.9%

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
426 New York Dairy Farms, 1987

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.	$ 2,988	$ 3,087	$ 1,764	$ 2,431	$ 4,560	$ 4,362
Accounts receivable	5,451	5,782	7,596	7,669	10,917	11,287
Prepaid expenses	0	0	6	6	14	14
Feed & supplies	11,161	12,245	17,453	18,024	24,803	26,963
Livestock*	39,311	42,463	52,858	59,009	74,084	78,802
Machinery & equipment*	37,645	38,853	52,278	55,305	75,451	78,455
FLB & PCA stock	683	751	1,612	1,731	2,532	2,525
Other stock & cert.	1,225	1,381	1,707	1,888	2,681	2,701
Land & buildings*	137,681	141,005	153,697	158,724	197,233	205,744
Total Farm Assets	$236,145	$245,567	$288,971	$304,788	$392,275	$410,853
Pers. cash/chkg./sav.	$ 8,935	$ 1,907	$ 3,309	$ 3,032	$ 6,011	$ 6,580
Cash value of life ins.	1,418	1,567	2,451	3,119	4,122	4,609
Nonfarm real estate	24,316	32,211	4,601	7,939	23,463	31,488
Auto (personal share)	1,195	1,032	3,163	3,329	2,479	3,090
Stocks & bonds	637	2,831	2,380	2,405	2,959	3,146
Household furnishings	7,684	7,737	8,744	8,750	6,923	7,345
All other	34	5,327	2,955	3,082	1,872	888
Tot. Nonfarm Assets**	$ 44,219	$ 52,611	$ 27,603	$ 31,656	$ 47,830	$ 57,145
Total Farm & Nonfarm Assets	$280,364	$298,178	$316,574	$336,444	$440,105	$467,998
LIABILITIES						
Accounts payable	$ 1,797	$ 1,539	$ 4,395	$ 4,184	$ 3,355	$ 3,693
Operating debt	1,071	687	1,023	1,014	1,080	819
Short term	213	543	1,079	1,030	2,387	1,837
Advanced gov't. rec.	0	0	0	53	52	200
Intermediate***	22,548	22,764	42,818	43,905	42,814	43,353
Long term*	48,256	43,842	77,121	75,139	69,963	72,453
Total Farm Liab.	$ 73,885	$ 69,374	$126,435	$125,325	$119,651	$122,354
Tot. Nonfarm Liab.**	342	86	1,539	2,235	3,078	2,809
Total Farm & Nonfarm Liabilities	$ 74,227	$ 69,460	$127,974	$127,560	$122,729	$125,163
Farm Net Worth (Equity Capital)	$162,261	$176,193	$162,536	$179,463	$272,624	$288,499
Farm & Nonfarm Net Worth	$206,137	$228,718	$188,600	$208,884	$317,376	$342,835

FINANCIAL MEASURES	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows
Percent equity	72%	59%	70%
Debt/asset ratio-long term	0.31	0.47	0.35
Debt/asset ratio-inter. & current	0.24	0.34	0.24
Change in net worth with apprec.	$13,932	$16,927	$15,875
Total farm debt per cow	$1,982	$2,558	$1,912
Debt payments made per cow	$653	$619	$502
Debt payments as % of milk sales	33%	30%	24%
Amount avail. for debt service	$19,356	$25,901	$31,362
Cash flow coverage ratio for 1987	1.31	1.30	1.29

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1987.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
426 New York Dairy Farms, 1987

Farms with:	70 to 84 Cows		85 to 99 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 3,853	$ 4,783	$ 5,165	$ 6,842
Accounts receivable	13,616	14,094	15,956	16,322
Prepaid expenses	0	0	42	42
Feed & supplies	32,595	33,144	39,290	43,702
Livestock*	91,006	98,832	104,319	114,263
Machinery & equipment*	92,636	96,188	102,537	109,990
FLB & PCA stock	3,794	3,942	3,517	3,630
Other stock & cert.	4,770	5,317	4,175	3,941
Land & buildings*	226,609	231,725	228,748	238,936
Total Farm Assets	$468,878	$488,025	$503,750	$537,668
Pers. cash/chkg./savings	$ 14,048	$ 15,373	$ 18,808	$ 15,424
Cash value of life ins.	2,610	2,878	2,534	4,301
Nonfarm real estate	10,708	11,670	17,682	27,750
Auto (personal share)	2,746	3,707	1,864	2,545
Stocks & bonds	1,798	2,060	5,034	5,225
Household furnishings	6,085	6,508	7,455	7,682
All other	1,778	1,819	6,685	5,568
Total Nonfarm Assets**	$ 39,773	$ 44,014	$ 60,062	$ 68,495
Total Farm & Nonfarm Assets	$508,651	$532,039	$563,812	$606,163
LIABILITIES				
Accounts payable	$ 5,626	$ 6,299	$ 4,327	$ 4,632
Operating debt	1,414	1,044	3,546	2,551
Short term	1,997	2,357	2,341	1,896
Advanced gov't. rec.	0	131	0	0
Intermediate***	57,651	58,466	86,091	83,656
Long term*	100,481	95,358	96,662	94,019
Total Farm Liab.	$167,170	$163,655	$192,968	$186,754
Total Nonfarm Liab.**	2,231	2,193	0	0
Total Farm & Nonfarm Liabilities	$169,401	$165,848	$192,968	$186,754
Farm Net Worth (Equity Capital)	$301,709	$324,369	$310,782	$350,913
Farm & Nonfarm Net Worth	$339,250	$366,191	$370,844	$419,409

