

# **DAIRY FARM BUSINESS SUMMARY**

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## **WESTERN NEW YORK REGION 2013**



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

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**WESTERN NEW YORK REGION**  
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## 2013 DAIRY FARM BUSINESS SUMMARY WESTERN 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 Western New York Region for 2013.

#### **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 2013 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 Western New York Region of New York State, with the number of participating farms in parentheses, is comprised of Cayuga (8), Chautauqua (9), Cortland (5), Erie (4), Genesee (3), Livingston (6), Niagara (2), Onondaga (7), Ontario (8), Orleans (2), Schuyler (2), Tioga (2), Tompkins (3), Wayne (1), and Wyoming (20) counties in New York. 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 Cornell Cooperative Extension Regional Specialist John Hanchar, Northwestern NY Regional Dairy, Livestock, and Field Crops Program; Jason Karszes, Senior Extension Associate in PRO-DAIRY; Betsey Howland, Extension Support Specialist, PRO-DAIRY; Virginia Carlberg, Extension Educator in Chautauqua County; Richard Kimmich, Extension Support Specialist, DFBS; and Joan Petzen, Extension Educator in Wyoming County. We also acknowledge the cooperation of Farm Credit East Association and Dehm Associates 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**  
82 Western New York Region Dairy Farms, 2013

Type of Farm	Number	Milking System	Number
Dairy	78	Bucket & carry	0
Part-time dairy	0	Dumping station	1
Dairy cash-crop	4	Pipeline	4
Certified organic milk producer	0	Herringbone conventional exit	21
Rotational grazing farm	8	Herringbone rapid exit	10
		Parallel	34
		Parabone	4
		Rotary	1
		Other	7
Type of Ownership	Number	Production Records	Number
Owner	80	Testing Service	61
Renter	2	On Farm System	17
		Other	3
		None	1
Type of Business	Number	Business Record System	Number
Sole Proprietorship	17	Account Book	5
Partnership	14	Accounting Service	5
Limited Liability Corporation	40	On-farm computer	71
Subchapter S Corporation	9	Other	0
Subchapter C Corporation	2		
Type of Barn	Number	BST Usage (reporting this is optional)	Number
Stanchion or Tie-Stall	5	Used consistently	3
Freestall	72	Used inconsistently	0
Combination	5	Started Use in 2013	0
		Stopped Use in 2013	0
		Not Used	4
		Average % bst usage of those reporting	32%
Milking Frequency	Number		
2 times per day	25		
3 times per day	48		
Other	9		
Breed of Herd	Percent		
Holstein	92		
Jersey	3		
Other	5		

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 2013.

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**  
82 Western New York Region Dairy Farms, 2013

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired Labor</u>	\$ 609,900		\$ 1,050	<<	\$ 1,111		\$609,960
<u>Feed</u>							
Dairy grain & concentrate	1,488,583		32,719		-2,236		1,453,629
Dairy roughage	104,801		-12,225		-2,043		114,983
Nondairy	132		0		0		132
Professional nutritional services	1,296		0	<<	1		1,297
<u>Machinery</u>							
Machinery hire, rent & lease	82,814		282	<<	-954		81,578
Machinery repairs & farm vehicle exp.	199,585		2,323		1,251		198,512
Fuel, oil & grease	166,339		1,078		164		165,425
<u>Livestock</u>							
Replacement livestock	14,031		-40	<<	0		14,071
Breeding	43,790		339		364		43,815
Veterinary & medicine	150,864		1,106		213		149,971
Milk marketing	166,189		0	<<	279		166,467
Bedding	89,540		95		202		89,648
Milking supplies	81,116		98		-173		80,845
Cattle lease & rent	5,699		0		0		5,699
Custom boarding	78,762		528		-11		78,223
bST	26,755		645		76		26,186
Livestock professional fees	15,697		98		21		15,620
Other livestock expense	13,921		-197		45		14,163
<u>Crops</u>							
Fertilizer & lime	113,614		1,662		-5,302		106,650
Seeds & plants	104,192		2,637		-406		101,149
Spray, other crop expense	43,050		613		-998		41,439
Crop professional fees	7,065		263	<<	0		6,802
<u>Real Estate</u>							
Land, building & fence repair	82,311		1,818		649		81,142
Taxes	52,124		-37	<<	63		52,223
Rent & lease	64,763		249	<<	-287		64,227
<u>Other</u>							
Insurance	33,323		-137	<<	-56		33,403
Utilities (farm share)	78,724		42	<<	-132		78,550
Interest paid	97,808		0	<<	5		97,813
Other professional fees	25,589		645	<<	43		24,986
Miscellaneous	25,731		-53		-575		25,209
Total Operating	<u>\$4,068,105</u>		<u>\$35,602</u>		<u>\$ -8,685</u>		<u>\$4,023,818</u>
Expansion livestock	23,772		0	<<	-2,179		21,593
Extraordinary expense	516		0	<<	545		1,061
Machinery depreciation							188,773
Building depreciation							<u>116,451</u>
<b>TOTAL ACCRUAL EXPENSES</b>							<u><b>\$4,351,695</b></u>

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 2013 but not paid for. A decrease is subtracted because it represents payment for resources used before 2013.

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**  
82 Western New York Region Dairy Farms, 2013

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$4,370,832				\$86,733		\$4,457,565
Dairy cattle	269,904		\$69,451		1,600		340,954
Dairy calves	29,343		6,784		-5		36,122
Other livestock	10,335		-7,994		2,075		4,416
Crops	71,469		57,296		-2,932		125,833
Government receipts	47,676		0*		491		48,168
Custom machine work	23,600				719		24,320
Gas tax refund	1,030				0		1,030
Other	<u>78,694</u>				<u>-526</u>		78,168
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$4,902,884		\$125,537		\$88,155		\$5,116,576

\*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 2013 for the 2014 crop year in excess of funds earned for 2013. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2013 but received in 2012.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 2014 for milk produced in December 2013 compared to January 2013 payments for milk produced in 2012 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.

