

**2014 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

## 2014 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 2014.

#### 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 2014 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.

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\* The Hudson and Central New York Region of New York State, with the number of participating farms in parentheses, is comprised of Albany (3), Chenango (2), Delaware (15), Madison (3), Otsego (7), Rensselaer (5), Saratoga (7), Schenectady (2), Schoharie (3), and Washington (12) counties in New York. This year 3 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

63 Hudson and Central New York Region Dairy Farms, 2014

Type of Farm	Number	Milking System	Number
Dairy	61	Bucket & carry	0
Part-time dairy	0	Dumping station	0
Dairy cash-crop	2	Pipeline	24
Certified organic milk producer	0	Herringbone conventional exit	21
Rotational grazing farm	5	Herringbone rapid exit	3
		Parallel	9
		Parabone	2
		Rotary	2
		Other	2
Type of Ownership	Number	Production Records	Number
Owner	57	Testing Service	48
Renter	6	On Farm System	4
		Other	0
		None	10
Type of Business	Number	Business Record System	Number
Sole Proprietorship	31	Account Book	14
Partnership	8	Accounting Service	11
Limited Liability Corporation	21	On-farm computer	36
Subchapter S Corporation	3	Other	1
Subchapter C Corporation	0		
Type of Barn	Number	Breed of Herd	Percent
Stanchion or Tie-Stall	24	Holstein	88
Freestall	36	Jersey	5
Combination	3	Other	7
Milking Frequency	Number		
2 times per day	38		
3 times per day	25		
Other	0		

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 2014.

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

**CASH AND ACCRUAL FARM EXPENSES**

63 Hudson and Central New York Region Dairy Farms, 2014

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired Labor</u>	\$ 293,063		\$ 477	<<	\$ 1,079		\$293,664
<u>Feed</u>							
Dairy grain & concentrate	815,016		88,044		-7,670		719,302
Dairy roughage	32,298		4,728		4,925		32,495
Nondairy	116		0		0		116
Professional nutritional services	7		0	<<	-1		6
<u>Machinery</u>							
Machinery hire, rent & lease	41,506		1,984	<<	-2,626		36,895
Machinery repairs & farm vehicle exp.	132,593		2,196		-2,469		127,928
Fuel, oil & grease	98,201		5,434		-979		91,788
<u>Livestock</u>							
Replacement livestock	1,882		0	<<	-32		1,850
Breeding	24,161		1,475		184		22,870
Veterinary & medicine	68,227		1,978		65		66,315
Milk marketing	105,691		0	<<	3,873		109,565
Bedding	36,642		1,826		-157		34,659
Milking supplies	43,277		3,951		-708		38,618
Cattle lease & rent	2,859		0	<<	0		2,859
Custom boarding	29,349		-238	<<	-1,896		27,691
bST	7,005		63		0		6,942
Livestock professional fees	7,647		183	<<	2		7,465
Other livestock expense	16,456		82		-1,116		15,258
<u>Crops</u>							
Fertilizer & lime	68,202		6,593		-9,687		51,923
Seeds & plants	56,409		8,432		-169		47,807
Spray, other crop expense	35,936		3,828		-3,514		28,594
Crop professional fees	2,096		0	<<	-430		1,666
<u>Real Estate</u>							
Land, building & fence repair	43,967		-699		153		44,818
Taxes	22,990		122	<<	-549		22,318
Rent & lease	30,602		72	<<	0		30,530
<u>Other</u>							
Insurance	20,386		896	<<	16		19,506
Utilities (farm share)	51,040		-168	<<	-236		50,972
Interest paid	42,261		0	<<	-90		42,171
Other professional fees	10,541		8	<<	18		10,551
Miscellaneous	16,238		60		-61		16,117
Total Operating	\$2,156,663		\$131,326		\$ -22,077		\$2,003,260
Expansion livestock	39,735		0	<<	-150		39,584
Extraordinary expense	2,958		0	<<	0		2,958
Machinery depreciation							85,213
Building depreciation							44,828
<b>TOTAL ACCRUAL EXPENSES</b>							<b>\$2,175,843</b>

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 2014 but not paid for. A decrease is subtracted because it represents payment for resources used before 2014.

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

**CASH AND ACCRUAL FARM RECEIPTS**  
63 Hudson and Central New York Region Dairy Farms, 2014

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$2,380,704				\$70,802		\$2,451,506
Dairy cattle	123,175		\$53,254		1,210		177,640
Dairy calves	24,769		4,550		1,349		30,668
Other livestock	9,941		-1,013		238		9,166
Crops	23,906		94,929		-4,205		114,630
Government receipts	3,499		0*		-22		3,476
Custom machine work	1,239				675		1,914
Gas tax refund	100				0		100
Other	<u>28,159</u>				<u>2,558</u>		30,717
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$2,595,493		\$151,719		\$72,605		\$2,819,817

\*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 2014 for the 2015 crop year in excess of funds earned for 2014. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2014 but received in 2013.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 2015 for milk produced in December 2014 compared to January 2014 payments for milk produced in 2013 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.

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\* 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.

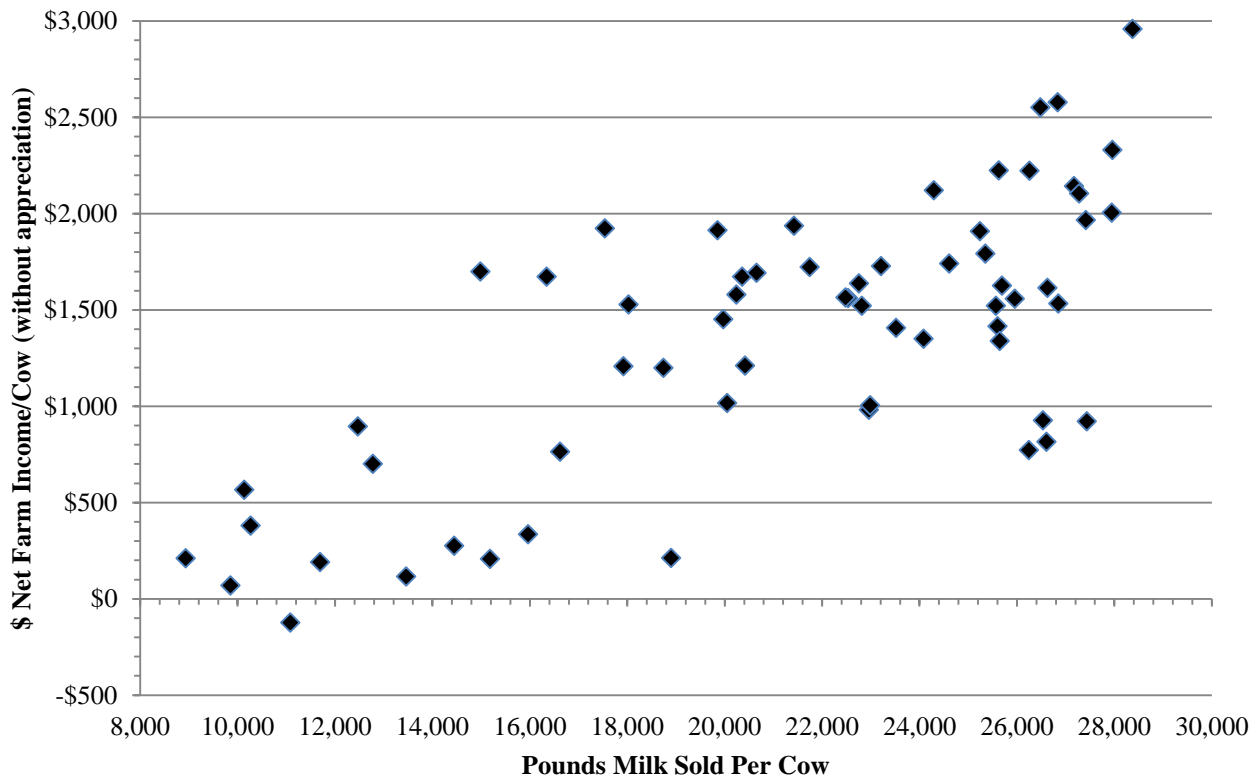
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit stock required for loan borrowings). Appreciation is a major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

**NET FARM INCOME**  
63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$ 2,819,817		\$ _____	
Appreciation: Livestock	32,084		_____	
Machinery	7,910		_____	
Real Estate	28,242		_____	
Other Stock & Certificates	<u>6,205</u>		_____	
Total Including Appreciation	\$ 2,894,258		\$ _____	
Total accrual expenses	<u>2,175,843</u>		- _____	
Net Farm Income (with appreciation)	\$ 718,415	\$ 1,902	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 643,974	\$ 1,705	\$ _____	\$ _____