FINANCIAL MEASURES	70 to 84 Cows	85 to 99 Cows
Percent equity	66%	65%
Debt/asset ratio-long term	0.41	0.39
Debt/asset ratio-inter. & current	0.27	0.31
Change in net worth with apprec.	$22,661	$40,132
Total farm debt per cow	$2,072	$2,008
Debt payments made per cow	$573	$596
Debt payments as % of milk sales	28%	28%
Amount avail. for debt service	$38,245	$51,041
Cash flow coverage ratio for 1987	1.28	1.41

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1987.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
426 New York Dairy Farms, 1987

Farms with:	100 to 149 Cows		150 to 199 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 8,425	$ 11,325	$ 4,975	$ 8,211
Accounts receivable	20,959	21,796	32,791	34,990
Prepaid expenses	49	49	27	46
Feed & supplies	52,784	56,272	78,542	78,949
Livestock*	142,344	154,411	201,180	220,938
Machinery & equipment*	132,545	139,451	167,023	177,120
FLB & PCA stock	6,788	6,712	10,338	10,276
Other stock & cert.	6,087	6,881	14,209	15,368
Land & buildings*	326,668	334,553	464,613	490,415
Total Farm Assets	$696,649	$731,449	$ 973,698	$1,036,313
Pers. cash/chkg./savings	$ 4,243	$ 5,803	$ 5,855	$ 5,683
Cash value of life ins.	4,205	5,000	8,453	8,611
Nonfarm real estate	45,880	59,987	49,118	67,059
Auto (personal share)	1,985	1,942	2,518	2,359
Stocks & bonds	3,932	3,502	13,108	15,000
Household furnishings	6,500	6,571	10,588	10,912
All other	3,629	3,138	8,266	21,494
Total Nonfarm Assets**	$ 70,374	$ 85,943	$ 97,905	$ 131,117
Total Farm & Nonfarm Assets	$767,023	$817,392	$1,071,603	$1,167,430
LIABILITIES				
Accounts payable	$ 4,154	$ 3,625	$ 5,559	$ 6,350
Operating debt	1,875	3,241	5,535	5,074
Short term	2,719	3,074	5,515	4,782
Advanced gov't. rec.	0	0	0	558
Intermediate***	92,101	88,843	138,604	143,167
Long term*	130,697	130,718	213,633	200,919
Total Farm Liab.	$231,546	$229,501	$ 368,847	$ 360,850
Total Nonfarm Liab.**	2,230	1,967	1,707	1,843
Total Farm & Nonfarm Liabilities	$233,776	$231,468	$ 370,554	$ 362,693
Farm Net Worth (Equity Capital)	$465,103	$501,948	$ 604,850	$ 675,463
Farm & Nonfarm Net Worth	$533,247	$585,924	$ 701,049	$ 804,737

FINANCIAL MEASURES	100 to 149 Cows	150 to 199 Cows
Percent equity	69%	65%
Debt/asset ratio-long term	0.39	0.41
Debt/asset ratio-inter. & current	0.25	0.29
Change in net worth with apprec.	$36,845	$70,613
Total farm debt per cow	$1,897	$2,027
Debt payments made per cow	$512	$530
Debt payments as % of milk sales	24%	25%
Amount avail. for debt service	$62,095	$90,571
Cash flow coverage ratio for 1987	1.26	1.35

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1987.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
426 New York Dairy Farms, 1987