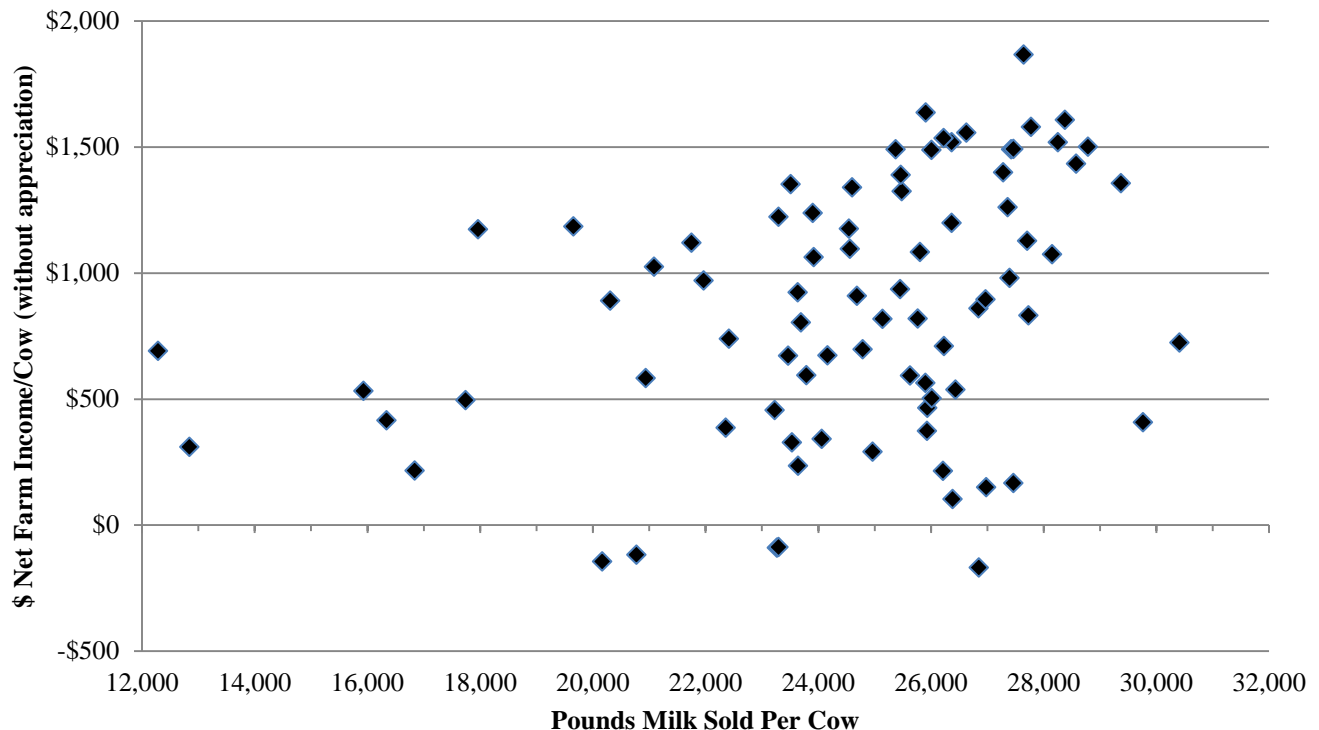
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit stock required for loan borrowings). Appreciation is a major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

**NET FARM INCOME**  
82 Western New York Region Dairy Farms, 2013

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$ 5,116,576		\$ _____	
Appreciation: Livestock	21,147		_____	
Machinery	52,598		_____	
Real Estate	114,334		_____	
Other Stock & Certificates	<u>14,872</u>		_____	
Total Including Appreciation	\$ 5,319,526		\$ _____	
Total accrual expenses	<u>4,351,695</u>		- _____	
Net Farm Income (with appreciation)	\$ 967,831	\$ 1,205	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 764,881	\$ 953	\$ _____	\$ _____

The chart below shows the relationship between net farm income per cow (without appreciation) and pounds of milk sold per cow. Higher net farm incomes can be achieved across a range of production levels as a result of different management systems, such as grazing, being utilized by the participating dairies.

**NET FARM INCOME PER COW AND MILK PER COW**  
82 Western New York Region Dairy Farms, 2013





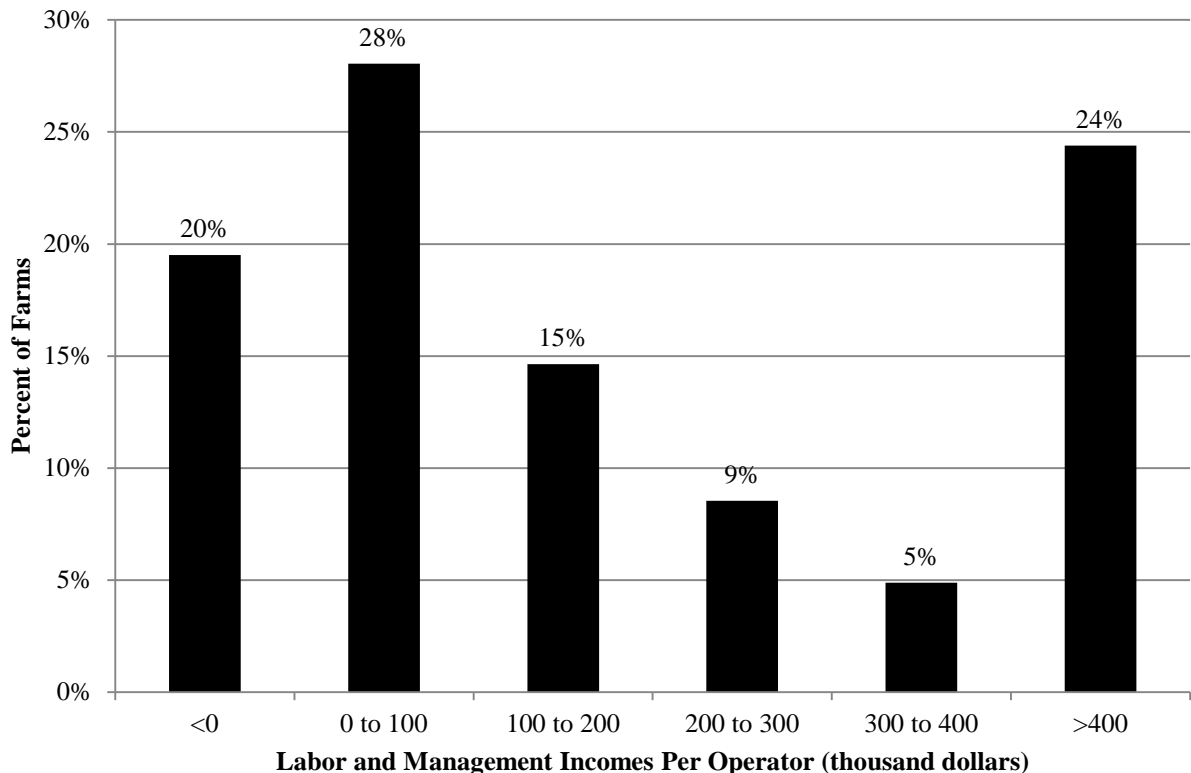
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and 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**  
82 Western New York Region Dairy Farms, 2013