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**  
63 Hudson and Central New York Region Dairy Farms, 2014



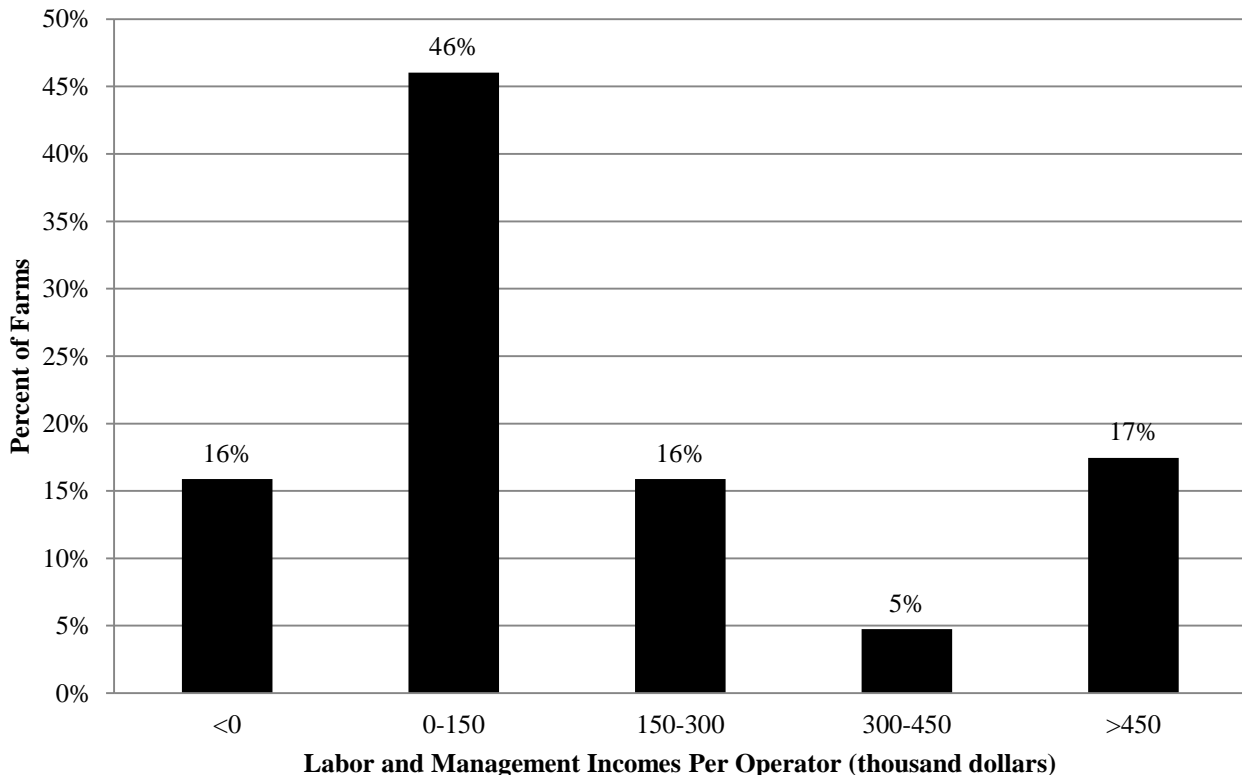
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and management income is calculated by deducting a charge for unpaid family labor and the opportunity cost of equity capital, at a real interest rate of five percent, from net farm income excluding appreciation. The interest charge of five percent reflects the long-term average rate of return above inflation that a farmer might expect to earn in comparable risk investments.

**LABOR AND MANAGEMENT INCOME**  
63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average	My Farm
Net farm income without appreciation	\$ 643,974	\$ _____
Family labor unpaid @ \$2,600 per month	- 7,944	- _____
Interest on \$2,705,673 average equity capital @ 5% real rate	<u>- 135,284</u>	- _____
Labor & Management Income per farm (1.76 Operators/farm)	\$ 500,746	\$ _____
Labor & Management Income per Operator/Manager	\$ 284,515	\$ _____

Labor and management income per operator averaged \$284,515 on these 63 farms in 2014. The range in labor and management income per operator was from about \$-98,000 to more than \$1,775,000. Returns to labor and management were less than \$0 on 16 percent of the farms. Labor and management incomes per operator were between \$0 and \$300,000 on 62 percent of the farms, while 22 percent had labor and management incomes of \$300,000 or more per operator.

**DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR**  
63 Hudson and Central New York Region Dairy Farms, 2014



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**  
63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average	My Farm
Net farm income with appreciation	\$ 718,415	\$ _____
Family labor unpaid @ \$2,600 per month	- 7,944	- _____
Value of operators' labor & management	<u>- 95,022</u>	- _____
Return on equity capital with appreciation	\$ 615,448	\$ _____
Interest paid	<u>+ 42,171</u>	+ _____
Return on total capital with appreciation	\$ 657,619	\$ _____
Return on equity capital without appreciation	\$ 541,008	\$ _____
Return on total capital without appreciation	\$ 583,179	\$ _____
Rate of return on average equity capital:		
with appreciation	22.8%	_____ %
without appreciation	20.0%	_____ %
Rate of return on average total capital:		
with appreciation	16.7%	_____ %
without appreciation	17.8%	_____ %
Net Farm Income from Operations Ratio	0.23	_____

**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 2014, lease payments were discounted by 7 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 2014 that are for participation in the 2015 program are the end year balance and payments received in 2013 for participation in the 2014 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.



**2014 FARM BUSINESS & NONFARM MARKET VALUE BALANCE SHEET**

63 Hudson and Central New York Region Dairy Farms, 2014

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 46,370	\$ 45,436	Accounts payable	\$ 62,105	\$ 39,878
Accounts receivable	147,520	220,125	Operating debt	109,423	129,044
Prepaid expenses	6,198	9,534	Short Term	3,535	1,818
Feed & supplies	<u>403,147</u>	<u>626,066</u>	Advanced govt. receipts	0	0
Total Current	\$ 603,235	\$ 901,161	Current Portion:		
			Intermediate	86,025	94,288
			Long Term	<u>41,943</u>	<u>44,457</u>
			Total Current	\$ 303,031	\$ 309,485
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 486,164	\$ 549,341	1-10 years	\$ 470,987	\$ 431,336
leased	0	0	Financial lease		
Heifers	272,585	299,312	(cattle/machinery)	4,547	4,439
Bulls & other livestock	12,773	11,743	Farm Credit stock	<u>1,157</u>	<u>1,181</u>
Mach. & equip. owned	727,775	834,498	Total Intermediate	\$ 476,692	\$ 436,955
Mach. & equip. leased	4,547	4,439			
Farm Credit stock	1,157	1,181			
Other stock/certificate	<u>85,560</u>	<u>98,692</u>			
Total Intermediate	\$ 1,590,563	\$ 1,799,207			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 1,410,441	\$ 1,576,031	>10 years	\$ 472,502	\$ 535,856
leased	<u>3,190</u>	<u>1,757</u>	Financial lease		
Total Long Term	\$ 1,413,631	\$ 1,577,788	(structures)	<u>3,190</u>	<u>1,757</u>
			Total Long Term	\$ 475,692	\$ 537,613
Total Farm Assets	\$ 3,607,429	\$ 4,278,156	Total Farm Liabilities	\$ 1,255,414	\$ 1,284,053
			FARM NET WORTH	\$ 2,352,015	\$ 2,994,103

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	\$ 12,517	\$ 22,719	Nonfarm Liabilities	\$ 4,257	\$ 4,480
Cash value life insurance	68,079	75,926			
Nonfarm real estate	229,615	229,615			
Auto (personal share)	7,296	7,346			
Stocks & bonds	66,722	70,680			
Household furnishings	7,692	7,692			
All other nonfarm assets	23,911	23,886			
Total Nonfarm Assets	\$ 415,833	\$ 437,865	NONFARM NET WORTH	\$ 411,576	\$ 433,384

Farm & Nonfarm Assets, Liabilities, and Net Worth\*

	Jan. 1	Dec. 31
Total Assets	\$ 4,023,262	\$ 4,716,021
Total Liabilities	<u>1,259,671</u>	<u>1,288,533</u>
TOTAL FARM & NONFARM NET WORTH	\$ 2,763,591	\$ 3,427,488

\*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

63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average		My Farm	
<u>Financial Ratios - Farm:</u>				
Percent equity		70%	_____	%
Debt/asset ratio: total		.30	_____	
long-term		.34	_____	
intermediate/current		.28	_____	
Leverage Ratio:		.43	_____	
Current Ratio:		2.91		
Working capital	\$591,676	As % of total expenses:	27%	
<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)		3.6%	_____	%
<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	\$ 3,337	\$ 3,943	\$ _____	\$ _____
Long-term debt	1,397	1,651	_____	_____
Intermediate & long term	2,533	2,993	_____	_____
Intermediate & current debt	1,940	2,292	_____	_____

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

### FARM INVENTORY BALANCE

63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average of Region's Farms	
	Real Estate	Machinery & Equipment
Value beginning of year	\$ 1,410,441	\$ 727,775
Purchases	\$ 254,970*	\$ 180,507
Noncash transfer to farm	+ 8,730	+ 9,190
Lost capital	- 80,731	
Sales	- 794	- 5,672
Depreciation	- 44,828	- 85,213
Net investment	= 137,348	= 98,813
Appreciation	+ 28,242	+ 7,910
Value end of year	\$ 1,576,031	\$ 834,498

\*\$64,444 land and \$190,525 buildings and/or depreciable improvements.

