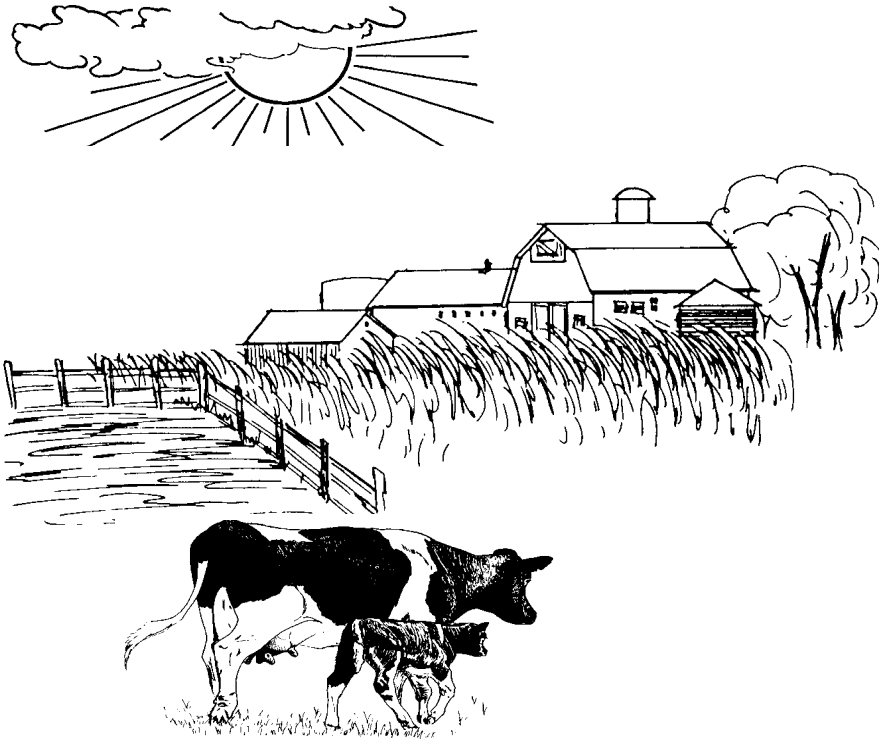
DAIRY FARM BUSINESS SUMMARY

JUNE 1999 *E.B. 99-09*

NORTHERN HUDSON REGION 1998



George J. Conneman
Linda D. Putnam
Cathy S. Wickswat
Sandra Buxton
Dayton Maxwell

Department of Agricultural, Resource, and Managerial Economics
College of Agriculture and Life Sciences
Cornell University, Ithaca, New York 14853-7801

1998 DAIRY FARM BUSINESS SUMMARY
Northern Hudson Region
Table of Contents

1998 DAIRY FARM BUSINESS SUMMARY
NORTHERN HUDSON REGION*

INTRODUCTION

Dairy farm managers throughout New York State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Managers of each participating farm business receive a comprehensive summary and analysis of their farm business. The information in this report represents averages of the data submitted from dairy farms in the Nothern Hudson Region for 1998.

Program Objective

The primary objective of the dairy farm business summary, DFBS, is to help farm managers improve the business and financial management of their business through appropriate use of historical data and the application of modern farm business analysis techniques. This information can also be used to establish goals that enable the business to better fulfill its mission. In short, DFBS provides business and financial information needed in identifying and evaluating strengths and weaknesses of the farm business.

Format Features

This regional report follows the same general format as the 1998 DFBS individual farm report received by particpating dairy farmers. 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. The individual farm data, the regional averages and other data can then be used to establish goals for the business. A DFBS Data Check-in Form can be used by non-DFBS participants to summarize their businesses.

This report features:

(1) an income statement including accrual adjustments for farm business expenses and receipts, as well as measures of profitability with and without appreciation,

(2) a complete balance sheet with analytical ratios;

(3) a statement of owner equity which shows the sources of the change in owner equity during the year;

(4) a cash flow statement and debt repayment ability analysis;

(5) an analysis of crop acreage, yields, and expenses;

(6) an analysis of dairy livestock numbers, production, and expenses;

(7) a capital and labor efficiency analysis; and

(8) progress of the farm business over the past two years.

---

*The Northern Hudson Region of New York State, with the number of participating farms in parentheses, is comprised of Albany (5), Saratoga (13), Schenectady (4), Rensselaer (25), Washington (15), and Greene (1) counties. This report was written by George J. Conneman, Professor, Farm Management. Linda D. Putnam was in charge of data preparation. Faye Butts prepared the publication. Farm business data were collected by Cooperative Extension Agents Cathy Wickswat; Sandra Buxton; Dayton Maxwell; and Senior Extension Associate in ProDairy, Jason Karszes.

SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics

Planning optimal management strategies is a crucial component 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 farms with each characteristic.

BUSINESS CHARACTERISTICS
63 Northern Hudson Region Dairy Farms, 1998

Type of Farm	Number
Dairy	62
Part-time dairy	0
Dairy cash-crop	1
Certified organic milk producer	0
Rotational grazing farm	1

Type of Ownership	Number
Owner	57
Renter	6

Type of Business	Number
Sole Proprietorship	29
Partnership	30
Corporation	4

Type of Barn	Number
Stanchion or Tie-Stall	16
Freestall	43
Combination	4

Milking Frequency	Number
2 times per day	51
3 times per day	12
Other	0

Milking System	Number
Bucket & carry	0
Dumping station	0
Pipeline	17
Herringbone parlor	35
Other parlor	11

Production Records	Number
DHIC	52
Owner-Sampler	2
Other	2
None	7

bST Usage	Number
Used on <25% of herd	12
Used on 25-75% of herd	23
Used on >75% of herd	2
Stopped using in 1998	1
Not used in 1998	25

Business Record System	Number
Account Book	6
Agrifax (mail-in only)	16
On-farm computer	28
Other	13

The averages used in this report were compiled using data from all the participating dairy farms in this region unless noted otherwise. There are full-time dairy farms, part-time farms, dairy cash-crop farms, farm renters, partnerships, and corporations included in the average. Average data for these specific types of farms are presented in the State Business Summary.

Income Statement

In order for an income statement to accurately measure farm income, it must include cash transactions and accrual adjustments (changes in accounts payable, accounts receivable, inventories, and prepaid expenses).

Cash paid is the actual cash outlay during the year and does not necessarily represent the cost of goods and services actually used in 1998.

Change in inventory: Increases in inventories of supplies and other purchased inputs are subtracted in computing accrual expenses because they represent purchased inputs not actually used during the year. Decreases in purchased inventories are added to expenses because they represent inputs purchased in a prior year and used this year.

CASH AND ACCRUAL FARM EXPENSES
63 Northern Hudson Region Dairy Farms, 1998

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
Hired Labor	$ 56,739		$ 19	<<	$ 4		$ 56,723
Feed							
Dairy grain & concentrate	147,262		16,144		-2,427		128,691
Dairy roughage	8,292		447		523		8,368
Nondairy	0		0		0		0
Machinery							
Machinery hire, rent & lease	9,114		-36	<<	-176		8,974
Machinery repairs & farm vehicle exp.	36,211		158		-574		35,479
Fuel, oil & grease	10,207		-41		-181		10,067
Livestock							
Replacement livestock	5,712		0	<<	-323		5,389
Breeding	7,049		55		3		6,997
Veterinary & medicine	17,632		402		-26		17,204
Milk marketing	26,230		0	<<	28		26,258
Bedding	6,405		-21		-54		6,372
Milking supplies	10,239		51		-178		10,010
Cattle lease & rent	38		0	<<	0		38
Custom boarding	2,806		0	<<	0		2,806
bST	6,235		54		-34		6,148
Other livestock expense	7,884		222		-80		7,582
Crops							
Fertilizer & lime	21,776		2,192		-1,599		17,985
Seeds & plants	8,695		486		-182		8,027
Spray, other crop expense	8,501		378		89		8,212
Real Estate							
Land, building & fence repair	8,976		-178		-67		9,087
Taxes	7,856		90	<<	-29		7,737
Rent & lease	7,890		-12	<<	17		7,920
Other							
Insurance	4,677		5	<<	0		4,672
Utilities (farm share)	11,838		101	<<	-15		11,722
Interest paid	22,581		11	<<	-6		22,564
Miscellaneous	5,515		43		-40		5,433
Total Operating	$466,360		$ 20,571		$ -5,324		$ 440,465
Expansion livestock	6,685		0	<<	0		6,685
Machinery depreciation							15,637
Building depreciation							9,906
TOTAL ACCRUAL EXPENSES							$ 472,693

Change in prepaid expenses (noted above by <<) is a net change in non-inventory expenses that have been paid in advance of their use. For example, prepaid lease expense on the beginning of year balance sheet represents last year's payment for use of the asset during this year. End of year prepaid expense represents payments made this year for next year's use of the asset. Adding payments made last year for this year's use of the asset, and subtracting payments made this year for next year's use of the asset is accomplished by subtracting the difference.

Change in accounts payable: An increase in accounts payable from beginning to end of year is added when calculating accrual expenses because these expenses were incurred (resources used) in 1998 but not paid for. A decrease is subtracted because it represents payment for resources used before 1998.

Accrual expenses are an estimate of the costs of inputs, except operator/family labor and equity capital, actually used in this year's production. They are the cash paid, less changes in inventory and prepaid expenses, plus accounts payable.

CASH AND ACCRUAL FARM RECEIPTS
63 Northern Hudson Region Dairy Farms, 1998

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	$ 508,790				$ 6,012		$ 514,802
Dairy cattle	17,007		$ 16,643		141		33,790
Dairy calves	3,211				0		3,211
Other livestock	819		-200		0		619
Crops	5,296		10,555		-16		15,835
Government receipts	8,487		143 *		0		8,630
Custom machine work	700				75		775
Gas tax refund	112				0		112
Other	4,518				-63		4,455
Less nonfarm noncash capital**		(-)	0 **			(-)	0
Total Receipts	$ 548,941		$ 27,141		$ 6,148		$ 582,229

*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 of assets produced by the business 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/or quality are subtracted. Changes in inventories of crops grown are also included. An increase in advanced government receipts is subtracted from cash income because it represents income received in 1998 for the 1999 crop year in excess of funds earned for 1998. Likewise, a decrease is added to cash government receipts because it represents funds earned for 1998 but received in 1997.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 1999 for milk produced in December 1998 compared to January 1998 payments for milk produced in 1997 are included as a change in accounts receivable in determining accrual milk sales.