Item	Average	My Farm
Net farm income without appreciation	\$ 764,881	\$ _____
Family labor unpaid @ \$2,600 per month	- 1,738	- _____
Interest on \$6,071,098 average equity capital @ 5% real rate	<u>- 303,555</u>	- _____
Labor & Management Income per farm (2.12 Operators/farm)	\$ 459,588	\$ _____
Labor & Management Income per Operator/Manager	\$ 216,787	\$ _____

Labor and management income per operator averaged \$216,787 on these 82 farms in 2013. The range in labor and management income per operator was from about \$-295,000 to more than \$1,231,000. Returns to labor and management were less than \$100,000 on 48 percent of the farms with 20% of the farms showing a negative return to labor & management. Labor and management incomes per operator were between \$100,000 and \$400,000 on 28 percent of the farms, while 24 percent had labor and management incomes of \$400,000 or more per operator.

**DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR**  
82 Western New York Region Dairy Farms, 2013



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**  
82 Western New York Region Dairy Farms, 2013

Item	Average	My Farm
Net farm income with appreciation	\$ 967,831	\$ _____
Family labor unpaid @ \$2,600 per month	- 1,738	- _____
Value of operators' labor & management	<u>- 148,759</u>	- _____
Return on equity capital with appreciation	\$ 817,335	\$ _____
Interest paid	<u>+ 97,813</u>	+ _____
Return on total capital with appreciation	\$ 915,148	\$ _____
Return on equity capital without appreciation	\$ 614,384	\$ _____
Return on total capital without appreciation	\$ 712,198	\$ _____
Rate of return on average equity capital:		
with appreciation	13.5%	_____ %
without appreciation	10.1%	_____ %
Rate of return on average total capital:		
with appreciation	10.4%	_____ %
without appreciation	8.1%	_____ %
Net Farm Income from Operations Ratio	0.15	_____

**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 2013, lease payments were discounted by 7 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 2013 that are for participation in the 2014 program are the end year balance and payments received in 2012 for participation in the 2013 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.

## 2013 FARM BUSINESS &amp; NONFARM MARKET VALUE BALANCE SHEET

82 Western New York Region Dairy Farms, 2013

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 46,955	\$ 59,442	Accounts payable	\$ 101,824	\$ 91,505
Accounts receivable	473,034	561,189	Operating debt	217,609	288,828
Prepaid expenses	10,298	13,241	Short Term	6,228	4,668
Feed & supplies	<u>1,012,093</u>	<u>1,102,048</u>	Advanced govt. receipts	0	0
Total Current	\$ 1,542,380	\$ 1,735,920	Current Portion:		
			Intermediate	218,205	233,606
			Long Term	<u>71,509</u>	<u>75,896</u>
			Total Current	\$ 615,375	\$ 694,502
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 1,090,934	\$ 1,148,733	1-10 years	\$ 1,196,908	\$ 1,162,688
leased	4,722	3,113	Financial lease		
Heifers	644,797	684,278	(cattle/machinery)	6,069	5,989
Bulls & other livestock	19,481	11,589	Farm Credit stock	<u>894</u>	<u>1,245</u>
Mach. & equip. owned	1,352,928	1,484,963	Total Intermediate	\$ 1,203,871	\$ 1,169,923
Mach. & equip. leased	1,348	2,877			
Farm Credit stock	894	1,245			
Other stock/certificate	<u>320,360</u>	<u>388,701</u>			
Total Intermediate	\$ 3,435,464	\$ 3,725,498			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 3,495,461	\$ 3,730,357	>10 years	\$ 999,484	\$ 1,021,017
leased	<u>0</u>	<u>0</u>	Financial lease		
Total Long Term	\$ 3,495,461	\$ 3,730,357	(structures)	<u>0</u>	<u>0</u>
Total Farm Assets	\$ 8,473,305	\$ 9,191,775	Total Long Term	\$ 999,484	\$ 1,021,017
			Total Farm Liabilities	\$ 2,818,730	\$ 2,885,442
			FARM NET WORTH	\$ 5,654,575	\$ 6,306,333

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

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	\$ 4,849	\$ 5,180	Nonfarm Liabilities	\$ 4,445	\$ 4,489
Cash value life insurance	66,184	55,666			
Nonfarm real estate	12,586	12,586			
Auto (personal share)	4,203	3,655			
Stocks & bonds	113,713	399,981			
Household furnishings	3,690	3,724			
All other nonfarm assets	107,516	242,028			
Total Nonfarm Assets	\$ 312,741	\$ 722,820	NONFARM NET WORTH	\$ 308,297	\$ 718,331

## Farm &amp; Nonfarm Assets, Liabilities, and Net Worth\*

	Jan. 1	Dec. 31
Total Assets	\$ 8,786,046	\$ 9,914,595
Total Liabilities	<u>2,823,175</u>	<u>2,889,931</u>
TOTAL FARM & NONFARM NET WORTH	\$ 5,962,871	\$ 7,024,664

\*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**  
82 Western New York Region Dairy Farms, 2013

Item	Average	My Farm		
<u>Financial Ratios - Farm:</u>				
Percent equity	69%	_____ %		
Debt/asset ratio: total	.31	_____		
long-term	.27	_____		
intermediate/current	.34	_____		
Leverage Ratio:	.46	_____		
Current Ratio:	2.50			
Working capital      \$1,041,540      As % of total expenses:	24%			
<u>Farm Debt Analysis:</u>				
Accounts payable as % of total debt	3%	_____ %		
Long-term liabilities as a % of total debt	35%	_____ %		
Current & inter. liabilities as a % of total debt	65%	_____ %		
Cost of term debt (weighted average)	3.7%	_____ %		
<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	\$3,563	\$3,510	\$ _____	\$ _____
Long-term debt	1,261	1,242	_____	_____
Intermediate & long term	2,705	2,665	_____	_____
Intermediate & current debt	2,302	2,268	_____	_____

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**  
82 Western New York Region Dairy Farms, 2013