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

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

**STATEMENT OF OWNER EQUITY (RECONCILIATION)**  
63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average	My Farm
Beginning of year farm net worth	\$2,417,243	\$ _____
Net farm income without appreciation	\$ 643,974	\$ _____
+Nonfarm cash income	+ 7,495	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 126,101</u>	- _____
RETAINED EARNINGS	+ \$ 525,369	+\$ _____
Nonfarm noncash transfers to farm	\$ 17,921	\$ _____
+Cash used in business from nonfarm capital	+ 36,580	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	<u>- 0</u>	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 54,500	+\$ _____
Appreciation	\$ 74,441	\$ _____
-Lost capital	<u>- 80,731</u>	- _____
CHANGE IN VALUATION EQUITY	+ \$ -6,290	+\$ _____
IMBALANCE/ERROR	<u>- -3,281</u>	- \$ _____
End of year net worth*	= \$2,994,103	=\$ _____
<hr/>		
<u>Change in Net Worth</u>		
Without appreciation	\$ 502,419	\$ _____
With appreciation	\$ 576,860	\$ _____

\*May not add due to rounding.

**Cash Flow Statement**

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

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

**ANNUAL CASH FLOW STATEMENT**  
63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average	
<b><u>Cash Flow from Operating Activities</u></b>		
Cash farm receipts	\$ 2,595,493	
- Cash farm expenses	2,156,663	
- Extraordinary expense	<u>2,958</u>	
= Net cash farm income		\$ 435,872
Personal withdrawals & family expenses including nonfarm debt payments	\$ 126,409	
- Nonfarm income	<u>7,495</u>	
- Net cash withdrawals from the farm		\$ <u>118,914</u>
= Net Provided by Operating Activities		\$ 316,958
<b><u>Cash Flow From Investing Activities</u></b>		
Sale of assets: machinery	\$ 5,672	
+ real estate	794	
+ other stock & cert.	<u>807</u>	
= Total asset sales		\$ 7,272
Capital purchases: expansion livestock	\$ 39,735	
+ machinery	180,507	
+ real estate	254,970	
+ other stock & cert.	<u>7,734</u>	
- Total invested in farm assets		\$ <u>482,946</u>
= Net Provided by Investment Activities		\$ -475,673
<b><u>Cash Flow From Financing Activities</u></b>		
Money borrowed (intermediate & long term)	\$ 259,091	
+ Money borrowed (short term)	3,410	
+ Increase in operating debt	19,621	
+ Cash from nonfarm capital used in business	36,580	
+ Money borrowed - nonfarm	<u>309</u>	
= Cash inflow from financing		\$ 319,011
Principal payments (intermediate & long term)	\$ 159,390	
+ Principal payments (short term)	5,127	
+ Decrease in operating debt	<u>0</u>	
- Cash outflow for financing		\$ <u>164,517</u>
= Net Provided by Financing Activities		\$ 154,494
<b><u>Cash Flow From Reserves</u></b>		
Beginning farm cash, checking & savings		\$ 46,370
- Ending farm cash, checking & savings		<u>45,436</u>
= Net Provided from Reserves		\$ 934
Imbalance (error)		\$ -3,288

## 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 2015. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2015 debt payments shown below.

### FARM DEBT PAYMENTS PLANNED

Same 53 Hudson and Central New York Region Dairy Farms, 2014 & 2015

Debt Payments	Average			My Farm		
	2014 Payments		Planned 2015	2014 Payments		Planned 2015
	Planned	Made		Planned	Made	
Long term	\$ 61,272	\$ 71,069	\$ 71,005	\$ _____	\$ _____	\$ _____
Intermediate term	122,548	149,859	123,244	_____	_____	_____
Short term	2,642	6,231	1,041	_____	_____	_____
Operating (net reduction)	7,820	19,368	19	_____	_____	_____
Accounts payable (net reduction)	943	32,434	0	_____	_____	_____
Total	\$ 195,224	\$ 278,961	\$ 195,309	\$ _____	\$ _____	\$ _____
Per cow	\$ 469	\$ 669		\$ _____	\$ _____	
Per cwt. 2014 milk	\$ 1.88	\$ 2.69		\$ _____	\$ _____	
Percent of total 2014 farm receipts	7%	9%		_____	_____	
Percent of 2014 milk receipts	7%	10%		_____	_____	

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 2014 (as of December 31, 2013) that could have been made with the amount available for debt service in 2014. Farmers who did not participate in DFBS in 2013 have their 2014 ratios based on planned debt payments for 2015.

### COVERAGE RATIOS

Same 53 Hudson and Central New York Region Dairy Farms, 2014 & 2015

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$2,860,459	Net farm income (w/o appreciation)	\$732,486
- Cash farm expenses	2,375,888	+ Depreciation	143,165
+ Interest paid (cash)	45,522	+ Interest paid (accrual)	45,415
- Net personal withdrawals from farm*	<u>132,245</u>	- Net personal withdrawals from farm*	<u>132,245</u>
(A) = Amount Available for Debt Service	\$397,847	(A') = Repayment Capacity	\$788,821
(B) = Debt Payments Planned for 2014 (as of December 31, 2013)	\$195,224	(B) = Debt Payments Planned for 2014 (as of December 31, 2013)	\$195,224
(A/B) = Cash Flow Coverage Ratio for 2014	2.04	(A'/B) = Debt Coverage Ratio for 2014	4.04

\*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	63 Hudson and Central New York Region Dairy Farms		My Farm	Expected Change	2015 Projection
	Per Cow	Per Cwt.	Per Cow/ Per Cwt.		
Average number of cows	378				
Total cwt. of milk sold		93,657			
<u>Accrual Operating Receipts</u>					
Milk	\$6,492	\$26.18	\$ _____	_____	\$ _____
Dairy cattle	470	1.90	_____	_____	_____
Dairy calves	81	0.33	_____	_____	_____
Other livestock	24	0.10	_____	_____	_____
Crops	304	1.22	_____	_____	_____
Miscellaneous Receipts	96	0.39	_____	_____	_____
Total	\$7,467	\$30.11	\$ _____	_____	\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$ 778	\$ 3.14	\$ _____	_____	\$ _____
Dairy grain & concentrate	1,905	7.68	_____	_____	_____
Dairy roughage	86	0.35	_____	_____	_____
Nondairy feed	0	0.00	_____	_____	_____
Professional nutritional services	0	0.00	_____	_____	_____
Machinery hire, rent & lease	98	0.39	_____	_____	_____
Machinery repair & vehicle expense	339	1.37	_____	_____	_____
Fuel, oil & grease	243	0.98	_____	_____	_____
Replacement livestock	5	0.02	_____	_____	_____
Breeding	61	0.24	_____	_____	_____
Veterinary & medicine	176	0.71	_____	_____	_____
Milk marketing	290	1.17	_____	_____	_____
Bedding	92	0.37	_____	_____	_____
Milking supplies	102	0.41	_____	_____	_____
Cattle lease	8	0.03	_____	_____	_____
Custom boarding	73	0.30	_____	_____	_____
bST expense	18	0.07	_____	_____	_____
Livestock professional fees	20	0.08	_____	_____	_____
Other livestock expense	40	0.16	_____	_____	_____
Fertilizer & lime	137	0.55	_____	_____	_____
Seeds & plants	127	0.51	_____	_____	_____
Spray & other crop expense	76	0.31	_____	_____	_____
Crop professional fees	4	0.02	_____	_____	_____
Land, building & fence repair	119	0.48	_____	_____	_____
Taxes	59	0.24	_____	_____	_____
Real estate rent & lease	81	0.33	_____	_____	_____
Insurance	52	0.21	_____	_____	_____
Utilities	135	0.54	_____	_____	_____
Other professional fees	28	0.11	_____	_____	_____
Miscellaneous	43	0.17	_____	_____	_____
Total Less Interest Paid	\$5,193	\$20.94	\$ _____	_____	\$ _____
<u>Net Accrual Operating Income</u>					
		<u>Total</u>			
(without interest paid)	\$ 858,728		\$ _____	_____	\$ _____
- Change in livestock /crop inventory*	151,719		_____	_____	_____
- Change in accounts receivable	72,605		_____	_____	_____
- Change in feed & supply inventory**	131,326		_____	_____	_____
+ Change in accounts payable***	-21,987		_____	_____	_____
NET CASH FLOW	\$ 481,090		\$ _____	_____	\$ _____
- Net family withdrawals	118,605		_____	_____	_____
Available for Farm	\$ 362,485		\$ _____	_____	_____
- Farm debt payments	257,514		_____	_____	_____
Available for Farm Investment	\$ 104,971		\$ _____	_____	\$ _____
- Capital purchases	482,946		_____	_____	_____
Additional Capital Needed	\$-377,974		\$ _____	_____	\$ _____