Accrual receipts represent the value of all farm commodities produced and services actually generated by the farm business during the year.

Profitability Analysis

Farm operators* contribute labor, management, and equity capital to their businesses and the combination of these resources, and the other resources used in the business, determines profitability. 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.

The return to any individual resource must be viewed as an estimate because the cost of other family resources must be approximated to calculate returns to the selected resource. For example, the costs of operator and family labor and management must be approximated to calculate the returns to equity capital.

* Operators are the individuals who are integrally involved in the operation and management of the farm business. They are not limited to those who are the owner of a sole proprietorship or are formally a member of the partnership or corporation.

Net farm income is the 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, and financing 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.

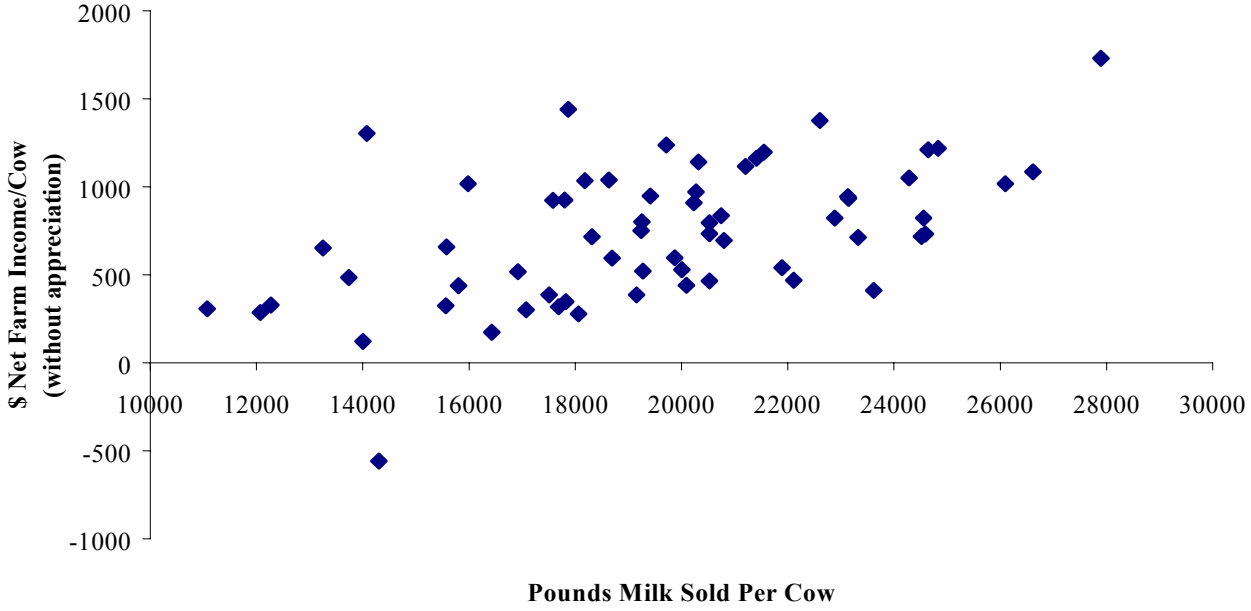
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

NET FARM INCOME
63 Northern Hudson Region Dairy Farms, 1998

Item	Average Total	Average Per Cow	My Farm Total	My Farm Per Cow
Total accrual receipts	$ 582,229		$ _____	
Appreciation: Livestock	4,040		_____	
Machinery	1,745		_____	
Real Estate	2,101		_____	
Other Stock & Certificates	264		_____	
Total Including Appreciation	$ 590,379		$ _____	
Total accrual expenses	- 472,693		- _____	
Net Farm Income (with appreciation)	$ 117,686	$ 769	$ _____	$_____
Net Farm Income (without appreciation)	$ 109,536	$ 716	$ _____	$_____

The chart below shows the relationship between net farm income per cow (with appreciation) and pounds of milk sold per cow. Generally, farms with a higher production per cow have higher profitability per cow.

NET FARM INCOME/COW AND MILK/COW
63 Northern Hudson Region Dairy Farms, 1998



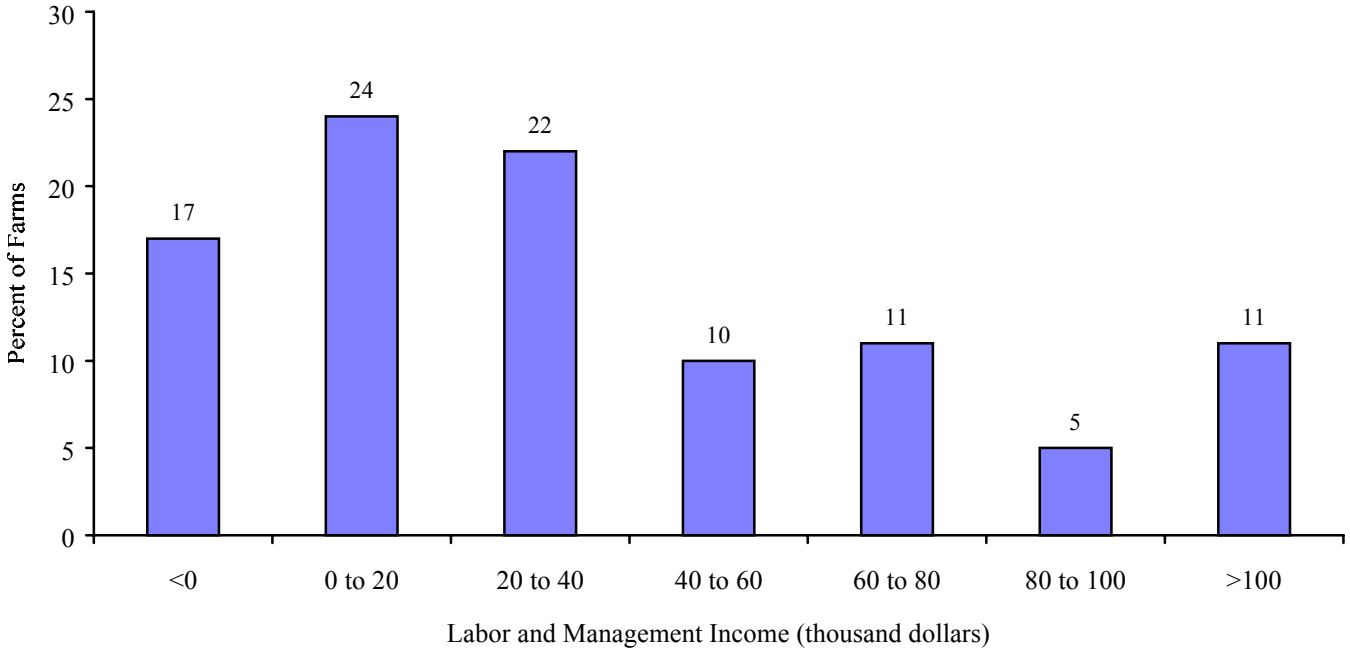
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and management income is calculated by deducting a charge for unpaid family labor and the opportunity cost of equity capital, at a real interest rate of five percent, from net farm income 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
63 Northern Hudson Region Dairy Farms, 1998

Item	Average	My Farm
Net farm income without appreciation	$ 109,536	$ _____
Family labor unpaid @ $1,600 per month	- 4,960	- _____
Interest on $704,156 average equity capital @ 5% real rate	- 35,208	- _____
Labor & Management Income per farm (1.78 Operators/farm)	$ 69,368	$ _____
Labor & Management Income per Operator/Manager	$ 38,971	$ _____

Labor and management income per operator averaged $38,971 on these 63 farms in 1998. The range in labor and management income per operator was from about $-60,000 to more than $183,000. Returns to labor and management were negative on 17% of the farms. Labor and management income per operator was between $0 and $40,000 on 46% of the farms while 37% showed labor and management incomes of $40,000 or more per operator.

DISTRIBUTION OF LABOR & MANAGEMENT INCOMES PER OPERATOR
63 Northern Hudson Region Dairy Farms, 1998



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. Rate of return on total capital is calculated by adding interest paid to the return on equity capital and then dividing by average farm assets.

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
63 Northern Hudson Region Dairy Farms, 1998

Item	Average	My Farm
Net farm income with appreciation	$ 117,686	$ _____
Family labor unpaid @$1,600 per month	- 4,960	- _____
Value of operators' labor & management	- 38,746	- _____
Return on equity capital with appreciation	$ 73,980	$ _____
Interest paid	+ 22,564	+ _____
Return on total capital with appreciation	$ 96,544	$ _____
Return on equity capital without appreciation	$ 65,830	$ _____
Return on total capital without appreciation	$ 88,394	$ _____
Rate of return on average equity capital:		
with appreciation	10.5%	_____ %
without appreciation	9.4%	_____ %
Rate of return on average total capital:		
with appreciation	9.3%	_____ %
without appreciation	8.6%	_____ %

Farm and Family Financial Status

The first step in evaluating the financial position of the farm is to construct a balance sheet which identifies and values 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.

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. For 1998, lease payments were discounted by 8.75 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 1998 that are for participation in the 1999 program are the end year balance and payments received in 1997 for participation in the 1998 program are the beginning year balance.

Current Portion or principal due in the next year for intermediate and long term debt is included as a current liability.