Item	Average of Region's Farms	
	Real Estate	Machinery & Equipment
Value beginning of year	\$ 3,495,461	\$ 1,352,928
Purchases	\$ 374,693*	\$ 298,519
Noncash transfer to farm	+ -13,700	+ -7,404
Lost capital	- 117,515	
Sales	- 6,465	- 22,905
Depreciation	- 116,451	- 188,773
Net investment	= 120,562	= 79,437
Appreciation	+ 114,334	+ 52,598
Value end of year	\$ 3,730,357	\$ 1,484,963

\*\$17,469 land and \$257,224 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)**  
82 Western New York Region Dairy Farms, 2013

Item	Average	My Farm
Beginning of year farm net worth	\$5,835,740	\$ _____
Net farm income without appreciation	\$ 764,881	\$ _____
+Nonfarm cash income	+ 4,274	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 404,622</u>	- _____
RETAINED EARNINGS	+ \$ 364,533	+\$ _____
Nonfarm noncash transfers to farm	\$ -21,104	\$ _____
+Cash used in business from nonfarm capital	+ 45,215	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	<u>- 0</u>	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 24,111	+\$ _____
Appreciation	\$ 202,950	\$ _____
-Lost capital	<u>- 117,515</u>	- _____
CHANGE IN VALUATION EQUITY	+ \$ 85,435	+\$ _____
IMBALANCE/ERROR	<u>- 3,363</u>	- \$ _____
End of year net worth*	= \$6,306,455	=\$ _____
<u>Change in Net Worth</u>		
Without appreciation	\$ 267,764	\$ _____
With appreciation	\$ 470,715	\$ _____

\*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**  
82 Western New York Region Dairy Farms, 2013

Item	Average	
<b><u>Cash Flow from Operating Activities</u></b>		
Cash farm receipts	\$ 4,902,884	
- Cash farm expenses	4,068,105	
- Extraordinary expense	<u>516</u>	
= Net cash farm income		\$ 834,263
Personal withdrawals & family expenses including nonfarm debt payments	\$ 404,796	
- Nonfarm income	<u>4,274</u>	
- Net cash withdrawals from the farm		<u>\$ 400,522</u>
= Net Provided by Operating Activities		\$ 433,741
<b><u>Cash Flow From Investing Activities</u></b>		
Sale of assets: machinery	\$ 22,905	
+ real estate	6,465	
+ other stock & cert.	<u>13,814</u>	
= Total asset sales		\$ 43,184
Capital purchases: expansion livestock	\$ 23,772	
+ machinery	298,519	
+ real estate	374,693	
+ other stock & cert.	<u>67,282</u>	
- Total invested in farm assets		<u>\$ 764,267</u>
= Net Provided by Investment Activities		\$ -721,083
<b><u>Cash Flow From Financing Activities</u></b>		
Money borrowed (intermediate & long term)	\$ 482,840	
+ Money borrowed (short term)	1,392	
+ Increase in operating debt	71,219	
+ Cash from nonfarm capital used in business	45,215	
+ Money borrowed - nonfarm	<u>174</u>	
= Cash inflow from financing		\$ 600,839
Principal payments (intermediate & long term)	\$ 294,695	
+ Principal payments (short term)	2,953	
+ Decrease in operating debt	<u>0</u>	
- Cash outflow for financing		<u>\$ 297,648</u>
= Net Provided by Financing Activities		\$ 303,192
<b><u>Cash Flow From Reserves</u></b>		
Beginning farm cash, checking & savings		\$ 46,955
- Ending farm cash, checking & savings		<u>59,442</u>
= Net Provided from Reserves		\$ -12,486
Imbalance (error)		<u>\$ 3,363</u>

## 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 2014. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2014 debt payments shown below.

### FARM DEBT PAYMENTS PLANNED

Same 78 Western New York Region Dairy Farms, 2012 & 2013

Debt Payments	Average			My Farm		
	2013 Payments		Planned 2014	2013 Payments		Planned 2014
	Planned	Made		Planned	Made	
Long term	\$ 114,869	\$ 139,714	\$ 117,041	\$ _____	\$ _____	\$ _____
Intermediate term	237,833	255,175	285,865	_____	_____	_____
Short term	1,471	3,316	1,527	_____	_____	_____
Operating (net reduction)	21,170	34,188	31,181	_____	_____	_____
Accounts payable (net reduction)	745	28,792	372	_____	_____	_____
Total	\$ 376,088	\$ 461,186	\$ 435,986	\$ _____	\$ _____	\$ _____
Per cow	\$ 462	\$ 567		\$ _____	\$ _____	
Per cwt. 2013 milk	\$ 1.79	\$ 2.20		\$ _____	\$ _____	
Percent of total 2013 farm receipts	8%	9%		_____	_____	
Percent of 2013 milk receipts	8%	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 2013 (as of December 31, 2012) that could have been made with the amount available for debt service in 2013. Farmers who did not participate in DFBS in 2012 have their 2013 ratios based on planned debt payments for 2014.

### COVERAGE RATIOS

Same 78 Western New York Region Dairy Farms, 2012 & 2013

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$4,988,713	Net farm income (w/o appreciation)	\$782,703
- Cash farm expenses	4,129,991	+ Depreciation	312,669
+ Interest paid (cash)	98,470	+ Interest paid (accrual)	98,466
- Net personal withdrawals from farm*	<u>414,544</u>	- Net personal withdrawals from farm*	<u>414,544</u>
(A) = Amount Available for Debt Service	\$542,647	(A') = Repayment Capacity	\$779,294
(B) = Debt Payments Planned for 2013 (as of December 31, 2012)	\$376,088	(B) = Debt Payments Planned for 2013 (as of December 31, 2012)	\$376,088
(A/B) = Cash Flow Coverage Ratio for 2013	1.44	(A'/B) = Debt Coverage Ratio for 2013	2.07