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

## Cropping Analysis

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

### LAND RESOURCES AND CROP PRODUCTION 63 Hudson and Central New York Region Dairy Farms, 2014

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	326	558	883	_____	_____	_____
Nontillable	36	24	60	_____	_____	_____
Other nontillable	115	8	123	_____	_____	_____
Total	476	590	1,066	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Production/Acre</u>	<u>Acres</u>	<u>Production/Acre</u>	
Hay crop	62	466	2.88 tons DM	_____	_____	tons DM
Corn silage	58	366	18.36 tons	_____	_____	tons
			6.28 tons DM			tons DM
Other forage	9	145	2.82 tons DM	_____	_____	tons DM
Total forage	62	829	4.29 tons DM	_____	_____	tons DM
Corn grain	19	144	150 bushels	_____	_____	bushels
Oats	0	0	0 bushels	_____	_____	bushels
Wheat	2	61	59 bushels	_____	_____	bushels
Other crops	9	95		_____		
Tillable pasture	8	109		_____		
Idle	11	54		_____		
Total Tillable Acres	63	883		_____		

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 458, corn silage 337, corn grain 43, oats 0, tillable pasture 14, and idle 9.

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 62 Hudson and Central New York Region Dairy Farms, 2014\*

Item	Average	My Farm
Total tillable acres per cow	2.34	_____
Total forage acres per cow	2.16	_____
Harvested forage dry matter, tons per cow	9.27	_____

\*Excludes farms that do not harvest forages.



**Cropping Analysis** (continued)

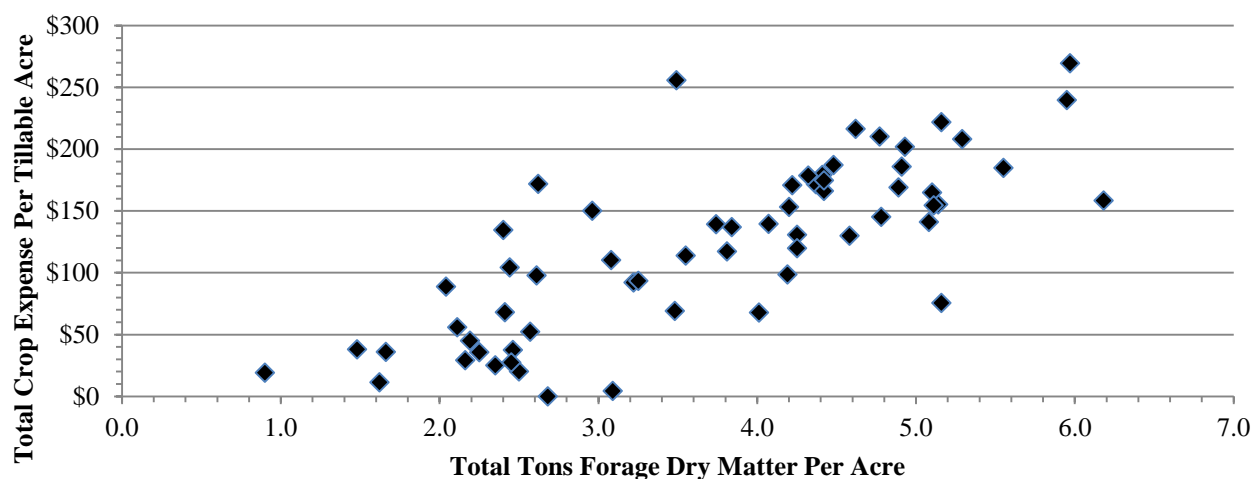
Crop input costs per tillable acre are reported in the table below. The chart below shows the relationship between total forage dry matter and total crop input costs. Rotational grazing was used on 5 farms in the region.

**CROP RELATED ACCRUAL EXPENSES**  
Hudson and Central New York Region Dairy Farms Reporting, 2014\*

Item	Average 62 Farms		My Farm	
	Total Per Tillable Acre		Total Per Tillable Acre	
Number of farms reporting	62		_____	
Average number of acres	898		_____	
Fertilizer & lime expenses	\$	55.54	\$	_____
Seeds & plants		40.22		_____
Spray & other crop expenses		<u>25.98</u>		_____
Total	\$	121.74	\$	_____

\* Excludes farms that do not harvest forages.

**CROP EXPENSE PER ACRE AND TOTAL FORAGE PRODUCTION PER ACRE**  
62 Hudson and Central New York Region Dairy Farms, 2014\*



\* 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**  
62 Hudson and Central New York Region Dairy Farms, 2014\*

Machinery Expense	Average		My Farm	
	Total Expenses	Per Tillable Acre	Total Expenses	Per Tillable Acre
Fuel, oil & grease	\$ 92,233	\$ 103.87	\$ _____	\$ _____
Mach. repair & vehicle expense	129,986	144.82	_____	_____
Machine hire, rent & lease	37,402	41.67	_____	_____
Interest (5%)	39,853	44.40	_____	_____
Depreciation	<u>86,415</u>	<u>96.28</u>	_____	_____
Total	\$386,889	\$431.04	\$ _____	\$ _____

\*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**

63 Hudson and Central New York Region Dairy Farms, 2014

Item	Dairy Cows		Heifer					
	No.	Value	Bred		Open		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	350	\$486,164	106	\$144,107	105	\$88,368	83	\$40,110
+ Change w/o apprec.		41,991		3,496		7,767		4,550
+ Appreciation		<u>21,186</u>		<u>6,838</u>		<u>2,605</u>		<u>1,471</u>
End year (owned)	381	\$549,341	109	\$154,441	114	\$98,741	90	\$46,131
End including leased	385							
Average number	378		305	(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**

63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average	My Farm
Total milk sold, pounds	9,365,712	_____
Milk sold per cow, pounds	24,801	_____
Average milk plant test, percent butterfat	3.88%	_____

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**

63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average		My Farm	
	Number	Percent*	Number	Percent*
Cows sold for beef	88	23.4	_____	_____
Cows sold for dairy	5	1.4	_____	_____
Cows died	18	4.7	_____	_____
Culling rate**		28.1		_____

\*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**

63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Cost of Producing Milk</u>						
Operating costs	\$ 1,674,534	\$ 4,434	\$ 17.88	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$ 1,807,532	\$ 4,787	\$ 19.30	\$ _____	\$ _____	\$ _____
Total Costs	\$ 2,045,782	\$ 5,417	\$ 21.84	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts</u>						
<u>From Milk</u>	\$2,451,506	\$ 6,492	\$ 26.18	\$ _____	\$ _____	\$ _____
Net Milk Receipts	\$2,341,942	\$ 6,202	\$ 25.01	\$ _____	\$ _____	\$ _____
Net Farm Income						
without Appreciation	\$ 643,974	\$ 1,705	\$ 6.88	\$ _____	\$ _____	\$ _____
Net Farm Income						
with Appreciation	\$ 718,415	\$ 1,902	\$ 7.67	\$ _____	\$ _____	\$ _____

