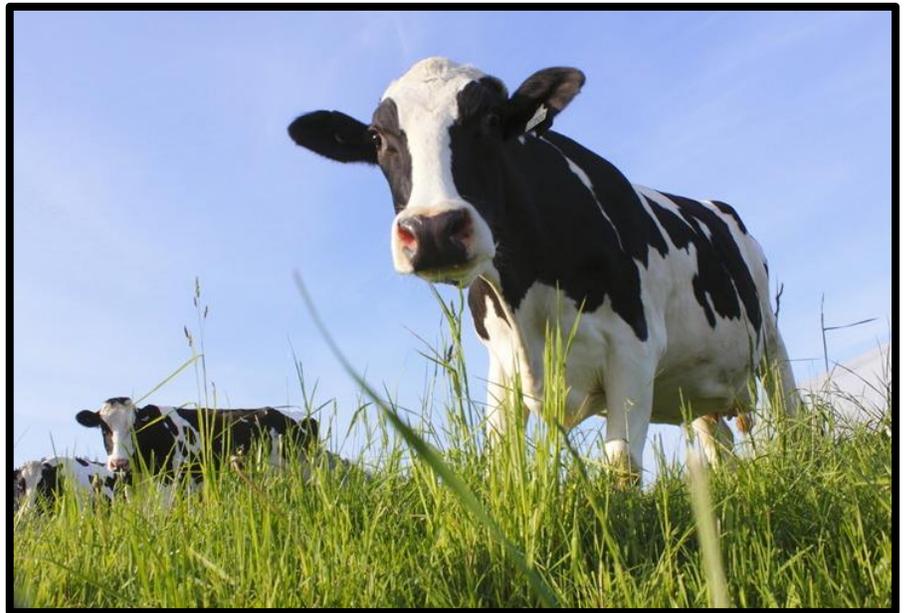


DAIRY FARM BUSINESS SUMMARY

June 2016

E.B. 2016-07

HUDSON AND CENTRAL NEW YORK REGION 2015



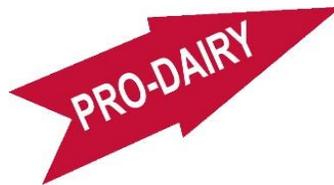
*You can't manage what you can't measure.
But if you measure it, you can improve it!*

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2015 DAIRY FARM BUSINESS SUMMARY
HUDSON AND CENTRAL NEW YORK REGION
Table of Contents

	<u>Page</u>
INTRODUCTION	1
Program Objectives	1
Format Features	1
SUMMARY AND ANALYSIS OF THE FARM BUSINESS.....	2
Business Characteristics	2
Income Statement	2
Profitability Analysis.....	4
Farm and Family Financial Status	7
Statement of Owner Equity	10
Cash Flow Statement	11
Repayment Analysis.....	13
Cropping Analysis.....	15
Dairy Analysis.....	17
Capital and Labor Efficiency Analysis.....	19
COMPARATIVE ANALYSIS OF THE FARM BUSINESS	21
Progress of the Farm Business.....	21
Regional Farm Business Chart	23
Supplementary Information.....	24
New York State Farm Business Chart	27
Financial Analysis Chart	29
Comparisons by Type of Barn and Herd Size	30
Herd Size Comparisons	30
IDENTIFY AND SET GOALS	37
GLOSSARY AND LOCATION OF COMMON TERMS.....	39
INDEX	42

2015 DAIRY FARM BUSINESS SUMMARY HUDSON AND CENTRAL NEW YORK 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 Hudson and Central New York Region for 2015.

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 2015 DFBS individual farm report received by participating 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. Non-DFBS participants can download a DFBS Data Check-In Form at <http://dfbs.cornell.edu>. After collecting the data on the form, it can be entered in the U. S. Top Dairies business summary program at the same web site to obtain a summary of their business.

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 Hudson and Central New York Region of New York State, with the number of participating farms in parentheses, is comprised of Albany (2), Chenango (2), Delaware (11), Madison (4), Otsego (6), Rensselaer (5), Saratoga (7), Schenectady (1), Schoharie (1), and Washington (9) counties in New York. This year 4 farms from Addison County in Vermont are also included. This report was written by Wayne A. Knoblauch, Professor, Farm Business Management. Cathryn Dymond was in charge of data and publication preparation. Farm business data were collected by Senior Extension Associate in PRO-DAIRY, Jason Karszes; Extension Support Specialist in PRO-DAIRY, Betsey Howland; Cooperative Extension Educators Sandy Buxton, Mariane Kiraly, and Kirk Shoen. We also acknowledge the cooperation of Charles Z. Radick, Consultant; Russell Saville, Cargill Animal Nutrition; and Farm Credit East Association for their assistance in data collection.

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

52 Hudson and Central New York Region Dairy Farms, 2015

Type of Farm	Number	Milking System	Number
Dairy	50	Bucket & carry	0
Part-time dairy	0	Dumping station	0
Dairy cash-crop	2	Pipeline	15
Certified organic milk producer	0	Herringbone conventional exit	18
Rotational grazing farm	4	Herringbone rapid exit	3
		Parallel	8
		Parabone	2
		Rotary	2
		Other	4
Type of Ownership	Number	Production Records	Number
Owner	50	Testing Service	41
Renter	2	On Farm System	4
		Other	1
		None	5
Type of Business	Number	Business Record System	Number
Sole Proprietorship	19	Account Book	10
Partnership	4	Accounting Service	6
Limited Liability Corporation	25	On-farm computer	34
Subchapter S Corporation	4	Other	1
Subchapter C Corporation	0		
Type of Barn	Number	Breed of Herd	Percent
Stanchion or Tie-Stall	15	Holstein	90
Freestall	34	Jersey	3
Combination	3	Other	7
Milking Frequency	Number		
2 times per day	26		
3 times per day	25		
Other	1		

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, dairy cash-crop farms, farms with confined herds, farms with grazing herds, 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 2015.

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

52 Hudson and Central New York Region Dairy Farms, 2015

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired Labor</u>	\$ 383,240		\$ 62	<<	\$ -344		\$382,834
<u>Feed</u>							
Dairy grain & concentrate	750,361		-56,468		1,401		808,230
Dairy roughage	44,637		-1,267		-4,325		41,579
Nondairy	48		7		0		41
Professional nutritional services	13		0	<<	86		99
<u>Machinery</u>							
Machinery hire, rent & lease	41,680		-2,404	<<	2,747		46,830
Machinery repairs & farm vehicle exp.	148,321		-387		835		149,543
Fuel, oil & grease	73,478		-5,863		-108		79,233
<u>Livestock</u>							
Replacement livestock	3,090		0	<<	191		3,281
Breeding	25,795		-1,109		-382		26,522
Veterinary & medicine	78,546		-1,343		359		80,247
Milk marketing	140,112		0	<<	-834		139,278
Bedding	47,905		-421		146		48,472
Milking supplies	39,260		-3,952		1,041		44,253
Cattle lease & rent	1,618		0	<<	0		1,618
Custom boarding	35,049		154	<<	-12		34,883
bST	5,783		-596		0		6,379
Livestock professional fees	8,466		29	<<	34		8,472
Other livestock expense	12,980		163		-116		12,700
<u>Crops</u>							
Fertilizer & lime	55,440		-8,352		6,890		70,682
Seeds & plants	41,902		-16,259		-524		57,636
Spray, other crop expense	26,281		-1,837		1,256		29,374
Crop professional fees	2,550		0	<<	181		2,731
<u>Real Estate</u>							
Land, building & fence repair	38,172		-19		-24		38,167
Taxes	28,068		370	<<	62		27,760
Rent & lease	35,470		9	<<	0		35,461
<u>Other</u>							
Insurance	26,630		-335	<<	3		26,968
Utilities (farm share)	52,494		-112	<<	112		52,718
Interest paid	54,412		0	<<	82		54,495
Other professional fees	15,019		5	<<	414		15,429
Miscellaneous	16,263		-655		0		16,918
Total Operating	\$2,233,078		\$-100,582		\$ 9,173		\$2,342,833
Expansion livestock	6,909		0	<<	0		6,909
Extraordinary expense	91		0	<<	0		91
Machinery depreciation							108,131
Building depreciation							57,228
TOTAL ACCRUAL EXPENSES							\$2,515,193

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 2015 but not paid for. A decrease is subtracted because it represents payment for resources used before 2015.

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
52 Hudson and Central New York Region Dairy Farms, 2015

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$2,343,423				\$-82,462		\$2,260,961
Dairy cattle	169,936		39,580		310		209,825
Dairy calves	52,867		6,280		-1,635		57,512
Other livestock	14,461		-2,886		385		11,960
Crops	25,334		16,725		-1,728		40,332
Government receipts	17,941		0*		-146		17,795
Custom machine work	1,783				-76		1,707
Gas tax refund	150				0		150
Other	<u>44,680</u>				<u>-2,900</u>		41,780
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$2,670,574		\$59,700		\$-88,253		\$2,642,021

*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 2015 for the 2016 crop year in excess of funds earned for 2015. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2015 but received in 2014.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 2016 for milk produced in December 2015 compared to January 2015 payments for milk produced in 2014 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.