1998 FARM BUSINESS & NONFARM BALANCE SHEET

63 Northern Hudson Region Dairy Farms, 1998

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 5,903	$ 6,327	Accounts payable	$ 16,537	$ 11,213
Accounts receivable	38,065	44,212	Operating debt	13,285	17,847
Prepaid expenses	159	338	Short Term	4,958	1,872
Feed & supplies	83,244	114,183	Advanced govt. receipts	178	35
			Current Portion:		
			Intermediate	26,247	35,002
			Long Term	5,089	6,006
Total Current	$ 127,371	$ 165,060	Total Current	$ 66,294	$ 71,975
Intermediate			Intermediate		
Dairy cows:			Structured debt		
owned	$ 160,746	$ 173,197	1-10 years	$ 131,789	$ 143,640
leased	48	34	Financial lease		
Heifers	66,666	74,873	(cattle/machinery)	3,518	3,861
Bulls & other livestock	3,312	3,138	Farm Credit stock	3,659	3,883
Mach. & equip. owned	162,990	185,543	Total Intermediate	$ 138,966	$ 151,384
Mach. & equip. leased	3,470	3,827			
Farm Credit stock	3,659	3,883			
Other stock/certificate	16,155	17,634			
Total Intermediate	$ 417,046	$ 462,129			
			Long Term		
Long Term			Structured debt		
Land & buildings:			>10 years	$ 116,130	$ 112,804
owned	$ 442,497	$ 451,761	Financial lease		
leased	504	69	(structures)	504	69
Total Long Term	$ 443,001	$ 451,830	Total Long Term	$ 116,634	$ 112,873
			Total Farm Liab.	$ 321,894	$ 336,232
Total Farm Assets	$ 987,418	$1,079,019	FARM NET WORTH	$ 665,524	$ 742,787

Nonfarm Assets, Liabilities & Net Worth (Average of 29 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	$ 769	$ 1,174	Nonfarm Liabilities	$ 1,196	$ 1,455
Cash value life insurance	15,900	16,144			
Nonfarm real estate	9,034	9,034			
Auto (personal share)	3,414	3,545			
Stocks & bonds	12,689	14,741			
Household furnishings	8,379	8,443			
All other nonfarm assets	13,762	14,783			
Total Nonfarm Assets	$ 63,947	$ 67,864	NONFARM NET WORTH	$ 62,751	$ 66,409

Farm & Nonfarm Assets, Liabilities, and Net Worth*	Jan. 1	Dec. 31
Total Assets	$1,051,365	$1,146,883
Total Liabilities	323,090	337,687
TOTAL FARM & NONFARM NET WORTH	$ 728,275	$ 809,196

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

The following condensed balance sheet, including deferred taxes, contains average data from only those farmers who elected to provide the additional information required to compute deferred taxes. Deferred taxes represent an estimate of the taxes that would be paid if the farm were sold at year end fair market values on the date of the balance sheet. Accuracy is dependent on the accuracy of the market values and the tax basis data provided. Any tax liability for assets other than livestock, machinery, land, buildings and nonfarm assets is excluded. It is assumed that all gain on purchased livestock and machinery is ordinary gain and that listed market values are net of selling costs. The effects of investment tax credit carry-over and recapture, carryover of operating losses, alternative minimum taxes and other than average exemptions and deductions are excluded because they have only minor influence on the taxes of most farms. The dramatic impact of including deferred taxes is clear. Total liabilities were increased 59 percent on these 6 farms by including deferred taxes.

Deferred taxes on these six farms totaled an average of $305,913, roughly one-third of the pretax net worth. Net worth decreased from 63 percent to 43 percent when deferred taxes are included on these farms. When examining net worth, especially as a source of cash for retirement or other purposes, deferred taxes become an important consideration. Deferred taxes in this calculation specify that all assets were sold during one tax year. Therefore, tax management strategies such as making sales in more than one year or installment sales warrant careful consideration to reduce income tax liabilities.

CONDENSED BALANCE SHEET INCLUDING DEFERRED TAXES
December 31, 1998
6 New York Dairy Farms, 1998

Assets		Liabilities & Net Worth	
		Current debts & payables	$ 110,688
		Current deferred taxes	60,728
Total Current Assets	$ 198,183	Total Current Liabilities	$ 171,416
		Intermediate debts & leases	$ 196,519
		Intermediate deferred taxes	165,443
Total Inter. Assets	$ 703,305	Total Intermediate Liabilities	$ 361,962
		Long term debts & leases	$ 215,577
		Long term deferred taxes	79,742
Total Long Term Assets	$ 531,142	Total Long Term Liabilities	$ 295,319
TOTAL FARM ASSETS	$ 1,432,630	TOTAL FARM LIABILITIES	$ 828,697
		Farm Net Worth	$ 603,933
		Percent Equity (Farm)	42%
		Nonfarm debts	$ 1,250
		Nonfarm deferred taxes	13,287
Total Nonfarm Assets	$ 48,538	Total Nonfarm Liabilities	$ 14,537
TOTAL ASSETS	$ 1,481,168	TOTAL LIABILITIES	$ 843,234
		Total Net Worth	$ 637,937
		Percent Equity (Total)	43%

Balance sheet analysis involves examination of relative asset and debt levels for the business. Percent equity is calculated by dividing end of year net worth by end of year assets and multiplying by 100. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect business solvency and the potential capacity to borrow. Debt levels per productive unit represent old standards that are still useful if used with measures of cash flow and repayment ability. A current ratio of less than 1.5 or that has been falling warrants additional evaluation. The amount of working capital that is adequate must be related to the size of the farm business.

BALANCE SHEET ANALYSIS
63 Northern Hudson Region Dairy Farms, 1998

Item			Average	My Farm
Financial Ratios - Farm:				
Percent equity			69%	_____ %
Debt/asset ratio:	total		0.31	_____
	long-term		0.25	_____
	intermediate/current		0.36	_____
Current Ratio:			2.29	
Working capital	$93,085	As % of total Expenses:	20%	
Farm Debt Analysis:				
Accounts payable as % of total debt			3%	_____ %
Long-term liabilities as a % of total debt			34%	_____ %
Current & inter. liabilities as a % of total debt			66%	_____ %

Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$ 2,115	$ 1,673	$ _____	$ _____
Long-term debt	710	562	_____	_____
Intermediate & long term	1,662	1,315	_____	_____
Intermediate & current debt	1,405	1,111	_____	_____

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
63 Northern Hudson Region Dairy Farms, 1998

Item	Average of Region's Farms			
	Real Estate		Machinery & Equipment	
Value beginning of year		$ 442,497		$ 162,990
Purchases	$ 28,595*		$ 39,899	
Gift & inheritance	+ 1,030		+ 321	
Lost capital	- 12,556			
Sales	- 0		- 3,774	
Depreciation	- 9,906		- 15,637	
Net investment		= 7,163		= 20,808
Appreciation		+ 2,101		+ 1,745
Value end of year		$ 451,761		$ 185,543

*$ 334 land and $ 28,261 buildings and/or depreciable improvements.

The Statement of Owner Equity has two purposes. It allows (1) verification that the accrual income statement and market value balance sheet are consistent (in accountants terms, they reconcile) and (2) identification of the causes of change in equity that occurred on the farm during the year. The Statement of Owner Equity allows you to determine to what degree the change in equity was caused by (1) earnings from the business, and nonfarm income, in excess of withdrawals being retained in the business (called retained earnings), (2) outside capital being invested in the business or farm capital being removed from the business (called contributed/withdrawn capital) , (3) increases or decreases in the value (price) of assets owned by the business (called change in valuation equity), and (4) the error in the business cash flow accounting.

Retained earnings is an excellent indicator of farm generated financial progress.

STATEMENT OF OWNER EQUITY (RECONCILIATION)
63 Northern Hudson Region Dairy Farms, 1998

Item	Average		My Farm	
Beginning of year farm net worth		$ 665,524		$_____
Net farm income w/o appreciation	$ 109,536		$ _____	
+Nonfarm cash income	+ 12,515		+ _____	
-Personal withdrawals & family expenditures excluding nonfarm borrowings	- 44,872		- _____	
RETAINED EARNINGS		+ $ 77,179		+$_____
Nonfarm noncash transfers to farm	$ 1,351		$ _____	
+Cash used in business from nonfarm capital	+ 3,696		+ _____	
-Note or mortgage from farm real estate sold (nonfarm)	- 0		- _____	
CONTRIBUTED/WITHDRAWN CAPITAL		+ $ 5,047		+$_____
Appreciation	$ 8,150		$ _____	
-Lost capital	- 12,556		- _____	
CHANGE IN VALUATION EQUITY		+ $ -4,406		+$_____
IMBALANCE/ERROR		- 557		- $_____
End of year net worth*		= $ 742,787		=$_____

Change in Net Worth		
Without appreciation	$ 69,113	$_____
With appreciation	$ 77,263	$_____

*May not add due to rounding.

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 show net cash provided by operating activities, investing activities, financing activities and from reserves. All cash inflows and outflows, including beginning and end balances, are included. Therefore, the sum of net cash provided from all four activities should be zero. Any imbalance is the error from incorrect accounting of cash inflows/outflows.

ANNUAL CASH FLOW STATEMENT
63 Northern Hudson Region Dairy Farms, 1998

Item			Average	
Cash Flow from Operating Activities				
	Cash farm receipts	$ 548,941		
-	Cash farm expenses	466,360		
=	Net cash farm income		$ 82,581	
	Personal withdrawals & family expenses			
	including nonfarm debt payments	$ 45,679		
-	Nonfarm income	12,515		
-	Net cash withdrawals from the farm		$ 33,164	
=	Net Provided by Operating Activities			$ 49,417
Cash Flow From Investing Activities				
	Sale of assets: machinery	$ 3,774		
	+ real estate	0		
	+ other stock & cert.	149		
=	Total asset sales		$ 3,923	
	Capital purchases: expansion livestock	$ 6,685		
	+ machinery	39,899		
	+ real estate	28,595		
	+ other stock& cert.	1,364		
-	Total invested in farm assets		$ 76,543	
=	Net Provided by Investment Activities			$ -72,620
Cash Flow From Financing Activities				
	Money borrowed (intermediate & long term)	$ 65,985		
+	Money borrowed (short term)	2,997		
+	Increase in operating debt	4,562		
+	Cash from nonfarm capital used in business	3,696		
+	Money borrowed - nonfarm	807		
=	Cash inflow from financing		$ 78,047	
	Principal payments (intermediate & long term)	$ 47,788		
+	Principal payments (short term)	6,083		
+	Decrease in operating debt	0		
-	Cash outflow for financing		$ 53,871	
=	Net Provided by Financing Activities			$ 24,176
Cash Flow From Reserves				
	Beginning farm cash, checking & savings		$ 5,903	
-	Ending farm cash, checking & savings		6,327	
=	Net Provided from Reserves			$ -424
Imbalance (error)				$ 549

ANNUAL CASH FLOW STATEMENT

Item		My Farm	
Cash Flow from Operating Activities			
Cash farm receipts	$ _____		
- Cash farm expenses	_____		
= Net cash farm income		$ _____	
Personal withdrawals & family expenses including nonfarm debt payments	$ _____		
- Nonfarm income	_____		
- Net cash withdrawals from the farm		$ _____	
= Net Provided by Operating Activities			$ _____
Cash Flow From Investing Activities			
Sale of assets: machinery	$ _____		
+ real estate	_____		
+ other stock & cert.	_____		
= Total asset sales		$ _____	
Capital purchases: expansion livestock	$ _____		
+ machinery	_____		
+ real estate	_____		
+ other stock & cert.	_____		
- Total invested in farm assets		$ _____	
= Net Provided by Investment Activities			$ _____
Cash Flow From Financing Activities			
Money borrowed (intermediate & long term)	$ _____		
+ Money borrowed (short term)	_____		
+ Increase in operating debt	_____		
+ Cash from nonfarm capital used in business	_____		
+ Money borrowed - nonfarm	_____		
= Cash inflow from financing		$ _____	
Principal payments (intermediate & long term)	$ _____		
+ Principal payments (short term)	_____		
+ Decrease in operating debt	_____		
- Cash outflow for financing		$ _____	
= Net Provided by Financing Activities			$ _____
Cash Flow From Reserves			
Beginning farm cash, checking & savings		$ _____	
- Ending farm cash, checking & savings		_____	
= Net Provided from Reserves			$ _____
Imbalance (error)			$ _____

Repayment Analysis

A valuable use of 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 1998. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1999 debt payments shown below.