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

**DAIRY RELATED ACCRUAL EXPENSES**

63 Hudson and Central New York Region Dairy Farms, 2014

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 1,905	\$ 7.68	\$ _____	\$ _____
Purchased dairy roughage	86	0.35	_____	_____
Total Purchased Dairy Feed	\$ 1,991	\$ 8.03	\$ _____	\$ _____
Purchased grain & concentrate as % of milk receipts		28%	_____ %	_____ %
Purchased feed & crop expense	\$ 2,335	\$ 9.42	\$ _____	\$ _____
Purchased feed & crop expense as % of milk receipts		35%	_____ %	_____ %
Breeding	\$ 61	\$ 0.24	\$ _____	\$ _____
Veterinary & medicine	176	0.71	_____	_____
Milk marketing	290	1.17	_____	_____
Bedding	92	0.37	_____	_____
Milking supplies	102	0.41	_____	_____
Cattle lease	8	0.03	_____	_____
Custom boarding	73	0.30	_____	_____
bST expense	18	0.07	_____	_____
Livestock professional fees	20	0.08	_____	_____
Other livestock expense	40	0.16	_____	_____

**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**  
63 Hudson and Central New York Region Dairy Farms, 2014

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$390,376	\$10,441	\$4,464	\$12,107
Real estate		3,961		4,593
Machinery & equipment	77,785	2,080	889	

Ratios

Asset turnover	Operating Expense	Interest Expense	Depreciation Expense
0.73	0.71	0.01	0.05

My Farm

Farm capital	\$ _____	\$ _____	\$ _____	\$ _____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____

Ratios

Asset turnover	Operating Expense	Interest Expense	Depreciation Expense
_____	_____	_____	_____

**LABOR FORCE INVENTORY**

63 Hudson and Central New York Region Dairy Farms, 2014

Labor Force	Months	Age	Years of Education	Value of Labor & Management
Operator number 1	13.2	53	14	\$48,652
Operator number 2	6.3	51	14	26,897
Operator number 3	2.6	35	16	11,387
Operator number 4	1.6	30	16	8,086
Family paid	2.9			
Family unpaid	3.1			
Hired	<u>91.6</u>			
Total	121.3	/ 12 = 10.1 Worker Equivalent 1.76 Operator/Manager Equivalent		
<u>My Farm</u> : Total	_____	/ 12 = _____ Worker Equivalent		
Operator's	_____	/ 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

63 Hudson and Central New York Region Dairy Farms, 2014

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	378	37	_____	_____
Milk sold, pounds	9,365,712	926,763	_____	_____
Tillable acres	883	87	_____	_____

### LABOR AND MACHINERY COSTS

63 Hudson and Central New York Region Dairy Farms, 2014

Labor Costs	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Value of operator(s) labor (\$2,600/month)	\$ 61,724	\$ 163	\$ 0.66	\$ _____	\$ _____	\$ _____
Family unpaid (\$2,600/month)	7,956	21	0.08	_____	_____	_____
Hired	<u>293,664</u>	<u>778</u>	<u>3.14</u>	_____	_____	_____
Total Labor	\$ 363,344	\$ 962	\$ 3.88	\$ _____	\$ _____	\$ _____
Machinery Cost	<u>\$ 381,344</u>	<u>\$ 1,009</u>	<u>\$ 4.07</u>	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$ 744,450	\$ 1,971	\$ 7.95	\$ _____	\$ _____	\$ _____
Hired labor expense per hired worker equivalent			\$ 37,303	\$ _____		
Hired labor expense as % of milk sales			11.98%	_____%		

## 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 53 Hudson and Central New York Region Dairy Farms, 2013 & 2014

Selected Factors	Average of 53 Farms*		My Farm		Goal
	2013	2014	2013	2014	
<u>Size of Business</u>					
Average number of cows	383	417	_____	_____	_____
Average number of heifers	319	334	_____	_____	_____
Milk sold, pounds	9,449,986	10,379,126	_____	_____	_____
Worker equivalent	10.1	11.1	_____	_____	_____
Total tillable acres	901	947	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, pounds	24,681	24,908	_____	_____	_____
Hay DM per acre, tons	3.0	2.9	_____	_____	_____
Corn silage per acre, tons	14.5	18.5	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	38	38	_____	_____	_____
Milk sold/worker, pounds	932,948	938,933	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	32%	28%	_____ %	_____ %	_____ %
Dairy feed & crop expense per cwt. milk	\$ 9.27	\$ 9.33	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,881	\$ 1,960	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 17.68	\$ 17.73	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$ 10,039	\$ 10,524	\$ _____	\$ _____	\$ _____
Mach. & equipment per cow	\$ 2,003	\$ 2,061	\$ _____	\$ _____	\$ _____
Asset turnover ratio	0.63	0.73	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$ 274,830	\$ 732,486	\$ _____	\$ _____	\$ _____
Net farm income w/apprec.	\$ 360,689	\$ 821,860	\$ _____	\$ _____	\$ _____
Labor & mgmt. income per operator/manager	\$ 78,638	\$ 306,306	\$ _____	\$ _____	\$ _____
Rate of return on equity capital w/appreciation	10.1	23.4	_____ %	_____ %	_____ %
Rate of return on all capital w/appreciation	7.9	17.2	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$2,699,384	\$ 3,365,850	\$ _____	\$ _____	\$ _____
Debt to asset ratio	0.32	0.29	_____	_____	_____
Farm debt per cow	\$ 3,313	\$ 3,304	\$ _____	\$ _____	\$ _____

\*Farms participating both years.

\*\*Average for the year.

**RECEIPTS AND EXPENSES PER COW AND PER CWT.**  
Same 53 Hudson and Central New York Region Dairy Farms, 2013 & 2014

Item	2013		2014	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	383		417	
Cwt. of Milk Sold		94,500		103,791
<b><u>ACCRUAL OPERATING RECEIPTS</u></b>				
Milk	\$5,429	\$22.00	\$6,526	\$26.20
Dairy cattle	340	1.38	467	1.87
Dairy calves	46	0.19	88	0.35
Other livestock	45	0.18	26	0.10
Crops	79	0.32	302	1.21
Miscellaneous receipts	167	0.68	95	0.38
Total Receipts	\$6,106	\$24.74	\$7,503	\$30.12
<b><u>ACCRUAL OPERATING EXPENSES</u></b>				
Hired labor	\$ 721	\$ 2.92	\$ 781	\$ 3.14
Dairy grain & concentrate	1,859	7.53	1,904	7.64
Dairy roughage	74	0.30	88	0.36
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	0	0.00	0	0.00
Machine hire, rent & lease	94	0.38	102	0.41
Machinery repair & vehicle expense	312	1.26	336	1.35
Fuel, oil & grease	247	1.00	238	0.96
Replacement livestock	14	0.06	5	0.02
Breeding	56	0.23	60	0.24
Veterinary & medicine	166	0.67	174	0.70
Milk marketing	270	1.09	289	1.16
Bedding	83	0.34	91	0.37
Milking supplies	100	0.41	99	0.40
Cattle lease	1	0.01	8	0.03
Custom boarding	45	0.18	75	0.30
bST expense	20	0.08	16	0.06
Livestock professional fees	26	0.10	19	0.08
Other livestock expense	30	0.12	40	0.16
Fertilizer & lime	166	0.67	129	0.52
Seeds & plants	119	0.48	124	0.50
Spray & other crop expense	64	0.26	73	0.29
Crop professional fees	6	0.02	5	0.02
Land, building & fence repair	75	0.30	123	0.49
Taxes	57	0.23	59	0.24
Real estate rent & lease	88	0.35	74	0.30
Insurance	50	0.20	53	0.21
Utilities	113	0.46	135	0.54
Interest paid	114	0.46	109	0.44
Other professional fees	32	0.13	28	0.11
Miscellaneous	26	0.10	44	0.18
Total Operating Expenses	\$5,027	\$20.37	\$5,282	\$21.20
Expansion Livestock	13	0.05	112	0.45
Extraordinary Expense	1	0.00	8	0.03
Machinery Depreciation	233	0.94	224	0.90
Real Estate Depreciation	114	0.46	119	0.48
Total Expenses	\$5,388	\$21.82	\$5,745	\$23.06
Net Farm Income Without Appreciation	\$ 718	\$ 2.91	\$1,758	\$ 7.06