Farms with:	200 to 299 Cows		More than 300 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 5,533	$ 6,331	$ 5,013	$ 11,348
Accounts receivable	46,864	48,027	86,323	83,269
Prepaid expenses	0	0	2,156	3,570
Feed & supplies	98,091	112,705	225,951	275,171
Livestock*	284,010	302,384	461,034	511,184
Machinery & equipment*	191,392	200,085	321,564	334,952
FLB & PCA stock	14,980	15,096	15,414	15,132
Other stock & cert.	30,591	31,973	60,604	66,876
Land & buildings*	554,758	572,889	992,505	1,077,050
Total Farm Assets	$1,226,219	$1,289,490	$2,170,564	$2,378,552
Pers. cash/chkg./savings	$ 5,556	$ 5,662	$ 1,981	$ 2,020
Cash value of life ins.	5,206	5,806	1,450	1,814
Nonfarm real estate	9,188	22,063	13,250	32,000
Auto (personal share)	3,969	3,563	500	3,669
Stocks & bonds	7,664	9,351	17,498	20,591
Household furnishings	8,000	9,000	4,500	8,250
All other	18,165	15,798	13,363	17,399
Total Nonfarm Assets**	$ 57,748	$ 71,243	$ 52,541	$ 85,743
Total Farm & Nonfarm Assets	$1,283,967	$1,360,733	$2,223,105	$2,464,295
LIABILITIES				
Accounts payable	$ 17,018	$ 15,638	$ 25,541	$ 11,155
Operating debt	7,171	9,605	59,452	78,052
Short term	16,151	15,277	36,860	15,320
Advanced gov't. rec.	0	258	0	0
Intermediate***	220,564	226,605	351,692	374,108
Long term*	247,034	233,601	490,540	492,358
Total Farm Liab.	$ 507,938	$ 500,985	$ 964,085	$ 970,992
Total Nonfarm Liab.**	7,402	5,466	0	0
Total Farm & Nonfarm Liabilities	$ 515,340	$ 506,451	$ 964,085	$ 970,992
Farm Net Worth (Equity Capital)	$ 718,281	$ 788,505	$1,206,479	$1,407,560
Farm & Nonfarm Net Worth	$ 768,627	$ 854,282	$1,259,020	$1,493,303

FINANCIAL MEASURES	200 to 299 Cows	More than 300 Cows
Percent equity	61%	59%
Debt/asset ratio-long term	0.41	0.46
Debt/asset ratio-inter. & current	0.37	0.37
Change in net worth with apprec.	$70,224	$201,081
Total farm debt per cow	$2,053	$2,167
Debt payments made per cow	$531	$644
Debt payments as % of milk sales	24%	27%
Amount avail. for debt service	$129,196	$273,984
Cash flow coverage ratio for 1987	1.31	1.51

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1987.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

SELECTED BUSINESS FACTORS BY HERD SIZE
426 New York Dairy Farms, 1987

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	69	74	71	41
Cropping Program Analysis					
Total Tillable acres	108	156	224	256	316
Tillable acres rented*	22	51	71	81	105
Hay crop acres*	71	96	126	136	173
Corn silage acres*	15	27	35	47	56
Hay crop, tons DM/acre	2.1	2.3	2.6	2.6	2.4
Corn silage, tons/acre	12.7	14.5	14.4	15.1	15.4
Oats, bushels/acre	35.5	49.4	60.5	56.7	50.0
Forage DM per cow, tons	6.3	7.7	8.1	8.0	7.8
Tillable acres/cow	3.2	3.3	3.6	3.4	3.5
Fert. & lime exp./til. acre	$19.21	$21.94	$21.92	$24.11	$26.57
Total machinery costs	$12,615	$18,201	$26,607	$33,050	$38,073
Machinery cost/tillable acre	$117	$116	$119	$129	$121
Dairy Analysis					
Number of cows	33	47	62	77	90
Number of heifers	22	36	49	63	73
Milk sold, lbs.	509,393	727,966	976,763	1,223,662	1,456,641
Milk sold/cow, lbs.	15,234	15,380	15,816	15,982	16,098
Operating cost of prod. milk/cwt.	$9.30	$9.31	$9.49	$9.22	$8.97
Total cost of prod. milk/cwt.	$16.08	$14.74	$15.05	$14.04	$13.30
Price/cwt. milk sold	$12.89	$12.81	$12.80	$12.86	$12.74
Purchased dairy feed/cow	$537	$494	$486	$506	$476
Purchased dairy feed/cwt. milk	$3.53	$3.21	$3.07	$3.17	$2.96
Purchased grain & conc. as % of milk receipts	26%	24%	23%	24%	23%
Purchased feed & crop expense/cwt. milk	$4.18	$3.98	$3.97	$4.04	$3.92
Capital Efficiency					
Farm capital/worker	$155,705	$154,213	$163,199	$170,205	$173,452
Farm capital/cow	7,203	6,272	6,502	6,249	5,754
Farm capital/til. acre owned	2,801	2,801	2,625	2,718	2,468
Real estate/cow	4,167	3,300	3,263	2,993	2,584
Machinery investment/cow	1,144	1,136	1,246	1,233	1,174
Capital turnover, years	2.76	2.46	2.52	2.37	2.20
Labor Efficiency					
Worker equivalent	1.55	1.93	2.46	2.81	3.00
Operator/manager equivalent	1.04	1.15	1.30	1.28	1.25
Milk sold/worker, lbs.	329,305	378,140	396,964	435,307	485,218
Cows/worker	22	25	25	27	30
Work units/worker	222	258	273	290	323
Labor cost/cow	$462	$431	$436	$404	$378
Labor cost/tillable acre	$143	$131	$120	$121	$108