FARM DEBT PAYMENTS PLANNED

Same 48 Northern Hudson Region Dairy Farms, 1997 & 1998

	Average			My Farm		
	1998 Payments		Planned	1998 Payments		Planned
Debt Payments	Planned	Made	1999	Planned	Made	1999
Long term	$ 14,444	$ 16,220	$ 14,683	$ _____	$ _____	$ _____
Intermediate term	37,308	56,918	46,492	_____	_____	_____
Short term	4,093	6,367	1,092	_____	_____	_____
Operating (net reduction)	1,954	0	3,726	_____	_____	_____
Accounts payable (net reduction)	2,905	4,350	1,005	_____	_____	_____
Total	$ 60,704	$ 83,855	$ 66,998	$ _____	$ _____	$ _____
Per cow	$ 407	$ 563		$ _____	$ _____	
Per cwt. 1998 milk	$ 1.94	$ 2.68		$ _____	$ _____	
Percent of total 1998 farm receipts	11%	15%		_____	_____	
Percent of 1998 milk receipts	12%	17%		_____	_____	

The cash flow coverage ratio and debt coverage ratio measure the ability of the farm business to meet its planned debt payment schedule. The ratios show the percentage of payments planned for 1998 (as of December 31, 1997) that could have been made with the amount available for debt service in 1998. Farmers who did not participate in DFBS in 1997 have their 1998 ratios based on planned debt payments for 1999.

COVERAGE RATIOS

Same 48 Northern Hudson Region Dairy Farms, 1997 & 1998

Item	Average	Item	Average
Cash Flow Coverage Ratio		Debt Coverage Ratio	
Cash farm receipts	$539,738	Net farm income (w/o apprec.)	$111,941
- Cash farm expenses	455,695	+ Depreciation	24,549
+ Interest paid (cash)	21,475	+ Interest paid (accrual)	21,453
- Net personal withdrawals from farm*	32,881	- Net personal withdrawals from farm*	32,881
(A) = Amount Available for Debt Service	$72,637	(A') = Repayment Capacity	$125,062
(B) = Debt Payments Planned for 1998 (as of December 31, 1997)	$60,704	(B) = Debt Payments Planned for 1998 (as of December 31, 1997)	$60,704
(A/ B)= Cash Flow Coverage Ratio for 1998	1.20	(A'/B)= Debt Coverage Ratio for 1998	2.06

*Personal withdrawals and family expenditures less nonfarm income and nonfarm money borrowed. If family withdrawals are excluded, or inaccurately included, the ratios will be incorrect.

ANNUAL CASH FLOW WORKSHEET

Item	Regional Average Per Cow	Regional Average Per Cwt.	My Farm Per Cow/ Per Cwt.	Expected Change	1999 Projection
Average no. of cows	153		_____	_____	_____
Total cwt. of milk sold		31,852	_____	_____	_____
Accrual Operating Receipts					
Milk	$ 3,365	$ 16.16	$_____	_____	$ _____
Dairy cattle	221	1.06	_____	_____	_____
Dairy calves	21	0.10	_____	_____	_____
Other livestock	4	0.02	_____	_____	_____
Crops	103	0.50	_____	_____	_____
Misc. Receipts	91	0.44	_____	_____	_____
Total	$ 3,805	$ 18.28	$_____	_____	$ _____
Accrual Operating Expenses					
Hired labor	$ 371	$ 1.78	$_____	_____	$ _____
Dairy grain & concentrate	841	4.04	_____	_____	_____
Dairy roughage	55	0.26	_____	_____	_____
Nondairy feed	0	0.00	_____	_____	_____
Mach. hire, rent & lease	59	0.28	_____	_____	_____
Mach. repair & vehicle exp.	232	1.11	_____	_____	_____
Fuel, oil & grease	66	0.32	_____	_____	_____
Replacement livestock	35	0.17	_____	_____	_____
Breeding	46	0.22	_____	_____	_____
Vet & medicine	112	0.54	_____	_____	_____
Milk marketing	172	0.82	_____	_____	_____
Bedding	42	0.20	_____	_____	_____
Milking supplies	65	0.31	_____	_____	_____
Cattle lease	0	0.00	_____	_____	_____
Custom boarding	18	0.09	_____	_____	_____
bST	40	0.19	_____	_____	_____
Other livestock exp.	50	0.24	_____	_____	_____
Fertilizer & lime	118	0.56	_____	_____	_____
Seeds & plants	52	0.25	_____	_____	_____
Spray & other crop exp.	54	0.26	_____	_____	_____
Land, bldg., fence repair	59	0.29	_____	_____	_____
Taxes	51	0.24	_____	_____	_____
Real estate rent & lease	52	0.25	_____	_____	_____
Insurance	31	0.15	_____	_____	_____
Utilities	77	0.37	_____	_____	_____
Miscellaneous	36	0.17	_____	_____	_____
Total Less Interest Paid	$ 2,731	$ 13.12	$_____	_____	$ _____
Net Accrual Operating Income	Total				
(without interest paid)	$ 164,328		$_____		$ _____
- Change in livestock & crop invent.*	27,141		_____	_____	_____
- Change in accounts receivable	6,148		_____	_____	_____
- Change in feed & supply inventory**	20,571		_____	_____	_____
+ Change in accounts payable***	-5,318		_____	_____	_____
NET CASH FLOW	$ 105,162		$_____		$ _____
- Net family withdrawals	$ 32,357		_____	_____	_____
Available for Farm	$ 72,805		$_____		_____
- Farm debt payments	80,680		_____	_____	_____
Available for Farm Investment	$ -7,875		$_____		$ _____
- Capital purchases	76,543		_____	_____	_____
Additional Capital Needed	$ 84,418		$_____	_____	$ _____

*Includes change in advance government receipts. **Includes change in prepaid expenses. ***Excludes change in interest account payable.

Cropping Analysis

The cropping program is an important part of the dairy farm business and often represents opportunities for improved productivity and profitability. A complete evaluation of what the available land resources are, how they are being used, the level of crop yields, and what it costs to produce crops is important in evaluating alternative cropping and feed purchasing alternatives.

LAND RESOURCES AND CROP PRODUCTION
63 Northern Hudson Region Dairy Farms, 1998

Item	Average			My Farm		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	201	224	425	_____	_____	_____
Nontillable	44	15	59	_____	_____	_____
Other nontillable	98	6	104	_____	_____	_____
Total	343	245	588	_____	_____	_____

Crop Yields	Farms	Acres*	Prod/Acre	Acres	Prod/Acre
Hay crop	59	249	2.56 tn DM	_____	_____ tn DM
Corn silage	58	155	15.12 tn	_____	_____ tn
			5.00 tn DM		_____ tn DM
Other forage	5	66	1.62 tn DM	_____	_____ tn DM
Total forage	60	400	3.47 tn DM	_____	_____ tn DM
Corn grain	26	70	115 bu	_____	_____ bu
Oats	5	25	40 bu	_____	_____ bu
Wheat	1	29	68 bu	_____	_____ bu
Other crops	6	17		_____	
Tillable pasture	4	96		_____	
Idle	5	55		_____	
Total Tillable Acres	63	425		_____	

*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 233, corn silage 142, corn grain 29, oats 2, tillable pasture 6, and idle 5.

Average crop acres and yields compiled for the region are for the 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 crop/dairy ratios indicate the relationship between forage production, forage production resources, and the dairy herd.

CROP/DAIRY RATIOS
63 Northern Hudson Region Dairy Farms, 1998

Item	Average	My Farm
Total tillable acres per cow	2.78	_____
Total forage acres per cow	2.48	_____
Harvested forage dry matter, tons per cow	8.63	_____

Cropping Analysis (continued)

A number of cooperators have allocated crop expenses among 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, 1998

Item	Total Per Till. Acre	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Sh. Bu.	Hay Crop Per Acre	Hay Crop Per Ton DM	Pasture Per Till Acre	Pasture Per Total Acre
No. of farms reporting	63	11			9		0	
Ave. number of acres	425	231			221		0	0
Fert. & lime	$ 42.32	$ 36.01	$ 6.22	$ 0.31	$ 34.54	$ 12.76	$ 0.00	$ 0.00
Seeds & plants	18.89	24.14	4.17	0.21	15.81	5.84	0.00	0.00
Spray & other crop exp.	19.32	41.18	7.11	0.35	5.73	2.12	0.00	0.00
TOTAL	$ 80.53	$ 101.33	$ 17.50	$ 0.87	$ 56.08	$ 20.72	$ 0.00	$ 0.00
My Farm								
Fert. & lime	$_____	$_____	$_____	$_____	$_____	$_____	$_____	$_____
Seeds & plants	_____	_____	_____	_____	_____	_____	_____	_____
Spray & other crop exp.	_____	_____	_____	_____	_____	_____	_____	_____
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
63 Northern Hudson Region Dairy Farms, 1998

Machinery Expense	Average Total Expenses	Average Per Till. Acre	My Farm Total Expenses	My Farm Per Till. Acre
Fuel, oil & grease	$ 10,067	$ 23.69	$ _____	$ _____
Mach. repair & vehicle exp.	35,479	83.48	_____	_____
Machine hire, rent & lease	8,974	21.12	_____	_____
Interest (5%)	8,896	20.93	_____	_____
Depreciation	15,637	36.79	_____	_____
Total	$ 79,053	$ 186.01	$ _____	$ _____

Dairy Analysis

Analysis of the dairy enterprise can reveal 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. Any change in inventory is included as an accrual farm receipt when calculating all of the profitability measures on pages 6 and 7.