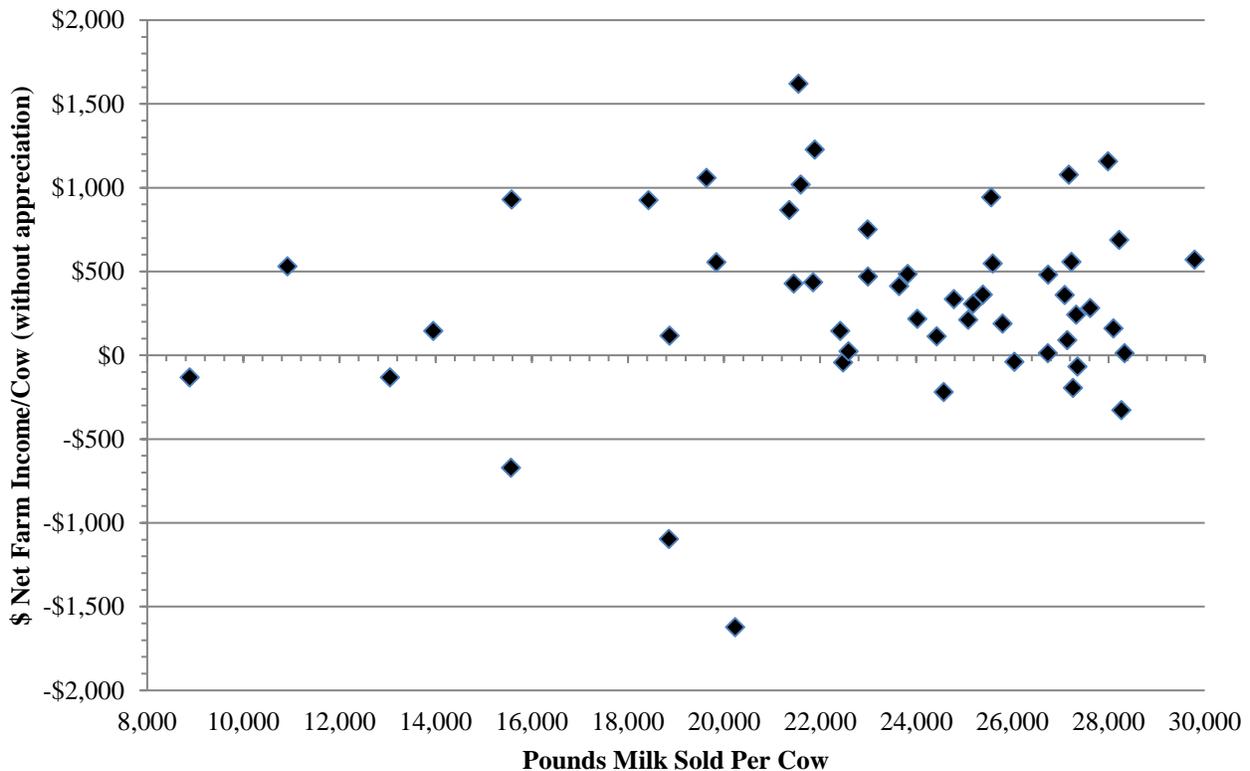
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit stock required for loan borrowings). Appreciation is a major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

NET FARM INCOME
52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$ 2,642,021		\$ _____	
Appreciation: Livestock	18,071		_____	
Machinery	22,641		_____	
Real Estate	59,177		_____	
Other Stock & Certificates	<u>-432</u>		_____	
Total Including Appreciation	\$ 2,741,478		\$ _____	
Total accrual expenses	<u>2,515,193</u>		- _____	
Net Farm Income (with appreciation)	\$ 226,286	\$ 475	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 126,829	\$ 266	\$ _____	\$ _____

The chart below shows the relationship between net farm income per cow (without appreciation) and pounds of milk sold per cow. Generally, as milk per cow increases, net farm income will also increase however this is not always the case, higher net farm incomes can be achieved across a range of production levels as a result of different management systems.

NET FARM INCOME PER COW AND MILK PER COW
52 Hudson and Central New York Region Dairy Farms, 2015



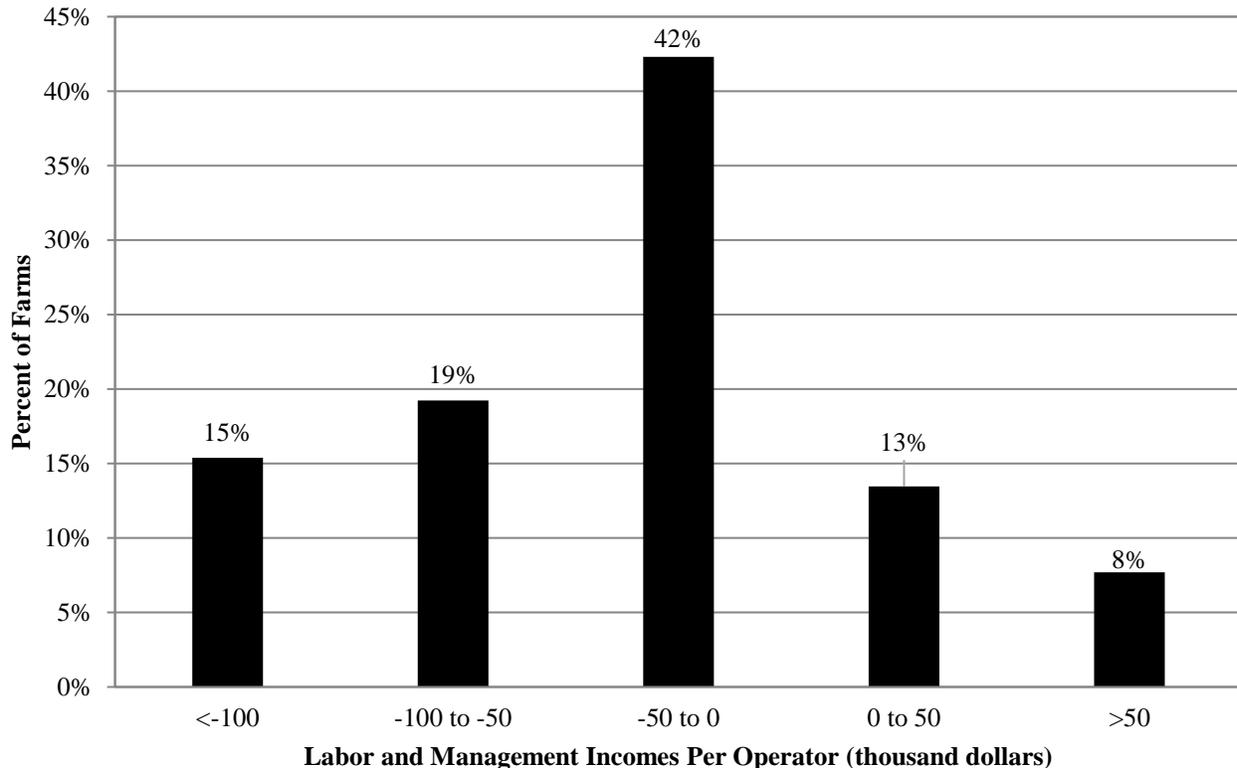
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and 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
52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average	My Farm
Net farm income without appreciation	\$ 126,826	\$ _____
Family labor unpaid @ \$2,600 per month	- 4,910	- _____
Interest on \$3,643,757 average equity capital @ 5% real rate	<u>- 182,188</u>	- _____
Labor & Management Income per farm (2.09 Operators/farm)	\$ -60,269	\$ _____
Labor & Management Income per Operator/Manager	\$ -28,837	\$ _____

Labor and management income per operator averaged \$-28,837 on these 52 farms in 2015. The range in labor and management income per operator was from about \$-239,000 to more than \$164,000. Returns to labor and management were less than \$-50,000 on 34 percent of the farms. Labor and management incomes per operator were between \$-50,000 and \$0 on 42 percent of the farms. This year 21 percent had labor and management incomes of greater than \$0 or per operator, with only 8% of the farms showing a return to labor & management greater than \$50,000.

DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR
52 Hudson and Central New York Region Dairy Farms, 2015



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 (market value) 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 (market value). Net farm income from operations ratio is net farm income (without appreciation) divided by total accrual receipts.

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average	My Farm
Net farm income with appreciation	\$ 226,286	\$ _____
Family labor unpaid @ \$2,600 per month	- 4,910	- _____
Value of operators' labor & management	- <u>121,691</u>	- _____
Return on equity capital with appreciation	\$ 99,685	\$ _____
Interest paid	+ <u>54,495</u>	+ _____
Return on total capital with appreciation	\$ 154,179	\$ _____
Return on equity capital without appreciation	\$ 228	\$ _____
Return on total capital without appreciation	\$ 54,722	\$ _____
Rate of return on average equity capital:		
with appreciation	2.7%	_____ %
without appreciation	0.0%	_____ %
Rate of return on average total capital:		
with appreciation	3.0%	_____ %
without appreciation	1.1%	_____ %
Net Farm Income from Operations Ratio	0.05	_____

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 2015, lease payments were discounted by 7 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 2015 that are for participation in the 2016 program are the end year balance and payments received in 2014 for participation in the 2015 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.

2015 FARM BUSINESS & NONFARM MARKET VALUE BALANCE SHEET

52 Hudson and Central New York Region Dairy Farms, 2015

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 55,350	\$ 57,588	Accounts payable	\$ 42,896	\$ 52,069
Accounts receivable	270,171	181,918	Operating debt	152,887	134,550
Prepaid expenses	8,387	6,164	Short Term	2,010	2,709
Feed & supplies	<u>753,221</u>	<u>671,586</u>	Advanced govt. receipts	0	0
Total Current	\$ 1,087,129	\$ 917,256	Current Portion:		
			Intermediate	120,671	126,245
			Long Term	<u>37,521</u>	<u>40,471</u>
			Total Current	\$ 355,984	\$ 356,044
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 662,938	\$ 705,033	1-10 years	\$ 531,058	\$ 569,524
leased	0	0	Financial lease		
Heifers	359,559	381,054	(cattle/machinery)	3,393	4,381
Bulls & other livestock	13,251	10,707	Farm Credit stock	<u>1,335</u>	<u>1,346</u>
Mach. & equip. owned	981,006	1,064,193	Total Intermediate	\$ 535,786	\$ 575,252
Mach. & equip. leased	3,393	4,381			
Farm Credit stock	1,335	1,346			
Other stock/certificate	<u>123,463</u>	<u>127,751</u>			
Total Intermediate	\$ 2,144,946	\$2,294,465			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 1,938,427	\$2,050,365	>10 years	\$ 686,390	\$ 668,808
leased	<u>2,824</u>	<u>1,461</u>	Financial lease		
Total Long Term	\$ 1,941,251	\$2,051,827	(structures)	<u>2,824</u>	<u>1,461</u>
			Total Long Term	\$ 689,214	\$ 670,269
Total Farm Assets	\$ 5,173,326	\$5,263,548	Total Farm Liabilities	\$ 1,580,985	\$ 1,601,564
			FARM NET WORTH	\$ 3,592,341	\$ 3,661,984

Nonfarm Assets, Liabilities & Net Worth (Average of 26 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	\$ 21,487	\$ 22,886	Nonfarm Liabilities	\$6,942	\$4,897
Cash value life insurance	83,079	83,896			
Nonfarm real estate	254,737	259,474			
Auto (personal share)	10,105	10,842			
Stocks & bonds	71,392	73,869			
Household furnishings	6,474	6,895			
All other nonfarm assets	32,266	33,134			
Total Nonfarm Assets	\$479,540	\$490,996	NONFARM NET WORTH	\$472,597	\$486,098