### Regional Farm Business Chart

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

#### **FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS**

63 Hudson and Central New York Region Dairy Farms, 2014

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)
28.2	1,135	29,369,115	27,251	4.1	22	46	1,129,738
14.4	520	13,752,407	25,689	3.1	19	37	901,307
4.9	174	3,367,109	22,727	2.7	18	33	736,096
3.1	83	1,490,718	18,843	2.1	16	29	552,769
1.7	45	725,375	12,402	1.3	6	22	316,775

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)	
\$678	18%	\$665	\$1,556	\$898	\$6.18	
1,241	25	895	1,848	1,570	8.23	
1,699	29	1,048	2,038	2,128	9.12	
2,001	31	1,231	2,339	2,459	10.26	
2,287	36	1,535	2,774	2,831	11.44	

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)
\$7,228	\$14.53	\$19.77	21.6%	\$2,231,764	\$782,330	\$2,203,838
6,657	16.70	22.27	15.1	780,554	263,630	608,703
5,876	18.00	23.81	10.1	216,282	104,186	153,172
4,829	19.28	26.55	5.0	103,623	46,766	71,949
3,155	21.58	35.93	-4.0	20,292	-27,001	-25,761

\*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** 32 Dairy Farms, 2014

<u>Animals Entering Herd</u>	Average
Number calving in 2014 for first time	409
Animals purchased, % <sup>1</sup>	3.0%
Animals raised by farm, % <sup>2</sup>	97.0%
 <u>Current Heifer Inventory</u>	
Raised on dairy, %	83.4%
Raised by a custom grower, %	16.6%

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

<sup>2</sup> 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, 409 animals calved for the first time in 2014. The breakdown on the source of these animals was 3.0 percent purchased and 97.0 percent raised on the farm. Of the current heifer inventory, 83.4 percent were raised on the dairy and 16.6 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 1<sup>st</sup>, 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, 32 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**  
32 Hudson and Central New York Region Dairy Farms, 2014

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
<b>BASE FARM PRICE</b>					
Butterfat	623,234	3.82%	\$2.38	\$1,483,995	\$ 9.10
Protein	504,527	3.09%	\$3.78	\$1,907,682	\$11.70
Solids	939,463	5.76%	\$0.47	\$444,344	\$ 2.72
<b>Total Component Contribution</b>					<b>\$23.52</b>
<b>PPD</b>	16,306,452			\$238,006	<b>\$1.46</b>
<b>Base Farm Price</b>					<b>\$24.98</b>
<b>Premiums</b>					
Quality				\$54,413	\$0.33
Volume				\$50,684	\$0.31
Market Premiums				\$98,364	\$0.60
<b>Total Premiums</b>					<b>\$1.25</b>
<b>BASE FARM PRICE + PREMIUM</b>					<b>\$26.23</b>
<hr style="border-top: 1px dashed black;"/>					
<b>Deductions</b>					
Promotion				\$25,178	\$0.15
Hauling & Coop Dues				\$165,878	\$1.02
<b>Total Deductions</b>					<b>\$1.17</b>
<b>BASE FARM PRICE + PREMIUMS - DEDUCTIONS</b>					<b>\$25.06</b>
<b>Marketing Programs</b>					
Futures Contracts, Forward Contracting, Etc.				-\$18,236	-\$0.11
<b>Total Marketing Income</b>					<b>-\$0.11</b>
<b>Patronage Dividends</b>				\$18,799	\$0.12
<b>NET PRICE RECEIVED ON FARM, ALL SOURCES</b>					<b>\$25.06</b>
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>					<b>\$1.54</b>

**MILK PRICE INFORMATION BY QUINTILE\***

(Each Category Sorted Independently)

32 Hudson and Central New York Region Dairy Farms, 2014

	Lowest Quintile				Highest Quintile
Butterfat, %	3.69	3.79	3.85	3.97	4.13
Protein, %	3.01	3.05	3.12	3.18	3.28
Other Solids, %	5.65	5.75	5.77	5.79	5.82
Butterfat, \$ per Cwt.	8.76	9.02	9.19	9.39	9.98
Protein, \$ per Cwt.	11.35	11.59	11.84	11.96	12.40
Other solids, \$ per Cwt.	2.66	2.70	2.71	2.72	2.83
<b>Total Component Value per Cwt.</b>	<b>\$22.92</b>	<b>\$23.40</b>	<b>\$23.68</b>	<b>\$24.13</b>	<b>\$24.90</b>
PPD, \$ per Cwt.	1.04	1.32	1.42	1.58	1.83
<b>Base Farm Price per Cwt.</b>	<b>\$24.39</b>	<b>\$24.81</b>	<b>\$25.04</b>	<b>\$25.44</b>	<b>\$26.46</b>
Quality, \$ per Cwt.	0.07	0.23	0.32	0.42	0.57
Volume, \$ per Cwt.	0.00	0.01	0.18	0.42	0.58
Market premium, \$ per Cwt.	0.17	0.35	0.45	0.73	1.06
Total Premium, \$ per Cwt.	<b>0.48</b>	<b>0.63</b>	<b>1.18</b>	<b>1.37</b>	<b>1.54</b>
<b>Base Farm Price + Premiums per Cwt.</b>	<b>\$25.30</b>	<b>\$25.84</b>	<b>\$26.25</b>	<b>\$26.52</b>	<b>\$27.58</b>
Promotion, \$ per Cwt.	0.15	0.15	0.15	0.15	0.15
Hauling & Coop Dues, \$ per Cwt.	0.65	0.88	0.98	1.16	1.36
<b>Total Marketing Expenses per Cwt.</b>	<b>\$0.80</b>	<b>\$1.03</b>	<b>\$1.13</b>	<b>\$1.31</b>	<b>\$1.51</b>
<b>Base + Premiums – Deductions per Cwt.</b>	<b>\$24.17</b>	<b>\$24.77</b>	<b>\$25.08</b>	<b>\$25.44</b>	<b>\$26.33</b>
Futures contract, forward contracting, \$ per Cwt.	-0.32	0.00	0.00	0.00	0.00
<b>Total Marketing Income, \$ per Cwt.</b>	<b>\$-0.32</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Patronage Dividends, \$ per Cwt.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.13</b>	<b>\$0.35</b>
<b>Net Price Received From All Sources, \$ per Cwt.</b>	<b>\$24.19</b>	<b>\$24.75</b>	<b>\$25.16</b>	<b>\$25.52</b>	<b>\$26.37</b>
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>	<b>0.65</b>	<b>1.16</b>	<b>1.43</b>	<b>1.74</b>	<b>1.91</b>

\*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 171 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

171 New York Dairy Farms, 2013

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)
39.9	1,976	52,254,852	28,620	5.3	24	64	1,544,121
26.0	1,187	31,161,995	27,342	4.5	21	53	1,298,023
20.9	968	25,221,350	26,638	4.1	20	49	1,211,659
17.6	764	19,848,109	26,051	3.7	19	46	1,154,144
14.1	614	15,011,729	25,370	3.4	18	44	1,092,286
-----							
10.5	438	10,936,395	24,516	3.1	17	41	1,006,486
6.8	284	6,492,159	23,399	2.8	16	38	883,376
4.4	162	3,307,891	21,767	2.4	15	34	759,105
2.9	94	1,828,527	18,508	2.0	12	28	592,477
1.9	52	866,932	13,668	0.7	1	22	385,315

#### 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)
\$774	21%	\$495	\$1,118	\$1,040	\$6.20
1,215	27	683	1,445	1,588	7.48
1,385	28	762	1,561	1,823	8.06
1,558	30	826	1,664	1,976	8.31
1,645	32	894	1,719	2,106	8.68
-----					
1,748	33	952	1,800	2,202	9.02
1,854	34	1,000	1,902	2,325	9.33
1,944	36	1,079	2,032	2,430	9.68
2,067	38	1,170	2,181	2,564	10.08
2,287	41	1,419	2,577	2,818	11.63