DAIRY HERD INVENTORY

63 Northern Hudson Region Dairy Farms, 1998

	Dairy Cows		Heifer					
			Bred		Open		Calves	
Item	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	150	$ 160,746	41	$ 37,477	35	$ 18,892	35	$ 10,297
+ Change w/o apprec.		10,369		1,541		4,677		56
+ Appreciation		2,082		926		756		251
End year (owned)	159	$ 173,197	43	$ 39,944	42	$ 24,325	34	$ 10,604
End including leased	159							
Average number	153		115	(all age groups)				
My Farm:								
Beg. year (owned)	____	$ _____	____	$_____	_____	$ _____	_____	$_____
+ Change w/o apprec.		_____		_____		_____		_____
+ Appreciation		_____		_____		_____		_____
End year (owned)	____	$ _____	____	$_____	_____	$ _____	_____	$_____
End including leased	____							
Average number	____		____	(all age groups)				

Total milk sold and milk sold per cow are extremely valuable measures of size and productivity, respectively, 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 to see how close the DHI estimate of milk produced is to actual milk sales.

MILK PRODUCTION

63 Northern Hudson Region Dairy Farms, 1998

Item	Average	My Farm
Total milk sold, lbs.	3,185,187	_____
Milk sold per cow, lbs.	20,875	_____
Average milk plant test, percent butterfat	3.74%	_____

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. Purchased inputs cost of producing milk are the operating costs plus depreciation. Total costs of producing milk include the operating costs of producing milk plus depreciation on machinery and buildings, the value of unpaid family labor, the value of operators' labor and management, and the interest charge for using equity capital.

ACCRUAL RECEIPTS FROM DAIRY, COSTS OF PRODUCING MILK, AND PROFITABILITY

63 Northern Hudson Region Dairy Farms, 1998

	Average			My Farm		
Item	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Cost of Producing Milk						
Operating costs	$ 379,723	$ 2,482	$ 11.92	$ _____	$ _____	$ _____
Purchased inputs costs	$ 405,266	$ 2,649	$ 12.72	$ _____	$ _____	$ _____
Total Costs	$ 484,180	$ 3,165	$ 15.20	$ _____	$ _____	$ _____
Accrual Receipts From Milk	$ 514,802	$ 3,365	$ 16.16	$ _____	$ _____	$ _____
Net Milk Receipts	$ 488,544	$ 3,193	$ 15.34	$ _____	$ _____	$ _____
Net Farm Income without Apprec.	$ 109,536	$ 716	$ 3.44	$ _____	$ _____	$ _____
Net Farm Income with Apprec.	$ 117,686	$ 769	$ 3.69	$ _____	$ _____	$ _____

The accrual operating expenses most commonly associated with the dairy enterprise are listed in the table below. Feed and crop expenses include total purchased dairy feed plus fertilizer, seeds, spray and other crop expenses.

DAIRY RELATED ACCRUAL EXPENSES

63 Northern Hudson Region Dairy Farms, 1998

	Average		My Farm	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	$ 841	$ 4.04	$ _____	$ _____
Purchased dairy roughage	55	0.26	_____	_____
Total Purchased Dairy Feed	$ 896	$ 4.30	$ _____	$ _____
Purchased grain & conc. as % of milk receipts	25%		_____ %	
Purchased feed & crop exp.	$ 1,119	$ 5.38	$ _____	$ _____
Purchased feed & crop exp. as % of milk receipts	33%		_____ %	
Breeding	$ 46	$ 0.22	$ _____	$ _____
Veterinary & medicine	112	0.54	_____	_____
Milk marketing	172	0.82	_____	_____
Bedding	42	0.20	_____	_____
Milking supplies	65	0.31	_____	_____
Cattle lease	0	0.00	_____	_____
Custom boarding	18	0.09	_____	_____
bST	40	0.19	_____	_____
Other livestock expense	50	0.24	_____	_____

Capital and Labor Efficiency Analysis

Capital efficiency factors measure how effectively 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

63 Northern Hudson Region Dairy Farms, 1998

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	$ 218,902	$ 6,753	$ 2,431	$ 5,140
Real estate		2,924		2,226
Machinery & equipment	37,694	1,163	419	
Ratios				
Asset turnover	Operating Expense	Interest Expense	Depreciation Expense	
0.57	0.73	0.04	0.04	
My Farm				
Farm capital	$ _____	$ _____	$ _____	$ _____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
Ratios				
Asset turnover	Operating Expense	Interest Expense	Depreciation Expense	
_____	_____	_____	_____	

LABOR FORCE INVENTORY AND ANALYSIS

63 Northern Hudson Region Dairy Farms, 1998

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	14.6	46	13	$ 22,857
Operator number 2	6.9	41	13	12,222
Operator number 3	1.7	41	14	3,667
Family paid	3.8			
Family unpaid	3.1			
Hired	26.5			
Total	56.7	/ 12 = 4.72 Worker Equivalent		
		1.78 Operator/Manager Equivalent		
My Farm: Total	_____	/ 12 = ____ Worker Equivalent		
Operator's	_____	/ 12 = ____ Operator/Manager Equivalent		

Labor Efficiency	Average Total	Average Per Worker	My Farm Total	My Farm Per Worker
Cows, average number	153	32	_____	_____
Milk sold, pounds	3,185,187	674,828	_____	_____
Tillable acres	425	90	_____	_____
Work units	1,583	335	_____	_____

Labor Costs	Average Total	Average Per Cow	Average Per Cwt.	My Farm Total	My Farm Per Cow	My Farm Per Cwt.
Value of operator(s) labor ($1,600/mo.)	$ 37,120	$ 243	$ 1.17	$ _____	$ _____	$ _____
Family unpaid ($1,600/mo.)	4,960	32	0.16	_____	_____	_____
Hired	56,723	371	1.78	_____	_____	_____
Total Labor	$ 98,803	$ 646	$ 3.10	$ _____	$ _____	$ _____
Machinery Cost	$ 79,053	$ 517	$ 2.48	$ _____	$ _____	$ _____
Total Labor & Mach.	$ 177,856	$ 1,162	$ 5.58	$ _____	$ _____	$ _____

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 can be helpful to establishing your goals for these parameters. It is equally important for you to determine the progress your business has made over the past two or three years, to compare this progress to your goals, and to set goals for the future.

PROGRESS OF THE FARM BUSINESS

Same 48 Northern Hudson Region Dairy Farms, 1997 & 1998

	Average of 48 Farms*		My Farm		
Selected Factors	1997	1998	1997	1998	Goal
Size of Business					
Average number of cows	143	149	_____	_____	_____
Average number of heifers	112	118	_____	_____	_____
Milk sold, lbs.	2,835,025	3,127,663	_____	_____	_____
Worker equivalent	4.38	4.72	_____	_____	_____
Total tillable acres	426	429	_____	_____	_____
Rates of Production					
Milk sold per cow, lbs.	19,857	20,959	_____	_____	_____
Hay DM per acre, tons	1.9	2.5	_____	_____	_____
Corn silage per acre, tons	13.2	15.1	_____	_____	_____
Labor Efficiency					
Cows per worker	33	32	_____	_____	_____
Milk sold/worker, lbs.	647,266	662,640	_____	_____	_____
Cost Control					
Grain & conc. purchased as % of milk sales	31%	25%	_____%	_____ %	_____%
Dairy feed & crop exp. per cwt. milk	$ 5.69	$ 5.37	$ _____	$ _____	$ _____
Labor & mach. costs/cow	$ 1,085	$ 1,186	$ _____	$ _____	$ _____
Operating cost of producing cwt. of milk	$ 12.31	$ 11.78	$ _____	$ _____	$ _____
Capital Efficiency**					
Farm capital per cow	$ 7,061	$ 7,225	$ _____	$ _____	$ _____
Mach. & equip. per cow	$ 1,148	$ 1,226	$ _____	$ _____	$ _____
Asset turnover ratio	0.46	0.54	_____	_____	_____
Profitability					
Net farm income w/o apprec.	$ 38,752	$ 111,941	$ _____	$ _____	$ _____
Net farm income w/apprec.	$ 43,129	$ 119,175	$ _____	$ _____	$ _____
Labor & mgt. income per operator/manager	$ -853	$ 38,825	$ _____	$ _____	$ _____
Rate of return on equity capital w/appreciation	1.0%	10.2%	_____%	_____ %	_____%
Rate of return on all capital w/appreciation	2.8%	9.2%	_____%	_____ %	_____%
Financial Summary					
Farm net worth, end year	$ 716,619	$ 796,971	$ _____	$ _____	$ _____
Debt to asset ratio	0.30	0.29	_____	_____	_____
Farm debt per cow	$ 2,088	$ 2,098	$ _____	$ _____	$ _____

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

RECEIPTS AND EXPENSES PER COW AND PER CWT.
Same 48 Northern Hudson Region Dairy Farms, 1997 & 1998

	1997		1998	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	143		149	
Cwt. Of Milk Sold		28,350		31,277
ACCRUAL OPERATING RECEIPTS				
Milk	$ 2,879	$ 14.52	$ 3,389	$ 16.15
Dairy cattle	203	1.02	247	1.18
Dairy calves	17	0.09	17	0.08
Other livestock	19	0.10	4	0.02
Crops	41	0.21	106	0.50
Miscellaneous receipts	82	0.41	101	0.48
Total Receipts	3,241	16.35	3,865	18.41
ACCRUAL OPERATING EXPENSES				
Hired labor	$ 367	$ 1.85	$ 401	$ 1.91
Dairy grain & concentrate	881	4.44	840	4.00
Dairy roughage	47	0.24	54	0.26
Nondairy feed	0	0.00	0	0.00
Machine hire/rent/lease	28	0.14	44	0.21
Mach. repair & vehicle exp.	190	0.96	235	1.12
Fuel, oil & grease	81	0.41	69	0.33
Replacement livestock	28	0.14	30	0.14
Breeding	41	0.21	46	0.22
Veterinary & medicine	107	0.54	114	0.54
Milk marketing	168	0.85	175	0.83
Bedding	34	0.17	43	0.20
Milking supplies	69	0.35	67	0.32
Cattle lease	0	0.00	0	0.00
Custom boarding	5	0.02	8	0.04
bST expense	40	0.20	42	0.20
Other livestock expense	52	0.26	56	0.26
Fertilizer & lime	96	0.49	119	0.57
Seeds & plants	47	0.24	58	0.27
Spray/other crop expense	57	0.29	56	0.27
Land, building, fence repair	38	0.19	60	0.29
Taxes	59	0.30	54	0.25
Real estate rent/lease	52	0.26	48	0.23
Insurance	31	0.16	32	0.15
Utilities	84	0.42	80	0.38
Interest paid	144	0.72	144	0.69
Miscellaneous	30	0.15	36	0.17
Total Operating Expenses	$ 2,775	$ 14.00	$ 2,908	$ 13.86
Expansion Livestock	28	0.14	40	0.19
Machinery Depreciation	103	0.52	100	0.47
Real Estate Depreciation	64	0.32	65	0.31
Total Expenses	$ 2,970	$ 14.98	$ 3,113	$ 14.83
Net Farm Income Without Appreciation	$ 271	$ 1.37	$ 751	$ 3.58