\*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	82 Western New York Region Dairy Farms		My Farm	Expected Change	2014 Projection
	Per Cow	Per Cwt.	Per Cow/ Per Cwt.		
Average number of cows	803				
Total cwt. of milk sold		206,345			
<u>Accrual Operating Receipts</u>					
Milk	\$5,552	\$21.60	\$ _____	_____	\$ _____
Dairy cattle	425	1.65	_____	_____	_____
Dairy calves	45	0.18	_____	_____	_____
Other livestock	5	0.02	_____	_____	_____
Crops	157	0.61	_____	_____	_____
Miscellaneous Receipts	<u>189</u>	<u>0.74</u>	_____	_____	_____
Total	\$6,373	\$24.80	\$ _____	_____	\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$ 760	\$ 2.96	\$ _____	_____	\$ _____
Dairy grain & concentrate	1,811	7.04	_____	_____	_____
Dairy roughage	143	0.56	_____	_____	_____
Nondairy feed	0	0.00	_____	_____	_____
Professional nutritional services	2	0.01	_____	_____	_____
Machinery hire, rent & lease	102	0.40	_____	_____	_____
Machinery repair & vehicle expense	247	0.96	_____	_____	_____
Fuel, oil & grease	206	0.80	_____	_____	_____
Replacement livestock	18	0.07	_____	_____	_____
Breeding	55	0.21	_____	_____	_____
Veterinary & medicine	187	0.73	_____	_____	_____
Milk marketing	207	0.81	_____	_____	_____
Bedding	112	0.43	_____	_____	_____
Milking supplies	101	0.39	_____	_____	_____
Cattle lease	7	0.03	_____	_____	_____
Custom boarding	97	0.38	_____	_____	_____
bST expense	33	0.13	_____	_____	_____
Livestock professional fees	19	0.08	_____	_____	_____
Other livestock expense	18	0.07	_____	_____	_____
Fertilizer & lime	133	0.52	_____	_____	_____
Seeds & plants	126	0.49	_____	_____	_____
Spray & other crop expense	52	0.20	_____	_____	_____
Crop professional fees	8	0.03	_____	_____	_____
Land, building & fence repair	101	0.39	_____	_____	_____
Taxes	65	0.25	_____	_____	_____
Real estate rent & lease	80	0.31	_____	_____	_____
Insurance	42	0.16	_____	_____	_____
Utilities	98	0.38	_____	_____	_____
Other professional fees	31	0.12	_____	_____	_____
Miscellaneous	<u>31</u>	<u>0.12</u>	_____	_____	_____
Total Less Interest Paid	\$4,890	\$19.03	\$ _____	_____	\$ _____
<u>Net Accrual Operating Income</u>					
(without interest paid)		<u>Total</u>			
	\$1,190,571		\$ _____		\$ _____
- Change in livestock /crop inventory*	125,537		_____		_____
- Change in accounts receivable	88,155		_____		_____
- Change in feed & supply inventory**	35,602		_____		_____
+ Change in accounts payable***	-8,690		_____		_____
NET CASH FLOW	\$932,587		\$ _____		\$ _____
- Net family withdrawals	400,002		_____		_____
Available for Farm	\$532,586		\$ _____		_____
- Farm debt payments	452,940		_____		_____
Available for Farm Investment	\$79,646		\$ _____		\$ _____
- Capital purchases	764,267		_____		_____
Additional Capital Needed	\$684,621		\$ _____		\$ _____

\*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

82 Western New York Region Dairy Farms, 2013

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	822	676	1,499	_____	_____	_____
Nontillable	17	3	20	_____	_____	_____
Other nontillable	110	8	118	_____	_____	_____
Total	949	687	1,636	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Production/Acre</u>	<u>Acres</u>	<u>Production/Acre</u>	
Hay crop	80	619	3.91 tons DM	_____	_____	tons DM
Corn silage	76	631	19.32 tons	_____	_____	tons
			6.61 tons DM			tons DM
Other forage	24	188	4.88 tons DM	_____	_____	tons DM
Total forage	80	1,274	5.22 tons DM	_____	_____	tons DM
Corn grain	40	263	139 bushels	_____	_____	bushels
Oats	5	128	48 bushels	_____	_____	bushels
Wheat	27	142	59 bushels	_____	_____	bushels
Other crops	27	142		_____		
Tillable pasture	13	144		_____		
Idle	24	76		_____		
Total Tillable Acres	82	1,499		_____		

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 604, corn silage 584, corn grain 128, oats 8, tillable pasture 23, and idle 22.

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

80 Western New York Region Dairy Farms, 2013

Item	Average*	My Farm
Total tillable acres per cow	1.87	_____
Total forage acres per cow	1.56	_____
Harvested forage dry matter, tons per cow	8.15	_____

\*Excludes farms that do not harvest forages.

**Cropping Analysis** (continued)

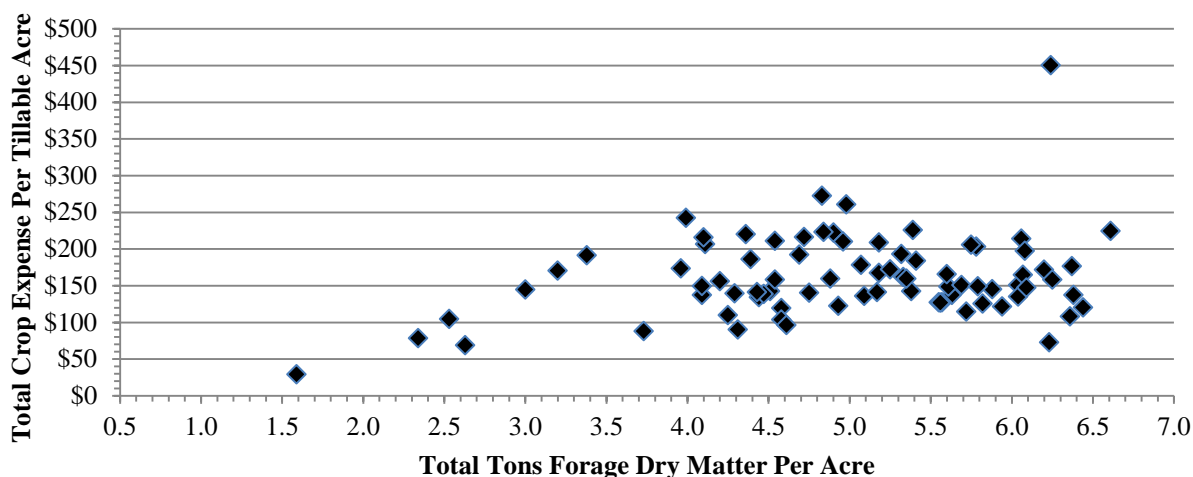
Crop input costs per tillable acre are reported in the table below. The chart below shows the relationship between total forage dry matter and total crop input costs. Rotational grazing was used on 8 farms in the region.

**CROP RELATED ACCRUAL EXPENSES**  
Western New York Region Dairy Farms Reporting, 2013\*

Item	Average 80 Farms		My Farm	
	Total Per Tillable Acre		Total Per Tillable Acre	
Number of farms reporting	80		_____	
Average number of acres	1,274		_____	
Fertilizer & lime expenses	\$	72.99	\$	_____
Seeds & plants		61.84		_____
Spray & other crop expenses		<u>26.42</u>		_____
Total	\$	161.25	\$	_____

\* Excludes farms that do not harvest forages.