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

**FARM BUSINESS CHART FOR  
FARM MANAGEMENT COOPERATORS**  
171 New York Dairy Farms, 2013

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)	
\$6,223	\$23.52	\$2,159	\$13.06	\$3,399	\$17.86	
5,991	22.38	3,071	14.31	4,330	18.88	
5,767	22.10	3,470	14.93	4,667	19.58	
5,609	21.89	3,688	15.53	4,913	20.09	
5,459	21.70	3,940	16.31	5,051	20.73	
-----						
5,260	21.51	4,124	17.06	5,192	21.42	
4,995	21.31	4,290	17.67	5,382	22.44	
4,661	21.11	4,557	18.42	5,568	23.48	
4,066	20.83	4,803	19.33	5,902	24.77	
2,972	20.27	5,289	21.14	6,317	30.55	
-----						
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)
\$2,293,718	\$1,662	0.27	\$2,875,086	\$2,196	\$1,658,986	\$807,659
1,323,231	1,409	0.22	1,537,847	1,751	874,557	426,977
871,401	1,179	0.20	1,049,392	1,469	561,397	262,451
588,780	1,013	0.18	778,316	1,276	361,202	171,348
373,730	852	0.15	523,504	1,081	177,429	97,301
-----						
237,277	691	0.12	328,362	894	86,913	46,707
156,234	547	0.10	208,401	704	28,456	19,016
92,959	411	0.07	115,544	559	-1,382	-132
36,993	243	0.05	51,507	380	-36,812	-21,191
-14,804	-81	-0.03	-5,596	-3	-162,083	-94,885

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**  
171 New York Dairy Farms, 2013

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)
\$ 53	\$1,585	9.83	12.79	0%	\$ 260	62%	91.19
222	1,243	3.26	3.76	2	1,348	40	7.09
366	1,038	2.19	2.77	4	2,070	33	4.70
456	927	1.73	2.22	7	2,607	28	3.29
549	789	1.50	1.72	9	3,074	24	2.77
641	661	1.23	1.38	10	3,514	20	2.40
730	521	0.98	1.06	11	3,972	16	1.97
852	418	0.76	0.82	14	4,428	10	1.47
1,086	204	0.48	0.38	16	5,196	5	1.13
1,917	-448	-1.71	-0.72	21	6,854	-8	0.61
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)	
0.02	98%	0.02	0.00	0.65	0.00	0.03	
0.13	89	0.09	0.00	0.70	0.01	0.04	
0.23	82	0.15	0.06	0.72	0.01	0.04	
0.32	76	0.23	0.15	0.74	0.01	0.05	
0.39	72	0.27	0.25	0.76	0.02	0.06	
0.49	68	0.32	0.34	0.79	0.02	0.06	
0.62	62	0.38	0.40	0.81	0.03	0.07	
0.76	57	0.42	0.47	0.84	0.03	0.08	
0.87	54	0.50	0.56	0.88	0.04	0.09	
1.61	41	0.67	0.81	0.94	0.06	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:		
					Equity	Investment***	
(14)	(14)	(14)	(14)	(8)	(4)	(4)	
0.88	\$2,155	\$755	\$6,982	\$2,009,009	29%	19%	
0.73	2,989	1,109	8,484	1,003,640	20	14	
0.67	3,498	1,373	9,154	681,182	17	12	
0.62	3,913	1,629	9,860	440,826	14	10	
0.58	4,276	1,858	10,660	247,080	11	8	
0.55	4,774	2,013	11,257	131,971	8	6	
0.52	5,265	2,259	11,917	79,692	5	5	
0.46	5,806	2,473	12,832	18,703	2	3	
0.39	6,721	2,865	14,119	-5,034	-1	1	
0.28	9,762	4,363	17,767	-366,287	-10	-4	

\*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 46 cows on the small conventional farms to 1,097 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 2013, 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 2013 State Summary\*. In most years, as herd size increases, the net farm income increases (page 48)\*; and that was the case for 2013. Net farm income without appreciation averaged \$25,437 per farm for the less than 60 cow farms and \$1,351,681 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 2013. The largest herd size category experienced an increase in net worth of \$924,421. However, percent equity varied as herd size increased. The 900 and over herd size category had the lowest percent equity at 66 percent; while the less than 60 and 60 to 99 herd size categories averaged the highest percent equity at 77 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 26,225 pounds of milk sold per cow, farms in the largest herd size group averaged 7.5 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 1,169,058 pounds of milk sold per worker while the farms with less than 100 cows averaged less than 452,000 pounds per worker.

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\*Wayne A. Knoblauch, Cathryn Dymond, Jason Karszes, and Richard Kimmich, Dairy Farm Management Business Summary, New York State, 2013, Charles H. Dyson School of Applied Economics and Management, Cornell University, R.B. 2014-02, October 2014.

**SELECTED BUSINESS FACTORS BY TYPE OF BARN AND HERD SIZE**

171 New York Dairy Farms, 2013

Item	Farms with:	Tiestall/Stanchion		Freestall		
		<= 60 Cows	>60 Cows	<=200 Cows	201-500 Cows	≥500 Cows
Number of farms		13	10	25	27	84
<u>Cropping Program Analysis</u>						
Total Tillable acres		193	301	363	680	2,087
Tillable acres rented*		91	178	159	313	992
Hay crop acres*		140	177	216	322	884
Corn silage acres*		21	58	104	259	867
Hay crop, tons DM/acre		1.6	1.8	2.5	3.3	3.7
Corn silage, tons/acre		15.2	15.5	15.1	17.4	18.1
Oats, bushels/acre		0	65	72	50	74
Forage DM per cow, tons		8.0	8.6	9.3	8.4	8.4
Tillable acres/cow		4.1	3.5	2.9	2.0	1.9
Fertilizer & lime expense/tillable acre		\$33.97	\$68.66	\$54.86	\$83.02	\$77.22
Total machinery costs		\$45,541	\$84,103	\$125,551	\$334,055	\$986,915
Machinery cost/tillable acre		\$238	\$279	\$342	\$488	\$462
<u>Dairy Analysis</u>						
Number of cows		46	85	127	343	1,097
Number of heifers		35	71	101	276	953
Milk sold, lbs.		790,724	1,832,536	2,613,050	8,647,161	28,629,982
Milk sold/cow, lbs.		17,276	21,483	20,556	25,210	26,098
Operating cost of producing milk/cwt.		\$15.66	\$15.83	\$17.15	\$17.06	\$16.52
Total cost of producing milk/cwt.		\$27.70	\$22.62	\$23.27	\$21.23	\$20.02
Price/cwt. milk sold		\$21.45	\$21.18	\$21.77	\$21.73	\$21.64
Purchased dairy feed/cow		\$1,068	\$1,446	\$1,472	\$1,985	\$1,964
Purchased dairy feed/cwt. milk		\$6.18	\$6.73	\$8.85	\$7.87	\$7.53
Purchased grain & concentrate as % of milk receipts		27%	29%	32%	33%	33%
Purchased feed & crop expense/cwt milk		\$7.33	\$8.51	\$8.85	\$9.11	\$8.83
<u>Capital Efficiency</u>						
Farm capital/worker		\$340,187	\$314,853	\$412,594	\$414,822	\$494,969
Farm capital/cow		\$15,608	\$11,000	\$12,139	\$10,461	\$10,612
Farm capital/tillable acre owned		\$6,978	\$7,597	\$7,591	\$9,771	\$10,624
Real estate/cow		\$8,595	\$4,548	\$5,508	\$4,247	\$4,325
Machinery investment/cow		\$3,279	\$2,364	\$2,328	\$2,006	\$1,735
Asset turnover ratio		0.30	0.51	0.42	0.62	0.62
<u>Labor Efficiency</u>						
Worker equivalent		2.10	2.97	3.74	8.65	23.52
Operator/manager equivalent		1.21	1.63	1.36	1.88	2.41
Milk sold/worker, lbs.		376,237	616,151	699,456	999,961	1,217,261
Cows/worker		22	29	34	40	47
Labor cost/cow		\$1,199	\$1,070	\$810	\$856	\$815
Labor cost/tillable acre		\$284	\$303	\$284	\$431	\$429
<u>Profitability &amp; Balance Sheet Analysis</u>						
Net farm income (without appreciation)		\$29,450	\$72,696	\$77,264	\$264,116	\$1,044,477
Labor & management income/operator		\$-2,780	\$17,243	\$10,485	\$71,814	\$270,468
Rate return on all capital with appreciation		0.9%	3.7%	2.8%	9.1%	10.6%
Farm debt/cow		\$3,152	\$3,217	\$3,003	\$3,148	\$3,561
Percent equity		80%	73%	76%	72%	67%

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



**FARM BUSINESS CHART FOR SMALL TIESTALL/STANCHION DAIRY FARMS**

13 Tiestall/Stanchion Dairy Farms with 60 or Less Cows, New York, 2013

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)
3.46	56	1,107,897	24,207	2.7	19	27	541,836
2.17	51	960,743	20,546	2.2	18	26	516,533
2.00	47	865,621	17,828	1.9	16	25	434,512
1.80	43	692,338	15,008	1.4	10	22	323,855
1.56	37	489,420	12,090	0.7	0	18	249,497