Regional Farm Business Chart

The Farm Business Chart is a tool which can be used in analyzing your business. Compare your business by drawing a line through or near the figure in each column which represents your current level of performance. The five figures in each column represent the average of each 20 percent or quintile of farms included in the regional summary. Use this information to identify business areas where more challenging goals are needed.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS

63 Northern Hudson Region Dairy Farms, 1998

Size of Business			Rate of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
9.96	344	7,959,721	24,843	3.76	21	47	892,275
5.65	180	3,796,968	21,615	3.13	17	36	775,338
3.76	121	2,324,110	19,798	2.59	15	31	644,655
2.79	84	1,375,601	17,857	2.10	13	28	509,760
1.93	51	883,866	14,165	1.43	10	21	336,206

Cost Control					
Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(10)	(10)	(11)	(11)	(10)	(10)
$520	19%	$310	$820	$726	$4.15
685	23	441	1,065	939	4.94
795	26	505	1,163	1,056	5.38
913	28	596	1,325	1,193	5.87
1,029	31	800	1,628	1,356	6.88

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income w/Apprec.	Net Farm Inc. w/o Apprec.	Labor & Mgt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	(3)	(3)	(3)	(6)
$4,035	$9.08	$13.23	$304,222	$293,441	$124,692	$223,363
3,508	11.05	14.80	146,356	135,202	56,588	90,572
3,148	11.92	15.68	81,460	74,713	25,013	53,916
2,820	13.02	16.89	51,648	43,104	10,975	26,594
2,282	14.40	20.53	21,294	17,346	-13,660	4,128

*Page number of the participant's DFBS where the factor is located.

New York State 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 253 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.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
253 New York Dairy Farms, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
16.3	749	16,977,721	24,322	4.1	22	57	1,169,242
8.0	318	6,801,234	22,395	3.4	19	46	929,873
5.8	214	4,351,063	21,446	3.0	18	41	819,044
4.5	155	3,051,237	20,524	2.6	17	37	731,958
3.9	128	2,361,619	19,512	2.4	16	34	659,774
3.4	106	1,896,078	18,496	2.2	15	32	597,572
2.9	85	1,512,359	17,718	2.0	14	30	532,282
2.4	69	1,177,556	16,584	1.8	13	28	486,658
1.9	55	940,983	15,088	1.5	11	24	413,316
1.4	40	601,704	12,762	1.0	8	19	288,154

Cost Control					
Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(10)	(10)	(11)	(11)	(10)	(10)
$435	20%	$226	$675	$576	$3.68
600	26	296	813	774	4.51
673	28	336	903	874	4.82
745	29	393	975	943	5.10
820	32	429	1,021	1,016	5.37
883	33	465	1,079	1,092	5.61
939	35	503	1,172	1,146	5.85
987	37	550	1,254	1,202	6.09
1,059	39	613	1,350	1,279	6.47
1,183	45	741	1,553	1,411	7.41

*Page number of the participant's DFBS where the factor is located.

FARM BUSINESS CHART FOR
FARM MANAGEMENT COOPERATORS
253 New York Dairy Farms, 1997

Milk Receipts Per Cow	Milk Receipts Per Cwt.	Oper. Cost Milk Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cow	Total Cost Production Per Cwt.
(10)	(10)	(10)	(10)	(10)	(10)
$3,381	$15.09	$1,319	$8.30	$2,127	$12.68
3,052	14.56	1,690	10.02	2,552	13.72
2,941	14.20	1,870	10.58	2,726	14.27
2,836	13.86	2,079	11.05	2,847	14.84
2,719	13.66	2,158	11.46	2,947	15.45
2,553	13.53	2,279	11.81	3,056	16.12
2,428	13.41	2,403	12.24	3,151	16.61
2,271	13.25	2,525	12.81	3,285	17.46
2,030	13.01	2,682	13.59	3,486	18.63
1,686	12.54	3,039	15.55	3,820	22.37

Profitability

Net Farm Income Without Appreciation			Net Farm Income With Appreciation		Labor & Management Income	
Total	Per Cow	As % of Total Accrual Receipts	Total	Per Cow	Per Farm	Per Operator
(3)	(10)	(3)	(3)	(10)	(3)	(3)
$258,543	$806	25.1%	$270,808	$847	$160,233	$98,682
77,869	516	17.3	100,963	573	37,347	28,721
46,999	392	13.3	63,703	461	15,083	11,972
34,998	326	11.1	45,449	396	5,143	3,819
27,155	261	8.6	34,877	320	-1,948	-1,611
19,291	165	5.8	24,515	239	-10,582	-7,542
8,889	86	3.0	14,345	147	-20,185	-14,855
-2,819	-28	-1.1	4,254	40	-31,873	-25,017
-19,342	-181	-6.9	-11,524	-118	-52,868	-39,548
-74,027	-473	-22.2	-67,379	-442	-114,768	-93,571

Farm Business Charts for farms with freestall barns and 150 cows or less, 151-300 cows, and more than 300 cows; and farms with conventional barns with 60 cows or less and more than 60 cows are shown on pages 29-33.

Financial Analysis Chart

The farm financial analysis chart on page 26 is designed just like the Farm Business Chart and may be used to assess the financial health of the farm business. Most of the financial measures used in the chart are defined on pages 6, 10, 14 and 20 of this publication. References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FINANCIAL ANALYSIS CHART

253 New York Dairy Farms, 1997

Liquidity (repayment)				
Planned Debt Payments Per Cow	Available for Debt Service Per Cow	Cash Flow Coverage Ratio	Debt Payments as Percent of Milk Sales	Debt Per Cow
(8)*	(12)	(8)	(8)	(5)
$66	$720	2.32	3%	$218
209	565	1.40	8	910
297	500	1.18	11	1,452
363	442	1.01	13	1,913
410	379	0.89	16	2,291
445	318	0.76	18	2,675
496	258	0.62	19	3,031
565	197	0.44	22	3,349
620	87	0.17	25	3,818
770	-210	-0.60	38	4,870

Solvency				Profitability	
		Debt/Asset Ratio		Percent Rate of Return with appreciation on:	
Leverage Ratio**	Percent Equity	Current & Intermediate	Long Term	Equity	Investment***
	(5)	(5)	(5)	(3)	(3)
0.02	97%	0.04	0.00	15%	10%
0.10	89	0.13	0.00	7	7
0.23	79	0.21	0.08	4	5
0.37	72	0.29	0.21	1	4
0.51	65	0.36	0.31	-1	2
0.71	57	0.41	0.41	-3	1
0.90	52	0.47	0.49	-5	-1
1.12	46	0.56	0.59	-8	-3
1.55	38	0.68	0.71	-14	-5
7.09	16	1.01	1.14	-58	-11

Efficiency (Capital)				
Asset Turnover (ratio)	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow	Change in Net Worth w/Appreciation
(11)	(11)	(11)	(11)	(6)
.75	$1,142	$513	$3,881	$144,340
.62	1,845	749	4,914	49,494
.55	2,138	900	5,538	31,463
.52	2,395	1,041	6,043	19,820
.48	2,708	1,169	6,505	10,964
.44	3,158	1,319	6,937	2,421
.40	3,544	1,484	7,378	-6,589
.35	3,888	1,704	7,957	-22,343
.30	4,476	2,033	9,059	-48,040
.22	7,015	2,778	11,938	-157,818

*Page number of the participant's DFBS where the factor is located.

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

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

Comparison 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 have used as many of the same physical characteristics as possible as the farm being analyzed. To assist in this endeavor, dairy farms in the summary have been divided into those with freestall and those with conventional housing. Conventional housing includes stanchion and tiestall barns. Within each group, is a further classification by size of the dairy herd.

The table on page 28 includes the average values for the resulting five groups of dairy farms. The average size of farms in the five groups ranges from 46 cows on the small conventional farms to 587 cows on the largest freestall farms.

The largest freestall farms averaged the highest milk output per cow and per worker, the lowest total cost of production and investment per cow, and the greatest returns to labor, management and capital. The large conventional farms showed average profits somewhat higher than the small freestall farm businesses.

Farm business charts have been computed for each of the five housing and herd size categories and are on pages 29-33. 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.

Herd Size Comparisons

A detailed comparison of profitability, financial situation and business analysis factors across herd sizes is contained on pages 42-51 of the 1997 State Summary*. As herd size increases, the average profitability generally increases (page 42)*. Net farm income without appreciation averaged $ -603 per farm for the less than 40 cow farms and $131,897 per farm for those with 300 cows and over. This relationship generally holds for all measures of profitability including rate of return on capital.

Farm net worth increases rapidly as herd size increases (pages 46-49)*, even though percent equity was higher on the smaller farms. The group with 85 to 99 cows demonstrated the strongest ability to make debt payments.

Crop yields showed little relationship to herd size, but fertilizer and lime expenses, and machinery cost per tillable acre generally increased as herd size increased (pages 50-51)*. The farms with 300 and more cows per farm averaged 57 percent more milk sold per cow than the smallest farms. All of the groups with 85 or more cows averaged above 18,000 pounds of milk sold per cow while the farms smaller than 85 cows averaged 16,650 pounds of milk sold per cow. Farm capital per worker increased, and farm capital per cow decreased as herd size increased. Milk sold per worker increased dramatically as herd size increased, ranging from 288,076 pounds at the lowest herd size category up to 1,011,165 pounds at the largest size category.

*Wayne A. Knoblauch, and Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1997, Department of Agricultural, Resource, and Managerial Economics, Cornell University, R.B. 98-06, August 1998.