**CROP EXPENSES PER ACRE AND TOTAL FORAGE PRODUCTION PER ACRE**  
80 Western New York Region Dairy Farms, 2013



\* 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**  
80 Western New York Region Dairy Farms, 2013\*

Machinery Expense	Average		My Farm	
	Total Expenses	Per Tillable Acre	Total Expenses	Per Tillable Acre
Fuel, oil & grease	\$ 168,658	\$ 110.51	\$ _____	\$ _____
Mach. repair & vehicle expense	202,464	132.65	_____	_____
Machine hire, rent & lease	83,570	54.76	_____	_____
Interest (5%)	72,126	47.26	_____	_____
Depreciation	<u>191,844</u>	<u>125.70</u>	_____	_____
Total	\$718,661	\$470.88	\$ _____	\$ _____

\*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**  
82 Western New York Region Dairy Farms, 2013

Item	Dairy Cows		Bred		Heifer Open		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	772	\$1,090,934	252	\$ 344,219	226	\$ 199,158	205	\$ 101,420
+ Change w/o apprec.		43,517		18,616		7,318		6,784
+ Appreciation		<u>14,282</u>		<u>5,089</u>		<u>1,129</u>		<u>546</u>
End year (owned)	803	\$1,148,733	265	\$ 367,924	234	\$ 207,604	217	\$ 108,750
End including leased	810							
Average number	803		700	(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**  
82 Western New York Region Dairy Farms, 2013

Item	Average	My Farm
Total milk sold, pounds	20,634,527	_____
Milk sold per cow, pounds	25,702	_____
Average milk plant test, percent butterfat	3.54%	_____

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**  
82 Western New York Region Dairy Farms, 2013

Item	Average		My Farm	
	Number	Percent*	Number	Percent*
Cows sold for beef	247	30.8	_____	_____
Cows sold for dairy	11	1.4	_____	_____
Cows died	46	5.8	_____	_____
Culling rate**		37.0		_____

\*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**

82 Western New York Region Dairy Farms, 2013

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Cost of Producing Milk</u>						
Operating costs	\$3,386,400	\$4,218	\$16.41	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$3,692,684	\$4,599	\$17.90	\$ _____	\$ _____	\$ _____
Total Costs	\$4,146,735	\$5,165	\$20.10	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts</u>						
<u>From Milk</u>	\$4,457,565	\$5,552	\$21.60	\$ _____	\$ _____	\$ _____
Net Milk Receipts	\$4,291,097	\$5,345	\$20.80	\$ _____	\$ _____	\$ _____
Net Farm Income without Apprec.	\$764,881	\$953	\$3.71	\$ _____	\$ _____	\$ _____
Net Farm Income with Appreciation	\$967,831	\$1,205	\$4.69	\$ _____	\$ _____	\$ _____

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

**DAIRY RELATED ACCRUAL EXPENSES**

82 Western New York Region Dairy Farms, 2013

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 1,811	\$ 7.04	\$ _____	\$ _____
Purchased dairy roughage	143	0.56	_____	_____
Total Purchased Dairy Feed	\$ 1,954	\$ 7.60	\$ _____	\$ _____
Purchased grain & concentrate as % of milk receipts		33%	_____ %	_____ %
Purchased feed & crop expense	\$ 2,273	\$ 8.84	\$ _____	\$ _____
Purchased feed & crop expense as % of milk receipts		42%	_____ %	_____ %
Breeding	\$ 55	\$ 0.21	\$ _____	\$ _____
Veterinary & medicine	187	0.73	_____	_____
Milk marketing	207	0.81	_____	_____
Bedding	112	0.43	_____	_____
Milking supplies	101	0.39	_____	_____
Cattle lease	7	0.03	_____	_____
Custom boarding	97	0.38	_____	_____
bST expense	33	0.13	_____	_____
Livestock professional fees	19	0.08	_____	_____
Other livestock expense	18	0.07	_____	_____

**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**  
82 Western New York Region Dairy Farms, 2013

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$507,041	\$11,002	\$5,894	\$10,743
Real estate		4,500		4,394
Machinery & equipment	81,576	1,770	948	

Ratios

Asset turnover	Operating Expense	Interest Expense	Depreciation Expense
0.60	0.77	0.02	0.06

My Farm

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

Ratios

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

**LABOR FORCE INVENTORY**  
82 Western New York Region Dairy Farms, 2013

Labor Force	Months	Age	Years of Education	Value of Labor & Management
Operator number 1	12.6	55	14	\$67,469
Operator number 2	8.4	47	14	45,201
Operator number 3	4.4	47	15	23,683
Operator number 4	2.6	21	14	12,405
Family paid	2.7			
Family unpaid	1.0			
Hired	<u>177.8</u>			
Total	209.1	/ 12 = 17.42	Worker Equivalent	
		2.12	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

82 Western New York Region Dairy Farms, 2013

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	803	46	_____	_____
Milk sold, pounds	20,634,527	1,184,304	_____	_____
Tillable acres	1,499	86	_____	_____

### LABOR AND MACHINERY COSTS

82 Western New York Region Dairy Farms, 2013

Labor Costs	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Value of operator(s) labor (\$2,600/month)	\$ 72,644	\$ 90	\$ 0.35	\$ _____	\$ _____	\$ _____
Family unpaid (\$2,600/month)	1,742	2	0.01	_____	_____	_____
Hired	<u>609,960</u>	<u>760</u>	<u>2.96</u>	_____	_____	_____
Total Labor	\$ 684,346	\$ 852	\$ 3.32	\$ _____	\$ _____	\$ _____
Machinery Cost	\$ 705,342	\$ 879	\$ 3.42	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$ 1,389,688	\$ 1,731	\$ 6.73	\$ _____	\$ _____	\$ _____
Hired labor expense per hired worker equivalent			\$ 40,558	\$ _____		
Hired labor expense as % of milk sales			13.7%	_____%		