Farm & Nonfarm Assets, Liabilities, and Net Worth*

	Jan. 1	Dec. 31
Total Assets	\$ 5,652,866	\$ 5,754,544
Total Liabilities	<u>1,587,927</u>	<u>1,606,461</u>
TOTAL FARM & NONFARM NET WORTH	\$ 4,064,939	\$ 4,148,083

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

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. The leverage ratio is the dollars of debt per dollar of equity, computed by dividing total farm liabilities by farm net worth. 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

52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average		My Farm	
<u>Financial Ratios - Farm:</u>				
Percent equity		70%	_____	%
Debt/asset ratio: total		.30	_____	
long-term		.33	_____	
intermediate/current		.29	_____	
Leverage Ratio:		.44	_____	
Current Ratio:		2.58	_____	
Working capital	\$561,212	As % of total expenses:	22%	
<u>Farm Debt Analysis:</u>				
Accounts payable as % of total debt		3%	_____	%
Long-term liabilities as a % of total debt		42%	_____	%
Current & inter. liabilities as a % of total debt		58%	_____	%
Cost of term debt (weighted average)		3.9%	_____	%
<u>Farm Debt Levels:</u>				
	<u>Per Cow</u>	<u>Per Tillable Acre Owned</u>	<u>Per Cow</u>	<u>Per Tillable Acre Owned</u>
Total farm debt	\$ 3,372	\$ 3,848	\$ _____	\$ _____
Long-term debt	1,411	1,611	_____	_____
Intermediate & long term	2,622	2,993	_____	_____
Intermediate & current debt	1,961	2,238	_____	_____

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

52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average of Region's Farms	
	Real Estate	Machinery & Equipment
Value beginning of year	\$ 1,938,427	\$ 981,006
Purchases	\$ 188,743*	\$ 174,614
Noncash transfer to farm	+ 0	+ 0
Lost capital	- 71,177	
Sales	- 7,576	- 5,937
Depreciation	- 57,228	- 108,131
Net investment	= 52,761	= 60,546
Appreciation	+ 59,177	+ 22,641
Value end of year	\$ 2,050,365	\$ 1,064,193

*\$40,440 land and \$148,304 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)
52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average	My Farm
Beginning of year farm net worth	\$3,625,531	\$ _____
Net farm income without appreciation	\$ 126,829	\$ _____
+Nonfarm cash income	+ 4,470	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 159,182</u>	- _____
RETAINED EARNINGS	+ \$ -27,883	+\$ _____
Nonfarm noncash transfers to farm	\$ 0	\$ _____
+Cash used in business from nonfarm capital	+ 38,227	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	<u>- 0</u>	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 38,227	+\$ _____
Appreciation	\$ 99,457	\$ _____
-Lost capital	<u>- 71,177</u>	- _____
CHANGE IN VALUATION EQUITY	+ \$ 28,280	+\$ _____
IMBALANCE/ERROR	<u>- 2,171</u>	- \$ _____
End of year net worth*	= \$3,661,984	=\$ _____
<hr/>		
<u>Change in Net Worth</u>		
Without appreciation	\$ -63,004	\$ _____
With appreciation	\$ 36,453	\$ _____

*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
52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average	
<u>Cash Flow from Operating Activities</u>		
Cash farm receipts	\$ 2,670,574	
- Cash farm expenses	2,233,078	
- Extraordinary expense	<u>91</u>	
= Net cash farm income		\$ 437,405
Personal withdrawals & family expenses including nonfarm debt payments	\$ 159,199	
- Nonfarm income	<u>4,470</u>	
- Net cash withdrawals from the farm		\$ <u>154,729</u>
= Net Provided by Operating Activities		\$ 282,677
<u>Cash Flow From Investing Activities</u>		
Sale of assets: machinery	\$ 5,937	
+ real estate	7,576	
+ other stock & cert.	<u>1,915</u>	
= Total asset sales		\$ 15,428
Capital purchases: expansion livestock	\$ 6,909	
+ machinery	174,614	
+ real estate	188,743	
+ other stock & cert.	<u>6,635</u>	
- Total invested in farm assets		\$ <u>376,901</u>
= Net Provided by Investment Activities		\$ -361,472
<u>Cash Flow From Financing Activities</u>		
Money borrowed (intermediate & long term)	\$ 225,718	
+ Money borrowed (short term)	3,584	
+ Increase in operating debt	0	
+ Cash from nonfarm capital used in business	38,227	
+ Money borrowed - nonfarm	<u>17</u>	
= Cash inflow from financing		\$ 267,547
Principal payments (intermediate & long term)	\$ 163,121	
+ Principal payments (short term)	2,885	
+ Decrease in operating debt	<u>18,337</u>	
- Cash outflow for financing		\$ <u>184,342</u>
= Net Provided by Financing Activities		\$ 83,205
<u>Cash Flow From Reserves</u>		
Beginning farm cash, checking & savings		\$ 55,350
- Ending farm cash, checking & savings		<u>57,588</u>
= Net Provided from Reserves		\$ -2,238
Imbalance (error)		\$ 2,171

ANNUAL CASH FLOW STATEMENT

Item	My Farm	
<u>Cash Flow from Operating Activities</u>		
Cash farm receipts	\$ _____	
- Cash farm expenses	_____	
- Extraordinary expense	_____	
= 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		\$ _____
<u>Cash Flow From Investing Activities</u>		
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		\$ _____
<u>Cash Flow From Financing Activities</u>		
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		\$ _____
<u>Cash Flow From Reserves</u>		
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 2016. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2016 debt payments shown below.

FARM DEBT PAYMENTS PLANNED

Same 45 Hudson and Central New York Region Dairy Farms, 2015 & 2016

Debt Payments	Average			My Farm		
	2015 Payments Planned	Made	Planned 2016	2015 Payments Planned	Made	Planned 2016
Long term	\$ 86,595	\$ 79,386	\$ 69,754	\$ _____	\$ _____	\$ _____
Intermediate term	132,135	131,032	144,561	_____	_____	_____
Short term	1,226	3,632	953	_____	_____	_____
Operating (net reduction)	133	62,858	36	_____	_____	_____
Accounts payable (net reduction)	<u>0</u>	<u>12,876</u>	<u>0</u>	_____	_____	_____
Total	\$ 220,090	\$ 289,783	\$ 215,304	\$ _____	\$ _____	\$ _____
Per cow	\$ 441	\$ 580		\$ _____	\$ _____	
Per cwt. 2015 milk	\$ 1.71	\$ 2.26		\$ _____	\$ _____	
Percent of total 2015 farm receipts	7.8%	10.4%		_____	_____	
Percent of 2015 milk receipts	8.9%	12.2%		_____	_____	

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 2015 (as of December 31, 2014) that could have been made with the amount available for debt service in 2015. Farmers who did not participate in DFBS in 2014 have their 2015 ratios based on planned debt payments for 2016.

COVERAGE RATIOS

Same 45 Hudson and Central New York Region Dairy Farms, 2015 & 2016

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$2,820,660	Net farm income (w/o appreciation)	\$130,069
- Cash farm expenses	2,359,813	+ Depreciation	175,886
+ Interest paid (cash)	55,174	+ Interest paid (accrual)	55,269
- Net personal withdrawals from farm*	<u>169,571</u>	- Net personal withdrawals from farm*	<u>160,571</u>
(A) = Amount Available for Debt Service	\$355,450	(A') = Repayment Capacity	\$200,653
(B) = Debt Payments Planned for 2015 (as of December 31, 2014)	\$220,090	(B) = Debt Payments Planned for 2015 (as of December 31, 2014)	\$220,090
(A/B) = Cash Flow Coverage Ratio for 2015	1.62	(A'/B) = Debt Coverage Ratio for 2015	0.91

*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	52 Hudson and Central New York Region Dairy Farms		My Farm	Expected Change	2016 Projection
	Per Cow	Per Cwt.	Per Cow/ Per Cwt.		
Average number of cows	476				
Total cwt. of milk sold		121,447			
<u>Accrual Operating Receipts</u>					
Milk	\$4,746	\$18.62	\$ _____		\$ _____
Dairy cattle	440	1.73			
Dairy calves	121	0.47			
Other livestock	25	0.10			
Crops	85	0.33			
Miscellaneous Receipts	129	0.51			
Total	\$5,546	\$21.75	\$ _____		\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$ 804	\$ 3.15	\$ _____		\$ _____
Dairy grain & concentrate	1,696	6.66			
Dairy roughage	87	0.34			
Nondairy feed	0	0.00			
Professional nutritional services	0	0.00			
Machinery hire, rent & lease	98	0.39			
Machinery repair & vehicle expense	314	1.23			
Fuel, oil & grease	166	0.65			
Replacement livestock	7	0.03			
Breeding	56	0.22			
Veterinary & medicine	168	0.66			
Milk marketing	292	1.15			
Bedding	102	0.40			
Milking supplies	93	0.36			
Cattle lease	3	0.01			
Custom boarding	73	0.29			
bST expense	13	0.05			
Livestock professional fees	18	0.07			
Other livestock expense	27	0.10			
Fertilizer & lime	148	0.58			
Seeds & plants	121	0.47			
Spray & other crop expense	62	0.24			
Crop professional fees	6	0.02			
Land, building & fence repair	80	0.31			
Taxes	58	0.23			
Real estate rent & lease	74	0.29			
Insurance	57	0.22			
Utilities	111	0.43			
Other professional fees	32	0.13			
Miscellaneous	36	0.14			
Total Less Interest Paid	\$4,803	\$18.84	\$ _____		\$ _____
<u>Net Accrual Operating Income</u>					
Total					
(without interest paid)	\$ 353,683		\$ _____		\$ _____
- Change in livestock /crop inventory*	59,700				
- Change in accounts receivable	-88,253				
- Change in feed & supply inventory**	-100,582				
+ Change in accounts payable***	9,090				
NET CASH FLOW	\$ 491,908		\$ _____		\$ _____
- Net family withdrawals	154,612				
Available for Farm	\$ 337,296		\$ _____		
- Farm debt payments	282,446				
Available for Farm Investment	\$ 54,850		\$ _____		\$ _____
- Capital purchases	376,901				
Additional Capital Needed	\$322,050		\$ _____		\$ _____

*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 52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average			My Farm		
<u>Land</u>	<u>Owned</u>	<u>Rented</u>	<u>Total</u>	<u>Owned</u>	<u>Rented</u>	<u>Total</u>
Tillable	416	654	1,070	_____	_____	_____
Nontillable	38	26	64	_____	_____	_____
Other nontillable	<u>151</u>	<u>4</u>	<u>155</u>	_____	_____	_____
Total	606	684	1,289	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Production/Acre</u>	<u>Acres</u>	<u>Production/Acre</u>	
Hay crop	51	560	2.76 tons DM	_____	_____	tons DM
Corn silage	49	413	17.70 tons	_____	_____	tons
			6.20 tons DM	_____	_____	tons DM
Other forage	4	123	1.25 tons DM	_____	_____	tons DM
Total forage	51	967	4.15 tons DM	_____	_____	tons DM
Corn grain	21	149	144 bushels	_____	_____	bushels
Oats	4	46	27 bushels	_____	_____	bushels
Wheat	2	145	55 bushels	_____	_____	bushels
Other crops	16	89		_____	_____	
Tillable pasture	5	171		_____	_____	
Idle	11	111		_____	_____	
Total Tillable Acres	52	1,070		_____	_____	

*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 550, corn silage 389, corn grain 60, oats 4, tillable pasture 16, and idle 23.