SELECTED BUSINESS FACTORS BY TYPE OF BARN AND HERD SIZE

222 New York Dairy Farms, 1997

Item	Farms with:	Conventional <= 60 Cows	Conventional >60 Cows	Freestall <=150 Cows	Freestall 151-300 Cows	Freestall ≥300 Cows
Number of farms		42	39	60	41	40
Cropping Program Analysis						
Total Tillable acres		153	247	332	597	1,108
Tillable acres rented*		58	101	143	311	500
Hay crop acres*		100	156	174	269	437
Corn silage acres*		26	52	92	185	495
Hay crop, tons DM/acre		1.9	2.1	2.1	2.5	3.0
Corn silage, tons/acre		12.2	14.3	14.6	14.9	17.2
Oats, bushels/acre		71	65	58	55	40
Forage DM per cow, tons		6.6	7.2	7.4	7.3	6.8
Tillable acres/cow		3.3	3.1	3.1	2.8	1.9
Fert. & lime exp./tillable acre		$17.31	$23.18	$27.38	$27.65	$31.89
Total machinery costs		$21,065	$35,299	$50,301	$101,405	$229,353
Machinery cost/tillable acre		$138	$143	$152	$170	$207
Dairy Analysis						
Number of cows		46	80	107	216	587
Number of heifers		36	63	77	156	422
Milk sold, lbs.		757,555	1,394,133	1,997,423	4,337,572	13,169,719
Milk sold/cow, lbs.		16,392	17,327	18,714	20,118	22,421
Operating cost of prod. milk/cwt.		$10.80	$12.07	$11.82	$12.23	$11.65
Total cost of prod. milk/cwt.		$17.82	$16.81	$16.12	$15.21	$13.68
Price/cwt. milk sold		$13.61	$13.73	$13.77	$13.93	$13.49
Purchased dairy feed/cow		$765	$808	$850	$926	$1,041
Purchased dairy feed/cwt. milk		$4.65	$4.64	$4.55	$4.61	$4.64
Purchased grain & conc. as % milk rec.		31%	32%	32%	32%	34%
Purchased feed & crop exp./cwt. milk		$5.43	$5.46	$5.57	$5.51	$5.29
Capital Efficiency						
Farm capital/worker		$207,363	$199,094	$226,750	$246,641	$249,800
Farm capital/cow		$8,745	$6,968	$6,972	$6,280	$5,528
Farm capital/tillable acre owned		$4,235	$3,818	$3,947	$4,760	$5,337
Real estate/cow		$4,597	$3,355	$3,169	$2,603	$2,236
Machinery investment/cow		$1,762	$1,310	$1,423	$1,145	$875
Asset turnover ratio		0.30	0.38	0.43	0.51	0.62
Labor Efficiency						
Worker equivalent		1.94	2.80	3.29	5.50	12.99
Operator/manager equivalent		1.25	1.31	1.41	1.73	2.08
Milk sold/worker, lbs.		390,492	497,905	607,119	788,649	1,013,835
Cows/worker		24	29	33	39	45
Labor cost/cow		$757	$640	$577	$562	$597
Labor cost/tillable acre		$228	$207	$186	$203	$316
Profitability & Balance Sheet Analysis						
Net farm income (without appreciation)		$12,153	$9,146	$16,448	$27,901	$135,137
Labor & management income/operator		$-6,954	$-12,276	$-9,715	$-7,221	$23,612
Rate Return on all capital with appreciation		-1.8%	-1.4%	0.4%	2.7%	6.1%
Farm debt/cow		$2,153	$1,980	$2,448	$2,779	$2,737
Percent equity		74%	71%	63%	55%	50%

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

FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS

42 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
3.21	59	1,101,928	20,866	3.4	19	39	693,273
2.44	55	1,003,781	19,995	2.5	18	32	565,561
2.17	53	914,960	18,631	2.2	17	30	495,451
2.01	51	879,648	18,136	2.1	16	28	468,090
1.96	48	803,954	17,338	2.0	15	26	434,043
1.82	46	731,007	15,900	1.8	14	24	400,376
1.68	42	680,016	15,083	1.6	12	23	346,975
1.58	41	624,372	14,511	1.4	10	22	311,828
1.50	39	555,439	13,519	1.2	8	20	286,172
1.33	34	416,286	10,729	0.8	5	15	202,070

Cost Control					
Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(10)	(10)	(11)	(11)	(10)	(10)
$361	19%	$197	$744	$462	$3.64
519	24	297	1,000	639	4.34
575	27	360	1,080	746	4.68
637	28	411	1,131	807	4.88
658	31	449	1,175	853	5.27
725	33	470	1,246	944	5.68
798	35	493	1,311	998	5.95
847	38	570	1,382	1,069	6.23
905	41	639	1,515	1,148	6.59
1,084	46	789	1,840	1,349	7.67

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation Total	Net Farm Income Without Appreciation Per Cow	Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	(3)	(10)	(3)	(6)
$3,082	$7.59	$13.87	$42,028	$872	$21,550	$38,588
2,831	9.03	15.37	31,895	732	11,197	21,215
2,552	9.85	16.36	28,320	603	5,762	15,630
2,454	10.36	16.62	23,690	436	718	12,112
2,377	10.54	17.44	14,588	349	-1,899	9,298
2,102	11.16	17.81	10,027	215	-4,866	3,903
1,978	11.63	18.76	5,331	112	-11,366	696
1,904	12.40	20.20	-504	-11	-22,365	-5,288
1,780	12.96	22.27	-5,675	-130	-28,673	-11,140
1,403	14.95	27.10	-16,537	-446	-43,483	-22,635

*Page number of the participant's DFBS where the factor is located.

FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS

39 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
4.05	126	2,056,671	22,995	4.1	21	48	884,871
3.78	103	1,865,087	20,647	3.1	19	38	677,191
3.46	91	1,675,072	18,877	2.8	18	35	636,310
3.21	82	1,581,941	18,329	2.4	17	33	559,715
2.98	77	1,383,678	17,873	2.3	16	31	517,084
2.63	74	1,248,877	17,266	2.1	15	29	497,963
2.50	70	1,182,772	16,701	1.9	14	28	479,995
2.32	67	1,152,870	15,718	1.7	12	26	441,783
1.93	64	1,063,871	14,601	1.2	12	22	354,372
1.47	62	896,128	12,637	0.8	9	19	300,834

Cost Control					
Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(10)	(10)	(11)	(11)	(10)	(10)
$448	21%	$184	$664	$608	$3.75
563	25	246	816	699	4.10
633	28	299	936	774	4.67
680	29	394	978	834	4.88
723	31	431	1,033	900	5.09
800	33	460	1,123	938	5.46
868	35	509	1,207	1,072	5.97
951	38	564	1,311	1,131	6.44
1,011	42	655	1,357	1,202	6.84
1,086	47	748	1,541	1,360	7.95

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
			Total	Per Cow		
(10)	(10)	(10)	(3)	(10)	(3)	(6)
$3,044	$8.78	$13.65	$42,169	$555	$15,671	$56,186
2,854	10.51	14.98	36,176	416	9,029	25,240
2,652	11.24	15.59	28,970	354	3,396	17,846
2,517	11.73	15.96	24,309	323	628	8,612
2,432	11.92	16.27	17,957	244	-7,852	2,860
2,377	12.21	16.70	11,509	142	-11,099	-3,089
2,270	12.79	17.47	-159	-0.8	-17,743	-10,909
2,183	13.57	18.33	-10,805	-136	-25,059	-22,645
2,046	14.17	19.55	-17,203	-224	-30,421	-36,438
1,690	15.53	23.35	-33,218	-423	-55,370	-69,723

*Page number of the participant's DFBS where the factor is located.

FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS

60 Freestall Barn Dairy Farms with 150 or Less Cows, New York, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
5.28	145	3,195,348	24,936	3.8	21	58	993,037
4.44	139	2,748,342	21,844	3.0	19	42	782,022
4.08	134	2,549,753	20,493	2.7	18	38	721,468
3.67	122	2,283,113	19,390	2.5	16	34	672,546
3.46	114	2,103,312	18,563	2.2	15	33	638,941
3.13	107	1,942,241	17,900	2.0	14	32	596,502
2.84	96	1,657,370	17,259	1.8	14	31	550,538
2.58	85	1,425,509	16,213	1.7	13	29	513,301
2.03	73	1,182,037	15,070	1.4	11	27	458,883
1.38	54	887,209	13,256	1.0	8	22	357,100

Cost Control					
Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(10)	(10)	(11)	(11)	(10)	(10)
$530	23%	$263	$659	$630	$4.09
615	26	307	819	834	4.74
652	27	335	878	879	5.05
703	29	395	965	916	5.20
759	31	442	1,021	1,015	5.35
827	32	494	1,062	1,060	5.54
883	34	535	1,160	1,129	5.87
948	36	575	1,213	1,176	6.16
992	39	640	1,303	1,244	6.52
1,131	42	756	1,458	1,377	7.23

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation Total	Net Farm Income Without Appreciation Per Cow	Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	(3)	(10)	(3)	(6)
$3,439	$8.88	$12.77	$80,921	$746	$42,272	$66,765
3,026	10.20	13.87	54,208	486	25,117	42,074
2,831	10.49	14.54	42,104	382	9,790	34,040
2,646	10.73	15.20	32,497	332	-73	23,877
2,558	11.07	15.91	25,051	267	-4,267	15,215
2,506	11.41	16.45	16,655	176	-9,885	4,624
2,347	11.84	16.99	7,778	90	-17,559	-5,834
2,197	12.84	17.83	-3,503	-33	-26,980	-25,878
2,023	14.03	18.94	-22,366	-260	-50,159	-59,207
1,798	16.51	21.41	-68,863	-590	-87,562	-107,335

*Page number of the participant's DFBS where the factor is located.