## 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 78 Western New York Region Dairy Farms, 2012 & 2013

Selected Factors	Average of 78 Farms*		My Farm		Goal
	2012	2013	2012	2013	
<u>Size of Business</u>					
Average number of cows	778	813	_____	_____	_____
Average number of heifers	677	711	_____	_____	_____
Milk sold, pounds	19,972,110	20,964,399	_____	_____	_____
Worker equivalent	17.17	17.65	_____	_____	_____
Total tillable acres	1,493	1,519	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, pounds	25,679	25,774	_____	_____	_____
Hay DM per acre, tons	3.1	3.9	_____	_____	_____
Corn silage per acre, tons	16.9	19.3	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	45	46	_____	_____	_____
Milk sold/worker, pounds	1,163,198	1,187,785	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	33%	32%	_____ %	_____ %	_____ %
Dairy feed & crop expense per cwt. milk	\$ 8.27	\$ 8.84	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,710	\$ 1,740	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 15.58	\$ 16.40	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$10,522	\$11,008	\$ _____	\$ _____	\$ _____
Mach. & equipment per cow	\$ 1,678	\$ 1,781	\$ _____	\$ _____	\$ _____
Asset turnover ratio	0.59	0.61	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$536,788	\$ 782,703	\$ _____	\$ _____	\$ _____
Net farm income w/apprec.	\$760,079	\$1,002,353	\$ _____	\$ _____	\$ _____
Labor & mgmt. income per operator/manager	\$120,519	\$ 222,948	\$ _____	\$ _____	\$ _____
Rate of return on equity capital w/appreciation	10.9	13.8	_____ %	_____ %	_____ %
Rate of return on all capital w/appreciation	8.7	10.6	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$5,906,633	\$6,411,882	\$ _____	\$ _____	\$ _____
Debt to asset ratio	0.31	0.31	_____	_____	_____
Farm debt per cow	\$3,347	\$3,553	\$ _____	\$ _____	\$ _____

\*Farms participating both years.

\*\*Average for the year.



**RECEIPTS AND EXPENSES PER COW AND PER CWT.**  
Same 78 Western New York Region Dairy Farms, 2012 & 2013

Item	2012		2013	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	778		813	
Cwt. of Milk Sold		199,721		209,644
<b><u>ACCRUAL OPERATING RECEIPTS</u></b>				
Milk	\$5,054	\$19.68	\$5,574	\$21.63
Dairy cattle	421	1.64	430	1.67
Dairy calves	51	0.20	44	0.17
Other livestock	15	0.06	5	0.02
Crops	175	0.68	158	0.61
Miscellaneous receipts	<u>208</u>	<u>0.81</u>	<u>193</u>	<u>0.75</u>
Total Receipts	\$5,924	\$23.07	\$6,405	\$24.85
<b><u>ACCRUAL OPERATING EXPENSES</u></b>				
Hired labor	\$ 755	\$ 2.94	\$ 763	\$ 2.96
Dairy grain & concentrate	1,683	6.56	1,811	7.03
Dairy roughage	131	0.51	147	0.57
Nondairy feed	1	0.00	0	0.00
Professional nutritional services	1	0.00	2	0.01
Machine hire, rent & lease	104	0.41	102	0.40
Machinery repair & vehicle expense	238	0.93	250	0.97
Fuel, oil & grease	209	0.81	207	0.80
Replacement livestock	10	0.04	18	0.07
Breeding	55	0.22	54	0.21
Veterinary & medicine	180	0.70	185	0.72
Milk marketing	209	0.81	209	0.81
Bedding	107	0.42	112	0.43
Milking supplies	93	0.36	100	0.39
Cattle lease	9	0.03	7	0.03
Custom boarding	92	0.36	99	0.38
bST expense	38	0.15	34	0.13
Livestock professional fees	16	0.06	20	0.08
Other livestock expense	17	0.07	17	0.07
Fertilizer & lime	132	0.51	134	0.52
Seeds & plants	111	0.43	128	0.49
Spray & other crop expense	61	0.24	52	0.20
Crop professional fees	6	0.02	9	0.03
Land, building & fence repair	102	0.40	102	0.40
Taxes	61	0.24	65	0.25
Real estate rent & lease	74	0.29	79	0.31
Insurance	43	0.17	42	0.16
Utilities	94	0.37	98	0.38
Interest paid	115	0.45	121	0.47
Other professional fees	34	0.13	31	0.12
Miscellaneous	<u>34</u>	<u>0.13</u>	<u>31</u>	<u>0.12</u>
Total Operating Expenses	\$4,815	\$18.75	\$5,029	\$19.51
Expansion Livestock	56	0.22	28	0.11
Extraordinary Expense	0	0.00	1	0.01
Machinery Depreciation	226	0.88	237	0.92
Real Estate Depreciation	<u>137</u>	<u>0.53</u>	<u>148</u>	<u>0.57</u>
Total Expenses	\$5,234	\$20.38	\$5,443	\$21.12
Net Farm Income Without Appreciation	\$ 690	\$ 2.96	\$ 962	\$ 3.73

### 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**

82 Western New York Region Dairy Farms, 2013

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)
36.33	1,705	46,033,993	28,269	5.2	23	59	1,475,842
22.52	1,037	26,744,432	26,573	4.4	21	50	1,224,382
16.36	760	19,058,049	25,427	3.7	19	45	1,126,905
9.40	437	10,106,723	23,736	3.1	17	41	1,004,489
3.86	139	2,990,198	18,904	1.9	10	31	675,398

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)	
\$1,212	25%	\$581	\$1,287	\$1,657	\$7.36	
1,603	30	758	1,614	2,039	8.40	
1,765	33	904	1,795	2,217	9.01	
1,907	35	1,036	1,957	2,393	9.48	
2,158	40	1,275	2,261	2,662	10.81	

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Producing Milk Per Cwt.	Net Farm Income with 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)
\$6,141	\$14.21	\$18.29	\$2,733,096	\$2,166,080	\$741,751	\$1,819,988
5,713	15.37	19.75	1,194,788	987,446	318,624	649,368
5,461	16.59	20.67	671,326	506,442	124,778	283,279
5,083	17.77	21.84	292,368	209,363	32,194	60,259
4,172	19.67	24.93	47,327	35,386	-81,619	-380,468

\*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** 38 New York Dairy Farms, 2013

<u>Animals Entering Herd</u>	Average
Number calving in 2013 for first time	305
Animals purchased, % <sup>1</sup>	0.5%
Animals raised by farm, % <sup>2</sup>	99.5%
 <u>Current Heifer Inventory</u>	
Raised on dairy, %	86.0%
Raised by a custom grower, %	14.0%

<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, 305 animals calved for the first time in 2013. The breakdown on the source of these animals was 0.5 percent purchased and 99.5 percent raised on the farm. Of the current heifer inventory, 86.0 percent were raised on the dairy and 14.0 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, 64 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**  
64 Western New York Region Dairy Farms, 2013