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 51 Hudson and Central New York Region Dairy Farms, 2015*

Item	Average	My Farm
Total tillable acres per cow	2.25	_____
Total forage acres per cow	1.99	_____
Harvested forage dry matter, tons per cow	8.29	_____

*Excludes farms that do not harvest forages.

Cropping Analysis (continued)

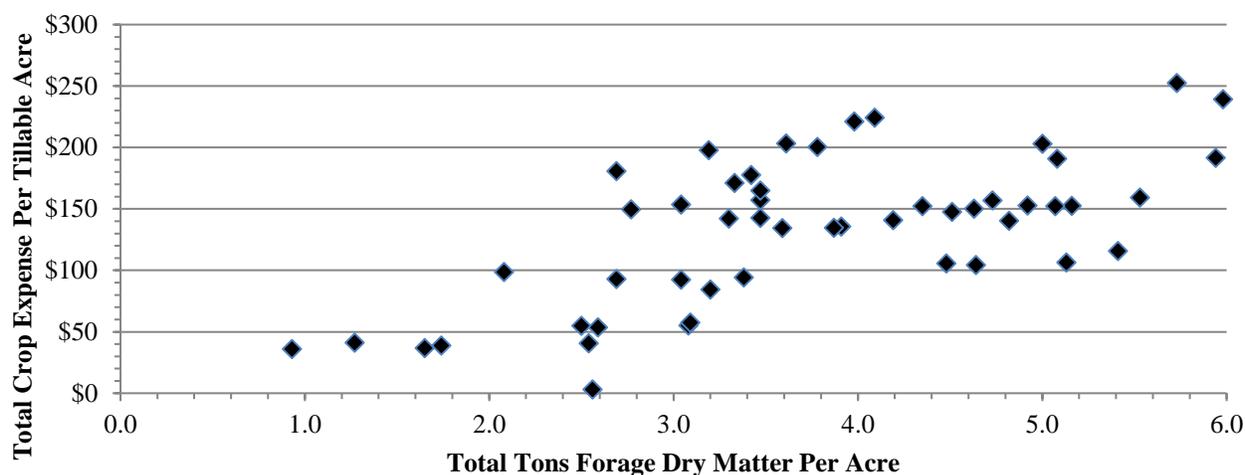
Crop input costs per tillable acre are reported in the table below. The chart below shows the relationship between total forage dry matter and total crop input costs. Rotational grazing was used on 5 farms in the region.

CROP RELATED ACCRUAL EXPENSES
Hudson and Central New York Region Dairy Farms Reporting, 2015*

Item	Average 51 Farms		My Farm	
	Total Per Tillable Acre		Total Per Tillable Acre	
Number of farms reporting	51		_____	
Average number of acres	1,091		_____	
Fertilizer & lime expenses	\$	56.23	\$	_____
Seeds & plants		49.38		_____
Spray & other crop expenses		<u>27.35</u>		_____
Total	\$	132.96	\$	_____

* Excludes farms that do not harvest forages.

CROP EXPENSE PER ACRE AND TOTAL FORAGE PRODUCTION PER ACRE
51 Hudson and Central New York Region Dairy Farms, 2015*



* Excludes farms that do not harvest forages.

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
51 Hudson and Central New York Region Dairy Farms, 2015*

Machinery Expense	Average		My Farm	
	Total Expenses	Per Tillable Acre	Total Expenses	Per Tillable Acre
Fuel, oil & grease	\$ 80,748	\$ 74.03	\$ _____	\$ _____
Mach. repair & vehicle expense	152,351	139.68	_____	_____
Machine hire, rent & lease	47,749	43.78	_____	_____
Interest (5%)	52,241	47.90	_____	_____
Depreciation	<u>110,063</u>	<u>100.91</u>	_____	_____
Total	\$443,152	\$406.30	\$ _____	\$ _____

*Excludes farms that do not harvest forages.

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

52 Hudson and Central New York Region Dairy Farms, 2015

Item	Dairy Cows		Heifer					
	No.	Value	Bred		Open		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	457	\$662,938	132	\$187,076	134	\$116,428	109	\$56,055
+ Change w/o apprec.		30,437		9,487		-344		6,280
+ Appreciation		<u>11,658</u>		<u>1,717</u>		<u>2,416</u>		<u>1,938</u>
End year (owned)	477	\$705,033	139	\$198,281	132	\$118,500	122	\$64,274
End including leased	475							
Average number	476		385	(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.

MILK PRODUCTION

52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average	My Farm
Total milk sold, pounds	12,144,705	_____
Milk sold per cow, pounds	25,492	_____
Average milk plant test, percent butterfat	3.86%	_____

Monitoring and evaluating culling practices and experiences on an annual basis are important herd management tools. Culling rate can have an effect on both milk per cow and profitability.

ANIMALS LEAVING THE HERD

52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average		My Farm	
	Number	Percent*	Number	Percent*
Cows sold for beef	129	27.1	_____	_____
Cows sold for dairy	9	1.8	_____	_____
Cows died	22	4.6	_____	_____
Culling rate**		31.7		_____

*Percent of average number of cows in the herd. **Cows sold for beef plus cows died.

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**

52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Cost of Producing Milk</u>						
Operating costs	\$1,968,682	\$ 4,132	\$ 16.21	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$2,134,132	\$ 4,480	\$ 17.57	\$ _____	\$ _____	\$ _____
Total Costs	\$2,442,921	\$ 5,128	\$ 20.12	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts</u>						
<u>From Milk</u>						
Net Milk Receipts	\$2,260,961	\$ 4,746	\$ 18.62	\$ _____	\$ _____	\$ _____
Net Farm Income	\$2,121,683	\$ 4,453	\$ 17.47	\$ _____	\$ _____	\$ _____
without Appreciation	\$ 126,829	\$ 266	\$ 1.04	\$ _____	\$ _____	\$ _____
with Appreciation	\$ 226,286	\$ 475	\$ 1.86	\$ _____	\$ _____	\$ _____

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

52 Hudson and Central New York Region Dairy Farms, 2015

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 1,696	\$ 6.66	\$ _____	\$ _____
Purchased dairy roughage	87	0.34	_____	_____
Total Purchased Dairy Feed	\$ 1,784	\$ 7.00	\$ _____	\$ _____
Purchased grain & concentrate as % of milk receipts		35%	_____ %	_____ %
Purchased feed & crop expense	\$ 2,120	\$ 8.32	\$ _____	\$ _____
Purchased feed & crop expense as % of milk receipts		35%	_____ %	_____ %
Breeding	\$ 56	\$ 0.22	\$ _____	\$ _____
Veterinary & medicine	168	0.66	_____	_____
Milk marketing	292	1.15	_____	_____
Bedding	102	0.40	_____	_____
Milking supplies	93	0.36	_____	_____
Cattle lease	3	0.01	_____	_____
Custom boarding	73	0.29	_____	_____
bST expense	13	0.05	_____	_____
Livestock professional fees	18	0.07	_____	_____
Other livestock expense	27	0.10	_____	_____

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. When evaluating a business, the relationship between capital efficiency and labor efficiency should be explored. For example, if capital efficiency shows high capital investment per worker or per cow, labor efficiency should be high reflecting use of capital to make labor more effective. However, if capital investment is high per worker or per cow, and labor efficiency is low, a problem may exist on that farm.

CAPITAL EFFICIENCY
52 Hudson and Central New York Region Dairy Farms, 2015

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$429,148	\$10,953	\$4,878	\$12,539
Real estate		4,191		4,797
Machinery & equipment	84,415	2,155	960	
<u>Ratios</u>				
Asset turnover	Operating Expense	Interest Expense	Depreciation Expense	
0.53	0.87	0.02	0.06	
<u>My Farm</u>				
Farm capital	\$ _____	\$ _____	\$ _____	\$ _____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
<u>Ratios</u>				
Asset turnover	Operating Expense	Interest Expense	Depreciation Expense	
_____	_____	_____	_____	

LABOR FORCE INVENTORY
52 Hudson and Central New York Region Dairy Farms, 2015

Labor Force	Months	Age	Years of Education	Value of Labor & Management
Operator number 1	12.9	55	13	\$53,288
Operator number 2	8.1	49	14	36,504
Operator number 3	3.8	37	15	16,547
Operator number 4	3.5	31	16	15,352
Family paid	2.8			
Family unpaid	1.9			
Hired	<u>113.0</u>			
Total	146.0			
		/ 12 = 12.2 Worker Equivalent		
		2.09 Operator/Manager Equivalent		
<u>My Farm: Total</u>				
Operator's	_____	/ 12 = _____ Worker Equivalent		
	_____	/ 12 = _____ Operator/Manager Equivalent		

Small conventional stall operations of 60 or less cows should strive for labor efficiency of 600,000 or more pounds of milk sold per worker. Large conventional stall operations should strive for 850,000 or more pounds of milk sold per worker. Small free stall operations of less than 300 cows should strive for 1,000,000 pounds of milk sold per worker and large free stall operations with more than 300 cows should strive for over 1,200,000 pounds of milk sold per worker.