FARM BUSINESS CHART FOR MEDIUM FREESTALL DAIRY FARMS

41 Freestall Barn Dairy Farms with 151-300 Cows, New York, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
8.87	287	6,731,911	24,776	3.8	23	63	1,224,427
6.95	272	5,348,971	22,961	3.4	20	50	980,478
6.47	254	5,094,989	22,007	3.3	18	48	910,554
5.75	235	4,872,494	21,306	3.1	17	45	872,906
5.51	220	4,497,454	20,775	2.9	16	42	811,162
5.36	203	4,025,898	20,268	2.5	15	39	776,088
5.00	190	3,690,005	19,634	2.4	13	36	739,869
4.38	182	3,483,656	18,313	2.2	12	34	701,973
4.05	171	3,278,840	17,079	2.0	10	31	635,417
3.21	158	2,748,721	14,619	1.0	9	29	553,188

Cost Control					
Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(10)	(10)	(11)	(11)	(10)	(10)
$512	20%	$262	$656	$747	$4.06
674	26	327	779	920	4.70
770	28	399	873	955	4.94
862	30	436	946	1,003	5.14
901	32	463	983	1,080	5.45
925	33	491	1,024	1,122	5.61
970	34	531	1,156	1,186	5.91
1,002	36	562	1,269	1,265	6.11
1,055	39	635	1,346	1,369	6.38
1,261	46	710	1,418	1,525	7.77

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Apprec. Total	Net Farm Income Without Apprec. Per Cow	Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	(3)	(10)	(3)	(6)
$3,568	$9.13	$13.07	$167,103	$838	$60,411	$118,357
3,298	10.55	13.65	100,768	548	40,779	70,965
3,057	11.15	13.96	76,563	336	25,167	52,519
2,932	11.44	14.21	56,942	256	9,952	29,714
2,904	12.20	14.83	35,560	160	-1,910	7,348
2,809	12.66	15.37	16,759	68	-7,808	-16,957
2,721	13.00	15.81	-934	-4	-18,240	-34,456
2,471	13.54	16.41	-20,243	-90	-31,069	-49,012
2,370	14.12	17.60	-41,389	-214	-47,750	-67,973
2,004	16.10	19.65	-84,122	-439	-112,680	-168,740

*Page number of the participant's DFBS where the factor is located.

FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS

40 Freestall Barn Dairy Farms with 300 or More Cows, New York, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
30.16	1,612	36,966,226	25,557	4.7	21	60	1,365,046
18.07	853	20,303,842	23,339	3.8	20	53	1,220,599
15.91	631	14,342,577	23,090	3.5	19	50	1,127,199
13.08	555	12,345,606	22,744	3.2	18	46	1,016,973
11.73	493	10,427,122	22,491	2.9	18	44	986,127
10.03	394	9,006,380	22,162	2.6	17	43	922,153
8.90	365	8,011,622	21,646	2.5	15	41	866,314
8.16	341	7,378,266	20,921	2.3	15	38	845,784
7.54	321	6,683,887	20,230	2.1	14	37	781,372
6.32	310	6,231,661	18,428	1.4	13	33	687,109

Cost Control					
Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(10)	(10)	(11)	(11)	(10)	(10)
$783	27%	$254	$726	$948	$4.37
846	28	289	779	1,055	4.61
923	30	309	831	1,102	4.95
976	32	357	885	1,156	5.27
991	34	374	968	1,206	5.45
1,034	35	397	1,017	1,230	5.56
1,089	37	422	1,036	1,241	5.70
1,117	38	467	1,068	1,283	5.79
1,139	39	492	1,164	1,301	5.93
1,210	41	595	1,323	1,370	6.56

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation Total	Net Farm Income Without Appreciation Per Cow	Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	(3)	(10)	(3)	(6)
$3,466	$9.84	$11.88	595,440	$724	$275,911	$325,657
3,219	10.85	12.93	333,662	436	107,574	153,526
3,113	11.16	13.23	217,681	381	65,647	95,093
3,034	11.52	13.51	142,588	317	44,564	59,203
3,010	11.73	13.82	120,804	244	24,904	36,690
2,983	11.82	14.06	71,533	160	5,076	4,542
2,904	12.06	14.24	40,577	103	-9,912	-25,129
2,815	12.38	14.66	10,600	23	-30,893	-60,317
2,746	12.92	15.29	-38,458	-81	-55,740	-154,390
2,555	14.28	17.30	-143,065	-355	-142,233	-341,572

*Page number of the participant's DFBS where the factor is located.

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 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 desired direction. Goals should be SMART:

1. Goals should be **S**pecific.

2. Goals should be **M**easurable.

3. Goals should be **A**chievable but challenging.

4. Goals should be **R**ewarding.

5. Goals should be **T**imed with a designated date by which the goal will be achieved.

Goal setting on a dairy farm should be 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 objectives (long-range) and goals (short-range) when looking at the future of your farm business.

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

a. Begin with a mission statement which describes why the business exists based on the preferences and values of the owners.

b. Identify 4-6 objectives.

c. Identify SMART goals.

Worksheet for Setting Goals

I. Mission and Objectives

_____

_____

_____

_____

_____

_____

_____

_____

Worksheet for Setting Goals (Continued)

II. Goals

What	How	When	Who is Responsible

Summarize Your Business Performance

The Farm Business and Financial Analysis Charts on pages 23-26 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:	Needs improvement:

GLOSSARY AND LOCATION OF COMMON TERMS

Accounts Payable - Open accounts or bills owed to feed and supply firms, cattle dealers, veterinarians and other providers of farm services and supplies.

Accounts Receivable - Outstanding receipts from items sold or sales proceeds not yet received, such as the payment for December milk sales received in January.

Accrual Expenses - (defined on page 3)

Accrual Receipts - (defined on page 4)

Annual Cash Flow Statement - (defined on page 12)

Appreciation - (defined on page 5)

Asset Turnover Ratio - The ratio of total farm income to total farm assets, calculated by dividing total accrual operating receipts plus appreciation by average total farm assets.

Balance Sheet - A "snapshot" of the business financial position at a given point in time, usually December 31. The balance sheet equates the value of assets to liabilities plus net worth.

bST Usage - An estimate of the percentage of herd, on average, that was supplemented with bovine somatotropin during the year.

Capital Efficiency - The amount of capital invested per production unit. Relatively high investments per worker with low to moderate investments per cow imply efficient use of capital.

Cash From Nonfarm Capital Used in the Business - Transfers of money from nonfarm savings or investments to the farm business where it is used to pay operating expenses, make debt payments and/or capital purchases.

Cash Flow Coverage Ratio - (defined on page 14)

Cash Paid - (defined on page 2)

Cash Receipts - (defined on page 4)

Change in Accounts Payable - (defined on page 3)

Change in Accounts Receivable - (defined on page 4)

Change in Inventory - (defined on page 2)

Current Portion - (defined on page 7)

Current Ratio – Measures the extent to which current farm assets, if liquidated, would cover current farm liabilities. Calculated as current farm assets at end year divided by current farm liabilities at end year.

Dairy (farm) - A farm business where dairy farming is the primary enterprise, operating and managing this farm is a full-time occupation for one or more people and cropland is owned.

Dairy Cash-Crop (farm) - Operating and managing this farm is the full-time occupation of one or more people, cropland is owned but crop sales exceed 10 percent of accrual milk receipts.

Debt Coverage Ratio – (defined on page 14)

Debt Per Cow - Total end-of-year debt divided by end-of-year number of cows.

Debt to Asset Ratios - (defined on page 10)

Deferred Taxes - (defined on page 9)

Depreciation Expense Ratio – Machinery and building depreciation divided by total accrual receipts.

Dry Matter - The amount or proportion of dry material that remains after all water is removed. Commonly used to measure dry matter percent and tons of dry matter in feed.

Equity Capital - The farm operator/manager's owned capital or farm net worth.

Expansion Livestock - Purchased dairy cattle and other livestock that cause an increase in herd size from the beginning to the end of the year.

Farm Debt Payments as Percent of Milk Sales - Amount of milk income committed to debt repayment, calculated by dividing planned debt payments by total milk receipts. A reliable measure of repayment ability, see page 14.

Farm Debt Payments Per Cow - Planned or scheduled debt payments per cow represent the repayment plan scheduled at the beginning of the year divided by the average number of cows for the year. This measure of repayment ability is used in the Financial Analysis Chart.

Financial Lease - A long-term non-cancellable contract giving the lessee use of an asset in exchange for a series of lease payments. The term of a financial lease usually covers a major portion of the economic life of the asset. The lease is a substitute for purchase. The lessor retains ownership of the asset.

Income Statement - A complete and accurate account of farm business receipts and expenses used to measure profitability over a period of time such as one year or one month.

Interest Expense Ratio – Accrual interest expense divided by total accrual receipts.

Labor and Management Income - (defined on page 6)

Labor and Management Income Per Operator - The return to the owner/manager's labor and management per full-time operator.

Labor Efficiency - Production capacity and output per worker.

Liquidity - Ability of business to generate cash to make debt payments or to convert assets to cash.

Net Farm Income - (defined on page 5)

Net Milk Receipts – Accrual milk receipts less milk marketing expense.

Net Worth - The value of assets less liabilities equal net worth. It is the equity the owner has in owned assets.

Operating Costs of Producing Milk - (defined on page 19)

Operating Expense Ratio – Total accrual expenses less interest and machinery and building depreciation, divided by total accrual receipts.

Opportunity Costs - The cost or charge made for using a resource based on its value in its most likely alternative use. The opportunity cost of a farmer's labor and management is the value he/she would receive if employed in his/her most qualified alternative position.

Other Livestock Expenses - All other dairy herd and livestock expenses not included in more specific categories. Other livestock expenses include; bST, DHIC, registration fees and transfers.

Part-Time Dairy (farm) - Dairy farming is the primary enterprise, cropland is owned but operating and managing this farm is not a full-time occupation for one or more people.

Personal Withdrawals and Family Expenditures Including Nonfarm Debt Payments - All the money removed from the farm business for personal or nonfarm use including family living expenses, health and life insurance, income taxes, nonfarm debt payments, and investments.

Profitability - The return or net income the owner/manager receives for using one or more of his or her resources in the farm business. True "economic profit" is what remains after deducting all the costs including the opportunity costs of the owner/manager's labor, management, and equity capital.

Purchased Inputs Cost of Producing Milk - (defined on page 19)

Renter - Farm business owner/operator owns no tillable land and commonly rents all other farm real estate.

Repayment Analysis - An evaluation of the business' ability to make planned debt payments.

Replacement Livestock - Dairy cattle and other livestock purchased to replace those that were culled or sold from the herd during the year.

Return on Equity Capital - (defined on page 7)

Return on Total Capital - (defined on page 7)

Solvency - The extent or ability of assets to cover or pay liabilities. Debt/asset and leverage ratios are common measures of solvency.

Total Costs of Producing Milk - (defined on page 19)

Whole Farm Method - A procedure used to calculate costs of producing milk on dairy farms without using enterprise cost accounts. All non-milk receipts are assigned a cost equal to their sale value and deducted from total farm expenses to determine the costs of producing milk.

Working Capital – A theoretical measure of the amount of funds available to purchase inputs and inventory items after the sale of current farm assets and payment of all current farm liabilities. Calculated as current farm assets at end year less current farm liabilities at end year.

INDEX