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

SELECTED BUSINESS FACTORS BY HERD SIZE
426 New York Dairy Farms, 1987

Item — Farms with:	100 to 149 Cows	150 to 199 Cows	200 to 299 Cows	300 or More Cows
Number of farms	70	31	27	11
Cropping Program Analysis				
Total tillable acres	360	524	612	924
Tillable acres rented*	127	240	218	291
Hay crop acres*	190	229	235	302
Corn silage acres*	76	122	187	339
Hay crop, tons DM/acre	2.8	3.0	3.0	3.5
Corn silage, tons/acre	17.2	15.8	17.4	17.6
Oats, bushels/acre	63.6	55.3	52.8	0.0
Forage DM per cow, tons	8.2	7.9	7.7	7.1
Tillable acres/cow	3.0	3.1	2.5	2.1
Fert. & lime exp./til. acre	$28.94	$28.09	$33.44	$31.89
Total machinery costs	$51,831	$77,405	$93,784	$151,843
Machinery cost/tillable acre	$144	$148	$153	$164
Dairy Analysis				
Number of cows	119	171	241	436
Number of heifers	96	136	183	329
Milk sold, lbs.	1,894,774	2,773,091	4,023,474	8,195,157
Milk sold/cow, lbs.	15,915	16,217	16,710	18,808
Operating cost of prod. milk/cwt.	$9.25	$9.62	$9.61	$9.04
Total cost of prod. milk/cwt.	$13.83	$13.55	$12.74	$11.53
Price/cwt. milk sold	$12.99	$13.03	$12.95	$12.76
Purchased dairy feed/cow	$485	$515	$582	$640
Purchased dairy feed/cwt. milk	$3.05	$3.18	$3.49	$3.40
Purchased grain & conc. as % of milk receipts	23%	24%	26%	25%
Purchased feed & crop expense/cwt. milk	$4.06	$4.12	$4.40	$4.17
Capital Efficiency				
Farm capital/worker	$201,546	$212,060	$197,933	$234,931
Farm capital/cow	5,998	5,877	5,224	5,220
Farm capital/til. acre owned	3,065	3,539	3,193	3,593
Real estate/cow	2,777	2,792	2,342	2,375
Machinery investment/cow	1,142	1,006	813	753
Capital turnover, years	2.32	2.08	1.90	1.74
Labor Efficiency				
Worker equivalent	3.54	4.74	6.35	9.68
Operator/manager equivalent	1.49	1.57	1.54	1.43
Milk sold/worker, lbs.	534,815	585,133	633,126	846,448
Cows/worker	34	36	38	45
Work units/worker	352	375	384	443
Labor cost/cow	$360	$388	$386	$450
Labor cost/tillable acre	$119	$126	$152	$212

*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

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

Other Agricultural Economics Extension Papers

No. 88-26	1987 Northeast Beef Cow-Calf Farm Business Summary	C. Rasmussen S. Smith D. Fox
No. 88-27	Director Compensation in Northeast Agricultural Cooperatives	B. Anderson B. Henehan
No. 88-28	New York Economic Handbook, 1989 Agriculture Situation and Outlook	Extension Staff
No. 88-29	The U.S. Dairy Situation and Outlook	A. Novakovic M. Keniston
No. 89-1	The Competitiveness of New York Onions During the 1987-88 Marketing Year	E. Figueroa
No. 89-2	List of Available Agricultural Economics Publications and Computer Programs	B. Stanton D. Walker
No. 89-3	Regional Differences in the Dairy Industry and Their Use in Evaluating Dairy Surpluses	A. Novakovic M. Keniston
No. 89-4	Agricultural District Legislation in New York, As Amended Through 1988	K. Gardner
No. 89-5	Microcomputers and Small Local Governments in New York: Five Case Studies Executive Summary	D. Wilcox
No. 89-6	Regional Factors Affecting the Impact of Biotechnology in U.S. Crop Production	J. Love L. Tauer
No. 89-7	National Dairy Markets and Policy and Some Implications for New York	A. Novakovic
No. 89-8	Dairy Farm Business Summary, Northern New York, 1988	S. Smith L. Putnam
No. 89-9	Dairy Farm Business Summary, Western Plain Region, 1988	S. Smith L. Putnam