Labor costs and machinery costs should also be evaluated both individually and jointly. The more machinery or technology at a worker's disposal, the less time, and therefore cost, that should be required to get work accomplished. Striving for labor and machinery costs per cow of less than \$2,200 on small conventional stall barns, less than \$1,800 on large conventional stall barns, less than \$1,700 on small free stall barns and below \$1,600 on large free stall barns should be a goal.

LABOR EFFICIENCY

52 Hudson and Central New York Region Dairy Farms, 2015

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	476	39	_____	_____
Milk sold, pounds	12,144,705	998,468	_____	_____
Tillable acres	1,070	88	_____	_____

LABOR AND MACHINERY COSTS

52 Hudson and Central New York Region Dairy Farms, 2015

Labor Costs	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Value of operator(s) labor (\$2,600/month)	\$ 79,777	\$ 167	\$ 0.66	\$ _____	\$ _____	\$ _____
Family unpaid (\$2,600/month)	4,914	10	0.04	_____	_____	_____
Hired	<u>382,834</u>	<u>804</u>	<u>3.15</u>	_____	_____	_____
Total Labor	\$ 467,525	\$ 981	\$ 3.85	\$ _____	\$ _____	\$ _____
Machinery Cost	<u>\$ 435,062</u>	<u>\$ 913</u>	<u>\$ 3.58</u>	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$ 902,587	\$ 1,895	\$ 7.43	\$ _____	\$ _____	\$ _____
Hired labor expense per hired worker equivalent			\$ 39,658	\$ _____		
Hired labor expense as % of milk sales			16.93%	_____%		

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 45 Hudson and Central New York Region Dairy Farms, 2014 & 2015

Selected Factors	Average of 45 Farms*		My Farm		Goal
	2014	2015	2014	2015	
<u>Size of Business</u>					
Average number of cows	477	499	_____	_____	_____
Average number of heifers	379	400	_____	_____	_____
Milk sold, pounds	12,170,345	12,836,609	_____	_____	_____
Worker equivalent	12.4	12.5	_____	_____	_____
Total tillable acres	1,046	1,089	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, pounds	25,498	25,701	_____	_____	_____
Hay DM per acre, tons	3.1	2.7	_____	_____	_____
Corn silage per acre, tons	18.4	17.7	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	38	40	_____	_____	_____
Milk sold/worker, pounds	980,689	1,026,108	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	30%	36%	_____ %	_____ %	_____ %
Dairy feed & crop expense per cwt. milk	\$ 9.42	\$ 8.30	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,961	\$ 1,894	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 17.81	\$ 16.17	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$ 10,239	\$ 10,714	\$ _____	\$ _____	\$ _____
Mach. & equipment per cow	\$ 1,943	\$ 2,079	\$ _____	\$ _____	\$ _____
Asset turnover ratio	0.77	0.54	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$ 846,282	\$ 130,069	\$ _____	\$ _____	\$ _____
Net farm income w/apprec.	\$ 946,347	\$ 241,223	\$ _____	\$ _____	\$ _____
Labor & mgmt. income per operator/manager	\$ 350,510	\$ -30,845	\$ _____	\$ _____	\$ _____
Rate of return on equity capital w/appreciation	24.8	3.1	_____ %	_____ %	_____ %
Rate of return on all capital w/appreciation	18.1	3.2	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$3,714,263	\$3,753,426	\$ _____	\$ _____	\$ _____
Debt to asset ratio	0.30	0.30	_____	_____	_____
Farm debt per cow	\$ 3,317	\$ 3,306	\$ _____	\$ _____	\$ _____

*Farms participating both years.

**Average for the year.

RECEIPTS AND EXPENSES PER COW AND PER CWT.
Same 45 Hudson and Central New York Region Dairy Farms, 2014 & 2015

Item	2014		2015	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	477		499	
Cwt. of Milk Sold		121,703		128,366
<u>ACCRUAL OPERATING RECEIPTS</u>				
Milk	\$6,678	\$26.19	\$4,770	\$18.56
Dairy cattle	455	1.78	450	1.75
Dairy calves	82	0.32	122	0.47
Other livestock	27	0.11	28	0.11
Crops	291	1.14	83	0.32
Miscellaneous receipts	<u>93</u>	<u>0.37</u>	<u>133</u>	<u>0.52</u>
Total Receipts	\$7,627	\$29.91	\$5,586	\$21.73
<u>ACCRUAL OPERATING EXPENSES</u>				
Hired labor	\$ 803	\$ 3.15	\$ 812	\$ 3.16
Dairy grain & concentrate	1,975	7.74	1,705	6.63
Dairy roughage	85	0.33	96	0.37
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	0	0.00	0	0.00
Machine hire, rent & lease	108	0.42	105	0.41
Machinery repair & vehicle expense	330	1.29	315	1.23
Fuel, oil & grease	245	0.96	166	0.65
Replacement livestock	5	0.02	7	0.03
Breeding	65	0.25	57	0.22
Veterinary & medicine	182	0.71	172	0.67
Milk marketing	294	1.15	295	1.15
Bedding	93	0.36	104	0.40
Milking supplies	102	0.40	90	0.35
Cattle lease	8	0.03	4	0.01
Custom boarding	81	0.32	81	0.31
bST expense	20	0.08	15	0.06
Livestock professional fees	20	0.08	18	0.07
Other livestock expense	26	0.10	24	0.09
Fertilizer & lime	131	0.52	145	0.56
Seeds & plants	130	0.51	118	0.46
Spray & other crop expense	75	0.30	64	0.25
Crop professional fees	4	0.01	5	0.02
Land, building & fence repair	120	0.47	83	0.32
Taxes	56	0.22	57	0.22
Real estate rent & lease	85	0.33	73	0.29
Insurance	51	0.20	55	0.21
Utilities	133	0.52	112	0.43
Interest paid	109	0.43	111	0.43
Other professional fees	26	0.10	33	0.13
Miscellaneous	<u>44</u>	<u>0.17</u>	<u>36</u>	<u>0.14</u>
Total Operating Expenses	\$5,408	\$21.21	\$4,957	\$19.29
Expansion Livestock	81	0.32	16	0.06
Extraordinary Expense	9	0.03	0	0.00
Machinery Depreciation	224	0.88	228	0.89
Real Estate Depreciation	<u>131</u>	<u>0.52</u>	<u>124</u>	<u>0.48</u>
Total Expenses	\$5,853	\$22.96	\$5,325	\$20.72
Net Farm Income Without Appreciation	\$1,773	\$ 6.95	\$ 260	\$ 1.01

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

52 Hudson and Central New York Region Dairy Farms, 2015

Size of Business			Rate 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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
30.8	1,280	33,269,269	15,777	3.9	22	48	1,198,353
17.3	670	18,135,419	21,852	2.9	19	41	1,041,161
8.6	333	7,775,583	24,388	2.5	17	36	859,973
3.8	125	2,633,692	26,506	2.2	15	31	676,651
2.0	52	977,395	28,024	1.5	8	23	425,653

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
(12)	(12)	(14)	(14)	(12)	(12)
\$776	24%	\$583	\$1,587	\$1,059	\$5.94
1,380	32	861	1,802	1,811	7.63
1,612	35	933	1,918	2,046	8.53
1,795	38	1,008	2,103	2,248	9.06
2,001	44	1,221	2,511	2,486	9.95

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Producing Milk Per Cwt.	% Rate of Return on All Capital w/o Appreciation	Net Farm Income w/o Appreciation	Labor & Mgt. Income Per Operator	Change in Net Worth with Appreciation
(12)	(12)	(12)	(4)	(4)	(4)	(8)
\$5,197	\$11.49	\$18.51	5.4%	\$538,338	67,469	\$454,477
4,890	14.34	19.89	1.8	160,534	-5,388	69,339
4,556	15.75	20.72	0.2	62,778	-18,125	4,672
4,034	16.87	23.20	-1.9	16,092	-58,842	-49,358
2,797	19.51	28.79	-9.8	-108,947	-161,684	-258,762

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

Supplementary Information

Each year DFBS cooperators volunteer to complete supplementary data collection forms looking at selected management aspects of the business or specific research areas being studied. This is in addition to the normal DFBS data collection form. An area that was examined this year was the source of dairy replacements. Following is a summary of this information.

SOURCE OF DAIRY REPLACEMENTS 33 Dairy Farms, 2015

<u>Animals Entering Herd</u>	Average
Number calving in 2015 for first time	276
Animals purchased, % ¹	4.2
Animals raised by farm, % ²	95.8
 <u>Current Heifer Inventory</u>	
Raised on dairy, %	87.2
Raised by a custom grower, %	12.8

¹ Animals purchased are animals purchased from a different farm and were not the farm's genetics.

² Animals raised by farm are animals that were born on the farm and entered the herd, which includes animals raised by the farm or custom grower.

On the average farm, 276 animals calved for the first time in 2015. The breakdown on the source of these animals was 4.2 percent purchased and 95.8 percent raised on the farm. Of the current heifer inventory, 87.2 percent were raised on the dairy and 12.8 percent were raised by a custom grower. There is increased interest in evaluating the dairy replacement enterprise.

Milk Income and Marketing Expense Breakdown

Starting January 1st, 2000, the northeast switched to multiple components pricing, which changed the format of the milk check and how farmers received payment for their milk. To examine the breakdown of the gross milk income and the marketing expenses, 36 farms filled out a detailed form for all the different sources of income for milk sales and the milk marketing expenses on an accrual basis. This information is reported in the following two tables. The tables are divided into six different areas, each representing a different area of income or expenses.

The first section looks at the value of the milk components on a per cwt. basis. The second area looks at the Producer Price Differential. The third area looks at the premiums a farm receives. Any premiums not specifically noted as quality or volume-related are included in market premiums. The fourth area looks at the expenses associated with marketing milk. A line item in this section is the expense associated with utilizing forward contracting or hedging programs to market milk, such as commissions or broker fees. The fifth area is income from forward contracting or hedging programs. The sixth area is the patronage dividends or refunds from the milk cooperatives. Equity purchased in the milk cooperative utilizing a monthly deduction from the milk check or a percent of the patronage dividend is treated as a capital purchase and is not a milk marketing expense. The cumulative total for these six areas is the net price received on farms. For participating farms, the net farm price can be found on page 13 of the DFBS report.

The table on page 25 reports the averages for these different areas. The table on page 26 contains the range for each of the individual lines of the report. This table is in farm business chart format with each item sorted independently and ranked by fifths. Numbers for the different areas will not add to the totals for that quintile or to the net price received because the highest farms for each item were averaged, not the same farms throughout the six areas. This table shows the range of income and expenses received by farms for all the different areas.