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)	
\$429	14%	\$482	\$1,540	\$626	\$4.64	
946	25	766	1,944	1,126	6.58	
1,072	29	1,091	2,326	1,265	7.66	
1,301	33	1,275	2,585	1,690	8.69	
1,604	40	1,437	2,797	1,891	9.38	

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)
\$5,179	\$12.43	\$21.75	\$67,973	\$1,345	\$35,038	\$114,591
4,454	14.08	25.08	47,346	1,078	13,655	55,745
3,806	15.36	28.69	35,926	734	5,340	11,833
3,230	17.49	33.80	22,936	502	-12,587	7,668
2,515	21.99	39.80	-8,125	-203	-38,785	-14,229

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

**FARM BUSINESS CHART FOR LARGE TIESTALL/STANCHION DAIRY FARMS**

10 Tiestall/Stanchion Dairy Farms with 60 or More Cows, New York, 2013

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)
4.16	127	3,057,738	26,350	3.4	22	48	971,679
3.67	88	1,800,277	22,660	2.8	17	33	701,912
2.95	74	1,544,981	21,339	2.4	16	31	614,768
2.40	72	1,508,254	19,425	1.9	14	24	521,095
1.71	67	1,251,433	16,325	0.0	0	20	415,908

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)	
\$923	22%	\$646	\$1,332	\$1,214	\$5.90	
1,178	25	861	1,641	1,495	7.10	
1,279	27	999	2,045	1,572	8.01	
1,352	32	1,101	2,406	1,958	9.52	
1,799	41	1,268	2,840	2,670	11.47	

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)
\$5,624	\$11.89	\$18.73	\$179,215	\$1,709	\$79,003	\$118,436
4,859	14.29	21.08	108,787	1,189	29,455	86,741
4,559	16.62	24.18	45,205	672	15,568	20,360
4,169	18.39	24.79	27,200	378	-10,367	12,371
3,320	19.92	27.38	3,073	34	-23,008	-2,819

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

**FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS**

25 Freestall Barn Dairy Farms with 200 Cows or less, New York, 2013

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)
8.54	198	5,182,611	26,978	4.8	26	66	1,189,312
5.65	184	4,108,652	25,637	3.9	24	51	945,040
5.11	172	3,486,569	23,481	3.4	21	44	822,454
3.84	156	3,057,254	22,894	3.2	20	39	813,049
3.55	135	2,674,287	21,941	3.1	19	37	780,801
3.28	121	2,499,886	21,262	3.0	16	35	723,986
3.02	113	2,324,455	18,961	2.7	15	33	662,604
2.73	105	1,996,233	17,204	2.2	13	30	626,628
2.36	92	1,543,980	16,229	1.7	7	29	523,811
1.97	66	1,071,282	13,489	0.4	0	24	450,287

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)
\$810	22%	\$440	\$955	\$1,130	\$6.59	
1,125	26	687	1,432	1,466	7.38	
1,242	29	726	1,524	1,666	8.30	
1,369	32	800	1,645	1,765	8.57	
1,428	34	887	1,757	1,833	8.94	
1,520	35	942	1,837	1,928	9.24	
1,603	35	1,030	1,970	2,008	9.79	
1,642	39	1,122	2,080	2,052	10.29	
1,838	41	1,327	2,204	2,352	11.21	
2,109	42	1,556	2,498	2,536	14.67	

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)
\$5,805	\$13.62	\$19.71	\$214,078	\$1,381	\$94,226	\$224,269
5,411	14.47	21.15	175,114	1,147	67,023	168,631
5,108	15.58	21.66	134,065	1,079	44,869	111,075
5,045	16.23	22.96	119,630	898	34,128	89,941
4,652	17.41	23.89	104,117	789	20,833	78,262
4,531	18.83	24.41	78,069	646	10,324	34,995
4,242	19.41	25.64	51,551	502	3,964	3,699
3,839	20.89	25.95	26,617	183	-18,167	-8,284
3,490	21.53	26.60	9,167	70	-26,662	-15,825
3,067	23.01	32.80	-19,540	-256	-64,814	-61,809

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

**FARM BUSINESS CHART FOR MEDIUM FREESTALL DAIRY FARMS**

27 Freestall Barn Dairy Farms with 201-500 Cows, New York, 2013

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)
14.77	477	12,550,700	28,870	4.9	25	58	1,401,737
13.33	455	12,081,379	27,886	4.5	21	53	1,276,640
11.57	432	11,553,406	27,392	4.4	20	51	1,249,662
9.58	410	10,862,817	26,650	4.3	20	48	1,158,356
9.10	383	9,813,488	26,112	3.8	18	45	1,110,327
-----							
7.86	354	8,623,972	25,635	3.2	17	43	1,041,951
7.27	306	7,590,141	24,278	2.8	17	39	968,549
6.76	274	6,873,567	23,375	2.2	15	35	901,880
6.28	243	5,605,715	21,583	2.1	14	32	813,061
4.52	208	4,331,094	20,234	1.1	4	26	651,527

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)
\$1,397	26%	\$519	\$1,173	\$1,851	\$7.64	
1,546	29	720	1,476	1,980	8.12	
1,590	31	815	1,594	2,095	8.28	
1,653	31	933	1,780	2,158	8.65	
1,762	32	996	1,865	2,219	9.17	
-----						
1,855	34	1,082	1,959	2,335	9.49	
1,938	35	1,143	2,045	2,475	10.00	
1,995	38	1,198	2,123	2,568	10.08	
2,081	40	1,249	2,266	2,620	10.73	
2,304	42	1,472	2,414	2,878	11.30	

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)
\$6,412	\$12.87	\$18.08	\$634,175	\$1,802	\$349,137	\$820,315
6,089	14.33	19.21	548,498	1,446	215,578	496,142
5,990	14.91	19.78	460,254	1,313	139,493	402,840
5,791	15.98	20.25	394,614	1,169	114,077	320,293
5,591	17.21	21.18	269,957	867	92,263	265,454
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5,470	17.76	22.24	212,745	608	49,457	214,014
5,300	18.52	22.91	185,326	545	27,034	151,222
4,940	19.81	23.29	134,985	459	8,785	108,126
4,696	20.12	23.64	92,762	239	-14,090	43,970
4,383	20.59	24.50	-8,631	-24	-83,573	-224

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

**FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS**

84 Freestall Barn Dairy Farms with 500 or More Cows, New York, 2013

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)
48.18	2,383	64,332,803	29,179	5.6	24	60	1,630,655
33.09	1,641	41,898,886	27,625	4.9	22	54	1,438,723
27.36	1,283	34,752,619	27,280	4.5	21	51	1,316,944
25.38	1,145	29,300,359	26,861	4.2	20	49	1,243,736
22.71	1,033	26,938,645	26,391	3.9	19	47	1,200,316
20.30	938	24,566,699	26,068	3.7	18	45	1,176,314
18.61	834	21,980,430	25,460	3.4	17	43	1,130,905
17.09	722	18,454,170	24,866	3.2	16	42	1,089,213
14.41	648	16,301,578	24,217	2.7	14	40	1,024,313
12.06	549	13,330,311	22,272	1.8	9	35	867,591

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)	
\$1,310	25%	\$595	\$1,256	\$1,728	\$7.20	
1,572	28	732	1,487	1,982	7.78	
1,673	30	790	1,591	2,125	8.23	
1,759	31	853	1,672	2,190	8.55	
1,830	33	911	1,705	2,286	8.85	
1,886	34	951	1,750	2,356	9.12	
1,942	35	977	1,827	2,424	9.35	
2,024	36	1,033	1,917	2,510	9.65	
2,122	38	1,117	2,028	2,635	9.84	
2,368	40	1,309	2,218	2,883	10.43	

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)
\$6,269	\$13.75	\$17.61	\$2,935,571	\$1,710	\$989,685	\$2,511,238
6,101	14.52	18.48	1,741,280	1,484	585,613	1,590,073
5,968	15.21	18.97	1,458,569	1,329	454,127	1,117,485
5,826	15.74	19.52	1,220,876	1,156	399,604	896,084
5,721	16.49	19.87	996,019	1,015	290,737	755,529
5,623	17.05	20.29	800,145	869	218,982	591,616
5,507	17.57	20.83	668,442	745	179,204	436,312
5,363	18.07	21.51	489,892	578	106,230	211,942
5,122	18.67	22.19	306,009	400	13,934	23,231
4,799	19.77	23.79	148,587	180	-104,180	-511,443

\*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

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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: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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Needs improvement: \_\_\_\_\_  
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## 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