For your individual farm, compare your accrual numbers following this same format to look at how you compare to other farms in your region and to identify possible areas to generate additional revenue.

AVERAGE MILK INCOME AND MARKETING REPORT
36 Hudson and Central New York Region Dairy Farms, 2015

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
BASE FARM PRICE					
Butterfat	635,028	3.84%	\$2.30	\$1,460,783	\$ 8.84
Protein	507,447	3.07%	\$2.24	\$1,136,028	\$ 6.87
Solids	938,594	5.68%	\$0.19	\$176,995	\$ 1.07
Total Component Contribution					\$16.78
PPD	16,525,727			\$139,328	\$0.84
Base Farm Price					\$17.63
Premiums					
Quality				\$54,202	\$0.33
Volume				\$38,137	\$0.23
Market Premiums				\$61,666	\$0.37
Total Premiums					\$0.93
BASE FARM PRICE + PREMIUM					\$18.56
<hr style="border-top: 1px dashed black;"/>					
Deductions					
Promotion				\$24,839	\$0.15
Hauling & Coop Dues				\$162,278	\$0.98
Total Deductions					\$1.13
BASE FARM PRICE + PREMIUMS - DEDUCTIONS					\$17.43
Marketing Programs					
Futures Contracts, Forward Contracting, Etc.				\$2,991	\$0.02
Total Marketing Income					\$0.02
Patronage Dividends				\$7,874	\$0.05
NET PRICE RECEIVED ON FARM, ALL SOURCES					\$17.49
Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.					\$0.64

MILK PRICE INFORMATION BY QUINTILE*

(Each Category Sorted Independently)

36 Hudson and Central New York Region Dairy Farms, 2015

	Lowest Quintile				Highest Quintile
Butterfat, %	3.65	3.79	3.84	3.92	4.11
Protein, %	2.99	3.03	3.07	3.13	3.24
Other Solids, %	5.55	5.75	5.77	5.79	5.82
Butterfat, \$ per Cwt.	8.26	8.72	8.83	9.12	9.57
Protein, \$ per Cwt.	6.62	6.76	6.85	6.97	7.38
Other solids, \$ per Cwt.	1.00	1.05	1.07	1.08	1.27
Total Component Value per Cwt.	\$16.01	\$16.57	\$16.82	\$17.13	\$17.99
PPD, \$ per Cwt.	0.49	0.69	0.79	0.92	1.08
Base Farm Price per Cwt.	\$16.86	\$17.35	\$17.56	\$17.92	\$18.74
Quality, \$ per Cwt.	0.05	0.20	0.30	0.43	0.62
Volume, \$ per Cwt.	0.00	0.01	0.11	0.30	0.49
Market premium, \$ per Cwt.	0.05	0.16	0.32	0.41	0.82
Total Premium, \$ per Cwt.	0.32	0.61	0.83	1.03	1.45
Base Farm Price + Premiums per Cwt.	\$17.56	\$18.20	\$18.54	\$18.76	\$19.54
Promotion, \$ per Cwt.	0.15	0.15	0.15	0.15	0.15
Hauling & Coop Dues, \$ per Cwt.	0.63	0.81	1.02	1.18	1.46
Total Marketing Expenses per Cwt.	\$0.78	\$0.96	\$1.17	\$1.33	\$1.61
Base + Premiums – Deductions per Cwt.	\$16.38	\$17.01	\$17.39	\$17.61	\$18.43
Futures contract, forward contracting, \$ per Cwt.	-0.02	0.00	0.00	0.00	0.03
Total Marketing Income, \$ per Cwt.	\$-0.02	\$0.00	\$0.00	\$0.00	\$0.03
Patronage Dividends, \$ per Cwt.	\$0.00	\$0.00	\$0.00	\$0.01	\$0.26
Net Price Received From All Sources, \$ per Cwt.	\$16.46	\$17.02	\$17.48	\$17.67	\$18.41
Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.	-0.34	0.20	0.52	0.75	1.26

*Data for each category are calculated independently of all others. Therefore, summation of individual categories will not equal total categories.

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 173 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

173 New York Dairy Farms, 2014

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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
43.1	2,080	54,313,076	28,559	5.3	25	65	1,586,137
28.4	1,270	33,539,575	27,250	4.5	22	53	1,336,051
22.7	1,035	27,003,740	26,643	4.0	21	49	1,208,128
18.9	824	21,327,246	25,968	3.6	20	45	1,132,035
15.2	661	16,453,059	25,432	3.4	19	42	1,054,347
11.6	511	12,332,005	24,759	3.1	18	40	999,368
7.6	334	7,801,745	23,569	2.9	17	38	892,185
5.0	179	3,701,754	22,370	2.5	16	34	757,815
3.5	103	2,128,586	19,365	2.0	14	29	582,032
2.0	53	861,203	13,124	0.9	3	22	369,343

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
(12)	(12)	(14)	(14)	(12)	(12)
\$739	18%	\$537	\$1,233	\$1,030	\$6.37
1,239	23	770	1,564	1,630	7.91
1,520	26	859	1,701	1,967	8.37
1,681	27	917	1,807	2,118	8.70
1,775	28	983	1,906	2,233	9.02
1,878	29	1,047	1,970	2,350	9.25
1,939	30	1,118	2,043	2,436	9.67
2,024	31	1,202	2,166	2,519	10.08
2,110	32	1,295	2,367	2,656	10.59
2,344	37	1,572	2,812	2,915	12.10

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

**FARM BUSINESS CHART FOR
FARM MANAGEMENT COOPERATORS**

173 New York Dairy Farms, 2014

Milk Receipts Per Cow	Milk Receipts Per Cwt.	Operating Cost Milk Production Per Cow	Operating Cost Milk Production Per Cwt.	Total Cost Milk Production Per Cow	Total Cost Milk Production Per Cwt.
(12)	(12)	(12)	(12)	(12)	(12)
\$7,384	\$27.84	\$2,230	\$13.12	\$3,739	\$18.40
7,023	26.66	3,213	15.37	4,660	19.90
6,768	26.19	3,686	16.04	4,920	20.68
6,583	25.86	3,937	16.51	5,132	21.44
6,406	25.58	4,142	17.02	5,290	22.01

6,249	25.41	4,301	17.65	5,486	22.49
6,019	25.20	4,534	18.57	5,632	23.38
5,705	25.04	4,736	19.09	5,893	24.18
5,072	24.64	4,999	19.73	6,186	26.34
3,354	23.66	5,448	21.72	6,652	33.68

Profitability						
Net Farm Income Without Appreciation			Net Farm Income With Appreciation		Labor & Management Income	
Total	Per Cow	Operations Ratio	Total	Per Cow	Per Farm	Per Operator
(4)	(12)	(4)	(4)	(12)	(4)	(4)
\$4,016,078	\$2,583	0.35	\$4,686,493	\$3,222	\$3,227,880	\$1,612,645
2,336,674	2,102	0.29	2,855,399	2,588	1,811,699	926,424
1,669,865	1,910	0.27	2,076,389	2,268	1,273,005	637,057
1,320,389	1,757	0.25	1,546,866	2,063	1,004,947	455,781
970,351	1,652	0.24	1,152,837	1,944	731,383	309,980

697,780	1,526	0.22	889,287	1,778	461,038	229,958
426,295	1,377	0.20	555,913	1,623	291,520	156,637
225,621	1,199	0.17	273,539	1,385	138,710	94,825
125,798	893	0.14	148,273	1,062	56,543	40,728
34,576	328	0.06	36,597	453	-60,251	-39,398

Farm Business Charts for farms with freestall barns and 200 cows or less, 200 to 500 cows, and more than 500 cows, and farms with conventional barns with less than 60 cows and equal to or more than 60 cows are shown on pages 32-36.

Financial Analysis Chart

The farm financial analysis chart on page 29 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, 9, 13 and 19 of this publication. References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FINANCIAL ANALYSIS CHART
173 New York Dairy Farms, 2014

Liquidity (repayment)							
Planned Debt Payments Per Cow	Available for Debt Service Per Cow	Cash Flow Coverage Ratio	Debt Coverage Ratio	Debt Payments as Percent of Milk Sales	Debt Per Cow	Working Capital as % of Total Expenses	Current Ratio
(10)*	(16)	(10)	(10)	(10)	(7)	(7)	(7)
\$ 51	\$1,950	28.46	48.05	0%	\$ 209	70%	63.81
264	1,559	4.75	7.40	3	1,179	49	8.70
426	1,416	3.31	5.19	5	2,163	40	5.63
541	1,283	2.76	4.19	6	2,560	34	4.17
621	1,182	2.35	3.40	7	3,067	29	3.21
713	1,102	1.95	2.94	9	3,629	25	2.74
856	938	1.65	2.50	10	4,039	21	2.33
991	819	1.41	2.05	11	4,630	17	1.87
1,172	581	1.11	1.42	14	5,379	10	1.40
1,570	216	0.43	0.37	20	7,241	-1	0.75
Solvency				Operational Ratios			
Leverage Ratio**	Percent Equity	Debt/Asset Ratio		Operating Expense Ratio	Interest Expense Ratio	Depreciation Expense Ratio	
		Current & Intermediate	Long Term				
(7)	(7)	(7)	(7)	(14)	(14)	(14)	
0.01	99%	0.01	0.00	0.58	0.00	0.02	
0.11	91	0.08	0.00	0.64	0.00	0.04	
0.20	84	0.15	0.05	0.66	0.01	0.04	
0.27	79	0.21	0.13	0.67	0.01	0.05	
0.35	75	0.25	0.23	0.69	0.01	0.05	
0.46	70	0.29	0.31	0.70	0.02	0.06	
0.56	65	0.32	0.39	0.72	0.02	0.07	
0.63	62	0.37	0.46	0.75	0.03	0.07	
0.78	57	0.44	0.55	0.78	0.03	0.09	
1.35	45	0.59	0.81	0.85	0.05	0.13	
Efficiency (Capital)				Profitability			
Asset Turnover (ratio)	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow	Change in Net Worth With Appreciation	Percent Rate of Return with Appreciation on:		
(14)	(14)	(14)	(14)	(8)	Equity	Investment***	
0.98	\$12,306	\$ 760	\$ 7,448	\$3,814,371	41%	27%	
0.80	3,167	1,228	9,156	2,290,942	31	22	
0.74	3,703	1,510	10,063	1,642,462	27	19	
0.69	4,192	1,748	10,681	1,234,750	23	17	
0.65	4,647	1,964	11,315	848,733	20	15	
0.60	5,131	2,219	12,335	584,698	17	13	
0.56	5,676	2,436	13,077	348,105	15	12	
0.52	6,330	2,708	13,895	170,637	12	9	
0.45	7,435	3,212	15,217	90,292	6	6	
0.30	11,101	4,932	19,902	-19,302	-5	-2	

*Page number of the participant's DFBS report 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 31 includes the average values for the resulting five groups of dairy farms. The average size of farms in the five groups ranges from 37 cows on the small conventional farms to 2,462 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, in 2014, they had the highest returns to labor, management and capital.

Farm business charts have been computed for each of the five housing and herd size categories and are on pages 32-36. 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 48-60 of the 2014 State Summary*. In most years, as herd size increases, the net farm income increases (page 48)*; and that was the case for 2014. Net farm income without appreciation averaged \$52,279 per farm for the less than 60 cow farms and \$2,479,788 per farm for those with more than 900 cows. Return to all capital without appreciation generally increased as herd size increased. With herd sizes less than 200 cows, many farms find it difficult to find a low cost combination of technology and labor to produce milk. Thus profits are lower for these herds than other herd sizes.

Assets, liabilities and financial measures are presented on pages 55-58*. All herd size categories saw an increase in net worth during 2014. The largest herd size category experienced an increase in net worth of \$2,306,383. However, percent equity varied as herd size increased. The 600 to 899 herd size category had the lowest percent equity at 70 percent; while the 400 to 599 herd size category averaged the highest percent equity at 79 percent.

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 59-60)*. The farms with more than 900 cows averaged more milk sold per cow than any other size category (page 60). With 26,139 pounds of milk sold per cow, farms in the largest herd size group averaged 7.6 percent more milk output per cow than the average of all herds in the summary with less than 900 cows. Farm capital per cow generally decreased as herd size increased. Milk sold per worker increased dramatically as herd size increased. The farms with 100 cows or more averaged over 1,148,000 pounds of milk sold per worker while the farms with less than 100 cows averaged less than 442,000 pounds per worker.

*Wayne A. Knoblauch, Cathryn Dymond, Jason Karszes, and Richard Kimmich, Dairy Farm Management Business Summary, New York State, 2014, Charles H. Dyson School of Applied Economics and Management, Cornell University, R.B. 2015-01, September 2015.

SELECTED BUSINESS FACTORS BY TYPE OF BARN AND HERD SIZE

173 New York Dairy Farms, 2014

Item	Farms with:	Tiestall/Stanchion		Freestall		
		<= 60 Cows	>60 Cows	<=200 Cows	201-500 Cows	≥500 Cows
Number of farms		11	13	20	26	91
<u>Cropping Program Analysis</u>						
Total Tillable acres		222	337	323	703	2,142
Tillable acres rented*		100	200	155	299	1,006
Hay crop acres*		150	225	183	356	873
Corn silage acres*		25	68	96	267	899
Hay crop, tons DM/acre		1.7	2.4	2.6	3.6	3.5
Corn silage, tons/acre		15.4	17.0	18.2	19.8	19.1
Oats, bushels/acre		0	46	0	65	49
Forage DM per cow, tons		9.5	10.9	10.0	9.2	8.3
Tillable acres/cow		4.9	3.9	2.9	2.1	2.0
Fertilizer & lime expense/tillable acre		\$32.82	\$50.27	\$67.76	\$67.47	\$73.69
Total machinery costs		\$55,139	\$97,993	\$130,669	\$386,120	\$1,099,217
Machinery cost/tillable acre		\$247	\$291	\$374	\$549	\$502
<u>Dairy Analysis</u>						
Number of cows		45	87	119	341	1,123
Number of heifers		38	70	104	285	959
Milk sold, lbs.		795,461	1,708,858	2,599,172	8,635,907	29,164,728
Milk sold/cow, lbs.		17,502	19,572	21,833	25,294	25,965
Operating cost of producing milk/cwt.		\$16.76	\$18.43	\$17.91	\$17.32	\$17.24
Total cost of producing milk/cwt.		\$31.20	\$26.39	\$24.34	\$22.10	\$21.08
Price/cwt. milk sold		\$25.15	\$25.68	\$25.95	\$25.70	\$25.41
Purchased dairy feed/cow		\$1,189	\$1,398	\$1,753	\$1,975	\$2,021
Purchased dairy feed/cwt. milk		\$6.79	\$7.14	\$8.03	\$7.81	\$7.78
Purchased grain & concentrate as % of milk receipts		24%	25%	28%	29%	29%
Purchased feed & crop expense/cwt milk		\$8.00	\$9.14	\$9.67	\$9.15	\$9.10
<u>Capital Efficiency</u>						
Farm capital/worker		\$362,724	\$410,022	\$370,250	\$472,045	\$522,752
Farm capital/cow		\$17,159	\$14,652	\$12,254	\$11,946	\$11,430
Farm capital/tillable acre owned		\$6,397	\$9,317	\$8,699	\$10,105	\$11,299
Real estate/cow		\$9,507	\$6,741	\$5,146	\$4,904	\$4,634
Machinery investment/cow		\$3,499	\$3,511	\$2,406	\$2,349	\$1,893
Asset turnover ratio		0.31	0.40	0.53	0.64	0.68
<u>Labor Efficiency</u>						
Worker equivalent		2.15	3.12	3.95	8.64	24.56
Operator/manager equivalent		1.25	1.42	1.34	1.84	2.44
Milk sold/worker, lbs.		369,552	547,418	658,852	999,141	1,187,489
Cows/worker		21	28	30	40	46
Labor cost/cow		\$1,364	\$1,078	\$1,040	\$905	\$847
Labor cost/tillable acre		\$279	\$279	\$383	\$439	\$444
<u>Profitability & Balance Sheet Analysis</u>						
Net farm income (without appreciation)		\$46,268	\$96,700	\$167,144	\$567,183	\$1,907,986
Labor & management income/operator		\$1,626	\$28,068	\$73,718	\$224,607	\$598,499
Rate return on all capital with appreciation		-0.5%	4.8%	7.8%	15.0%	17.4%
Farm debt/cow		\$3,660	\$3,636	\$2,810	\$3,135	\$3,507
Percent equity		79%	75%	77%	75%	71%

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

FARM BUSINESS CHART FOR SMALL TIESTALL/STANCHION DAIRY FARMS

11 Tiestall/Stanchion Dairy Farms with 60 or Less Cows, New York, 2014

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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
3.29	53	1,089,634	24,055	2.3	20	32	640,358
2.26	50	980,545	20,896	2.0	18	25	459,022
2.04	47	899,062	17,728	1.8	16	23	362,842
2.00	45	661,668	15,472	1.6	13	22	309,925
1.50	37	496,086	11,602	0.8	7	16	251,394

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	
(12)	(12)	(14)	(14)	(12)	(12)	
\$579	15%	\$582	\$1,762	\$868	\$5.52	
1,021	22	1,001	2,377	1,202	7.72	
1,100	26	1,271	2,543	1,243	8.10	
1,261	29	1,423	2,697	1,675	9.09	
1,440	36	1,701	3,497	2,210	10.21	

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
(12)	(12)	(12)	Total	Per Cow	(4)	(8)
\$5,971	\$12.65	\$25.49	\$96,732	\$1,823	\$39,378	\$112,385
5,525	16.02	28.04	75,087	1,631	17,983	73,514
4,398	17.70	33.22	53,080	1,112	8,569	34,862
3,900	19.06	37.20	23,701	613	-18,402	25,318
2,813	20.85	42.98	3,917	109	-32,524	6,925

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

FARM BUSINESS CHART FOR LARGE TIESTALL/STANCHION DAIRY FARMS

13 Tiestall/Stanchion Dairy Farms with 60 or More Cows, New York, 2014

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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
4.42	131	3,180,856	26,787	5.2	22	45	941,743
4.04	108	2,173,379	23,550	3.3	20	35	744,544
3.28	86	1,755,770	20,925	2.7	18	32	532,783
2.75	69	1,204,158	16,846	1.9	13	24	492,792
1.86	65	875,631	11,441	1.2	3	20	293,084

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	
(12)	(12)	(14)	(14)	(12)	(12)	
\$521	16%	\$678	\$1,590	\$787	\$6.44	
1,030	23	885	1,979	1,489	8.40	
1,443	26	1,088	2,324	1,955	9.22	
1,730	30	1,358	2,427	2,309	9.86	
2,023	34	1,636	2,914	2,677	11.56	

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
(12)	(12)	(12)	Total	Per Cow	(4)	(8)
\$6,957	\$16.80	\$23.43	\$201,097	\$1,716	\$99,412	\$175,695
5,988	17.53	24.90	136,130	1,542	63,430	126,788
5,414	18.41	26.50	114,572	1,403	38,541	91,564
4,366	19.46	31.19	68,708	888	12,228	40,080
2,845	22.94	39.08	10,937	156	-63,562	5,668

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

FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS

20 Freestall Barn Dairy Farms with 200 Cows or less, New York, 2014

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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
7.71	178	4,664,492	27,142	4.6	23	47	1,140,257
5.40	153	3,366,879	25,460	3.3	21	39	868,195
4.42	140	3,145,965	23,470	3.1	20	37	744,071
4.10	134	2,888,870	22,617	2.9	20	32	706,312
3.74	120	2,724,527	22,169	2.6	19	31	663,148
3.63	117	2,593,920	21,243	2.5	18	30	626,924
3.39	113	2,279,830	20,193	2.3	15	29	568,428
2.63	107	2,146,995	18,881	1.7	10	27	536,357
2.35	73	1,183,296	16,400	1.3	0	26	465,118
2.09	58	996,943	14,939	0.0	0	21	424,798

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	
(12)	(12)	(14)	(14)	(12)	(12)	(12)
\$764	19%	\$503	\$1,606	\$1,074	\$6.48	
1,102	23	730	1,634	1,394	7.33	
1,381	26	839	1,678	1,774	8.12	
1,497	27	885	1,738	1,979	8.58	
1,529	29	940	1,853	2,094	9.61	
1,642	29	1,016	1,961	2,227	10.19	
1,763	30	1,037	2,012	2,359	10.62	
1,937	32	1,120	2,315	2,511	11.18	
2,047	34	1,353	2,642	2,599	11.75	
2,106	36	1,637	2,873	2,847	14.75	

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
(12)	(12)	(12)	Total	Per Cow	(4)	(8)
\$6,943	\$13.69	\$21.24	\$301,499	\$2,232	\$167,393	\$241,808
6,458	15.00	22.31	242,982	1,738	136,539	201,615
6,295	16.09	22.73	209,101	1,655	102,474	153,895
6,021	16.64	23.10	195,417	1,618	98,186	131,023
5,883	17.14	23.36	183,166	1,546	89,966	117,768
5,532	18.42	23.70	160,851	1,401	85,001	108,905
5,307	19.00	24.39	135,858	1,328	70,324	81,042
4,806	19.87	26.08	119,871	1,260	46,307	63,317
4,271	20.31	28.60	88,397	805	22,662	25,127
3,677	21.91	30.70	34,299	371	-11,318	-100,609

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

FARM BUSINESS CHART FOR MEDIUM FREESTALL DAIRY FARMS

26 Freestall Barn Dairy Farms with 201-500 Cows, New York, 2014

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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
14.51	490	12,811,128	28,034	5.4	25	62	1,601,543
13.05	449	11,838,170	27,305	5.0	24	54	1,280,734
11.39	420	10,923,200	26,851	4.6	23	47	1,173,592
9.63	406	10,634,193	26,596	4.4	22	45	1,137,750
9.32	389	10,074,994	26,072	4.0	20	43	1,073,824
8.30	365	8,978,834	25,587	3.6	20	40	1,029,781
7.45	312	8,039,669	25,162	3.3	19	39	957,395
6.67	271	7,005,816	24,038	3.1	18	35	858,115
6.13	236	5,427,747	23,500	2.9	16	33	783,788
4.65	210	4,513,011	20,021	2.1	9	29	732,535

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	
(12)	(12)	(14)	(14)	(12)	(12)	(12)
\$1,332	21%	\$611	\$1,228	\$1,711	\$6.88	
1,588	25	870	1,668	2,008	8.10	
1,678	27	958	1,874	2,090	8.40	
1,797	27	1,063	1,991	2,220	8.63	
1,882	29	1,123	2,050	2,275	9.13	
1,946	30	1,203	2,130	2,370	9.49	
2,001	31	1,292	2,238	2,484	10.13	
2,031	31	1,459	2,344	2,684	10.53	
2,219	32	1,507	2,471	2,821	10.92	
2,365	40	1,822	2,970	2,938	12.68	

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
(12)	(12)	(12)	Total	Per Cow	(4)	(8)
\$7,269	\$13.46	\$19.18	\$1,077,418	\$2,565	\$598,994	\$965,452
7,157	15.45	19.94	938,643	2,094	478,568	862,851
7,086	16.01	20.86	856,043	2,029	372,365	785,545
6,792	16.64	21.66	725,223	1,824	342,849	754,253
6,614	17.06	22.23	679,147	1,739	274,744	675,510
6,446	17.64	23.09	515,178	1,687	233,561	494,109
6,261	18.44	23.60	464,731	1,598	183,246	380,108
6,140	19.51	24.19	376,632	1,493	142,118	326,630
5,915	20.71	26.06	337,898	1,270	106,123	243,292
5,420	22.51	26.64	143,779	524	-13,229	94,594

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

FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS

91 Freestall Barn Dairy Farms with 500 or More Cows, New York, 2014

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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
50.89	2,462	65,820,428	29,086	5.4	26	62	1,650,512
33.93	1,632	41,034,758	27,726	4.5	22	54	1,415,049
29.32	1,327	34,971,517	27,207	4.1	21	51	1,330,582
26.42	1,151	30,715,941	26,697	3.8	20	48	1,251,025
23.33	1,053	27,271,097	26,331	3.6	20	47	1,190,232

20.68	945	24,804,103	25,732	3.4	19	45	1,130,465
18.95	813	21,046,630	25,337	3.2	18	42	1,067,506
16.84	710	18,165,643	24,882	2.9	17	39	1,024,330
14.85	647	15,948,215	23,751	2.6	16	38	971,155
11.81	556	13,598,524	22,040	1.6	12	34	845,970

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		
(12)	(12)	(14)	(14)	(12)	(12)		(12)
\$1,340	22%	\$659	\$1,332	\$1,719	\$7.23		
1,668	25	827	1,551	2,075	8.17		
1,744	27	865	1,681	2,174	8.57		
1,834	28	924	1,790	2,282	8.84		
1,901	29	979	1,849	2,372	9.07		

1,957	29	1,031	1,913	2,430	9.26		
2,022	30	1,092	1,960	2,479	9.54		
2,088	31	1,158	2,031	2,558	9.88		
2,145	33	1,211	2,129	2,676	10.22		
2,435	36	1,316	2,328	2,982	11.02		

Value and Cost of Production			Profitability				
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation	
(12)	(12)	(12)	Total	Per Cow	(4)	(8)	
\$7,530	\$13.85	\$18.27	\$4,958,267	\$2,717	\$1,858,419	\$4,575,100	
7,153	15.47	19.49	2,880,097	2,205	1,171,285	2,915,088	
6,937	16.00	20.16	2,391,634	2,026	962,426	2,388,399	
6,763	16.35	20.54	2,085,785	1,913	791,334	1,997,375	
6,663	16.84	21.05	1,676,095	1,794	622,406	1,664,669	

6,503	17.62	21.60	1,463,044	1,623	509,779	1,405,039	
6,399	18.46	21.98	1,313,281	1,426	403,618	1,208,979	
6,238	19.04	22.29	1,055,258	1,274	286,779	913,830	
6,023	19.47	23.24	860,217	1,093	237,762	656,784	
5,627	20.97	25.21	547,366	721	109,379	279,930	

*Page number of the participant's DFBS report 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 Specific.
2. Goals should be Measurable.
3. Goals should be Achievable but challenging.
4. Goals should be Rewarding.
5. Goals should be Timed 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
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Summarize Your Business Performance

The Farm Business and Financial Analysis Charts on pages 23 and 27-29 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 11)

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 13)

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)

Cost of Term Debt - A weighted average of the cost of borrowed capital to the farm. Calculate by multiplying end of year principal of each loan that is borrowed by the interest rate for each loan at that time. Add up each amount that is calculated for each loan and then divide by total amount of borrowed funds. Do not include accounts payable, operating debt or advanced government receipts. This information is found on pages 8 & 9 of the data entry form.

Culling Rate - (defined on page 17)

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 13)

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

Debt to Asset Ratios - (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-cancelable 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.

Hired Labor Expense per Hired Worker Equivalent – The total cost to the farm per hired worker equivalent. Divide accrual hired labor expense by number of hired plus family paid worker equivalents.

Hired Labor Expense as % of Milk Sales – The percentage of the gross milk receipts that is used for labor expense. Divide accrual hired labor expense by accrual milk sales.

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.

Leverage Ratio - (defined on page 9)

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 Farm Income from Operations Ratio - (defined on page 7)

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 18)

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; 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 18)

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 18)

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

	<u>Page(s)</u>		<u>Page(s)</u>
Accounts Payable.....	3,8	Equivalent.....	20
Accounts Receivable	4,8	Hired Labor Expense as % of Milk Sales	20
Accrual Expenses.....	3,5	Income Statement	2
Accrual Receipts.....	4,5	Inflows	11
Acreage.....	15	Interest Expense Ratio	19
Advanced Government Receipts.....	7,8	Labor & Management Income.....	6
Age	19	Labor & Management Income Per Operator	6
Amount Available for Debt Service	13	Labor Efficiency	19
Annual Cash Flow Statement	11	Land Resources	15
Appreciation	10,17	Leverage Ratio.....	9
Asset Turnover Ratio.....	19	Liquidity	9
Balance Sheet.....	8	Lost Capital	9
Barn Type	2	Machinery Expenses.....	3,16
bST Usage.....	2	Marketing Report.....	25
Business Type.....	2	Milk Price	25, 26
Capital Efficiency	19	Milk Production.....	17
Cash From Nonfarm Capital Used in		Milking Frequency	2
the Business	11	Milking System	2
Cash Flow Coverage Ratio	13	Money Borrowed.....	11
Cash Paid	2	Net Farm Income	5
Cash Receipts.....	4,11	Net Farm Income from Operations Ratio	7
Certified Organic Milk Producer	2	Net Investment.....	9
Change in Accounts Payable	3	Net Milk Receipts.....	18
Change in Accounts Receivable	4	Net Worth	8
Change in Inventory	2,3	Number of Cows.....	17
Change in Net Worth	10	Operating Costs of Prod. Milk.....	18
Cost of Term Debt	9	Operating Expense Ratio	19
Crop Expenses	3,16	Opportunity Cost	6
Crop/Dairy Ratios	15	Other Livestock Expenses	3
Culling Rate.....	17	Outflows	11
Current Portion	7,8	Part-Time Cash-Crop Dairy (farm).....	2
Current Ratio	9	Part-Time Dairy (farm).....	2
Dairy (farm).....	2	Percent Equity	9
Dairy Cash-Crop (farm).....	2	Personal Withdrawals and Family Expenditures	
Dairy Replacements.....	24	Including Nonfarm Debt Pay-	
Debt Coverage Ratio.....	13	ments	11
Debt per Cow.....	9	
Debt to Asset Ratios	9	Principal Payments	11
Deferred Taxes.....	9	Profitability.....	4
Depreciation.....	3, 9	Purchased Inputs Cost	18
Depreciation Expense Ratio.....	19	Receipts	4
Dry Matter	15	Record System.....	2
Education.....	19	Repayment Analysis	13
Equity Capital	7	Replacement Livestock.....	3
Expansion Livestock.....	3,11	Retained Earnings.....	10
Expenses	3	Return on Equity Capital	7
Farm Business Chart.....	23, 27-29, 32-36	Return on Total Capital	7
Farm Debt Payments as Percent		Rotational Grazing.....	2,16
of Milk Sales.....	12	Solvency	9
Farm Debt Payments Per Cow	12	Total Costs of Producing Milk	18
Financial Analysis Chart.....	29	Whole Farm Method.....	18
Financial Lease	8	Worker Equivalent.....	19
Hired Labor Expenses per Hired Worker		Working Capital	9
		Yields Per Acre.....	15

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