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
<b>BASE FARM PRICE</b>					
Butterfat	858,308	3.77%	\$1.66	\$1,423,570	\$ 6.25
Protein	702,150	3.08%	\$3.29	\$2,312,277	\$10.15
Solids	1,314,550	5.77%	\$0.40	\$526,768	\$ 2.31
<b>Total Component Contribution</b>					<b>\$18.72</b>
<b>PPD</b>	22,769,855			\$305,814	<b>\$1.34</b>
<b>Base Farm Price</b>					<b>\$20.06</b>
<b>Premiums</b>					
Quality				\$70,769	\$0.31
Volume				\$56,314	\$0.25
Market Premiums				\$143,428	\$0.63
<b>Total Premiums</b>					<b>\$1.19</b>
<b>BASE FARM PRICE + PREMIUM</b>					<b>\$21.25</b>
<hr style="border-top: 1px dashed black;"/>					
<b>Deductions</b>					
Promotion				\$34,103	\$0.15
Hauling + Stop Charges.				\$138,181	\$0.61
Market Fees & Coop Dues				\$12,541	\$0.06
<b>Total Deductions</b>					<b>\$0.81</b>
<b>BASE FARM PRICE + PREMIUMS - DEDUCTIONS</b>					<b>\$20.44</b>
<b>Marketing Programs</b>					
Futures Contracts, Forward Contracting, Etc.				-\$3,250	-\$0.01
<b>Total Marketing Income</b>					<b>-\$0.01</b>
<b>Patronage Dividends</b>				\$84,104	<b>\$0.37</b>
<b>NET PRICE RECEIVED ON FARM, ALL SOURCES</b>					<b>\$20.79</b>
<b>PPD - Hauling, \$ per cwt.</b>					\$0.74
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>					\$1.37
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>					\$1.72

**MILK PRICE INFORMATION BY QUINTILE\***

(Each Category Sorted Independently)

64 Western New York Region Dairy Farms, 2013

	Lowest Quintile	←—————→			Highest Quintile
Butterfat, %	3.62	3.73	3.79	3.84	4.11
Protein, %	2.96	3.03	3.08	3.13	3.25
Other Solids, %	5.68	5.73	5.75	5.77	5.86
Butterfat, \$ per Cwt.	5.57	6.21	6.31	6.40	6.79
Protein, \$ per Cwt.	9.03	10.00	10.17	10.32	10.70
Other solids, \$ per Cwt.	2.09	2.31	2.32	2.33	2.38
<b>Total Component Value per Cwt.</b>	<b>\$16.89</b>	<b>\$18.57</b>	<b>\$18.71</b>	<b>\$18.99</b>	<b>\$19.74</b>
PPD, \$ per Cwt.	1.11	1.22	1.30	1.43	1.51
<b>Base Farm Price per Cwt.</b>	<b>\$18.07</b>	<b>\$19.86</b>	<b>\$20.08</b>	<b>\$20.33</b>	<b>\$21.10</b>
Quality, \$ per Cwt.	0.09	0.21	0.29	0.40	0.57
Volume, \$ per Cwt.	0.00	0.04	0.21	0.30	0.58
Market premium, \$ per Cwt.	-0.03	0.10	0.46	0.89	1.20
Total Premium, \$ per Cwt.	<b>0.40</b>	<b>0.79</b>	<b>1.04</b>	<b>1.32</b>	<b>1.70</b>
<b>Base Farm Price + Premiums per Cwt.</b>	<b>\$18.71</b>	<b>\$20.75</b>	<b>\$21.14</b>	<b>\$21.60</b>	<b>\$22.46</b>
Promotion, \$ per Cwt.	0.15	0.15	0.15	0.15	0.15
Hauling, \$ per Cwt.	0.31	0.47	0.58	0.72	0.97
Market fees & coop dues per Cwt.	0.00	0.02	0.04	0.08	0.13
<b>Total Marketing Expenses per Cwt.</b>	<b>\$0.47</b>	<b>\$0.67</b>	<b>\$0.80</b>	<b>\$0.95</b>	<b>\$1.17</b>
<b>Base + Premiums – Deductions per Cwt.</b>	<b>\$18.00</b>	<b>\$20.02</b>	<b>\$20.30</b>	<b>\$20.75</b>	<b>\$21.53</b>
Futures contract, forward contracting, \$ per Cwt.	-0.06	0.00	0.00	0.00	0.02
<b>Total Marketing Income, \$ per Cwt.</b>	<b>-\$0.06</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.02</b>
<b>Patronage Dividends, \$ per Cwt.</b>	<b>-\$0.01</b>	<b>\$0.00</b>	<b>\$0.01</b>	<b>\$0.77</b>	<b>\$1.27</b>
<b>Net Price Received From All Sources, \$ per Cwt.</b>	<b>\$19.89</b>	<b>\$20.39</b>	<b>\$20.83</b>	<b>\$21.15</b>	<b>\$21.90</b>
<b>PPD - Hauling, \$ per cwt.</b>	<b>0.41</b>	<b>0.60</b>	<b>0.71</b>	<b>0.79</b>	<b>1.04</b>
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>	<b>0.57</b>	<b>0.88</b>	<b>1.16</b>	<b>1.58</b>	<b>1.95</b>
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>	<b>0.81</b>	<b>1.35</b>	<b>1.58</b>	<b>1.83</b>	<b>2.18</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 169 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

169 New York Dairy Farms, 2012

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)
38.8	1,892	49,665,166	28,592	5.0	24	63	1,531,309
24.7	1,127	30,054,041	27,243	3.7	20	52	1,318,166
19.8	897	23,485,084	26,437	3.4	19	49	1,204,845
16.4	708	18,126,241	25,705	3.1	18	46	1,143,274
13.3	573	13,534,712	24,938	2.9	17	44	1,081,089
9.4	412	10,081,569	24,243	2.6	16	42	992,845
6.5	269	6,058,011	23,270	2.3	15	38	879,393
4.0	149	3,101,862	21,688	2.0	14	34	750,865
2.8	92	1,729,237	18,750	1.7	12	31	606,893
1.8	49	905,580	13,882	0.6	0	23	417,411

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)	
\$797	23%	\$489	\$1,130	\$1,058	\$6.23	
1,150	28	624	1,404	1,559	7.27	
1,355	31	706	1,521	1,793	7.64	
1,500	32	779	1,613	1,932	8.08	
1,613	33	838	1,678	2,026	8.41	
1,692	35	908	1,754	2,120	8.73	
1,788	37	959	1,852	2,229	9.06	
1,873	38	1,035	1,942	2,339	9.52	
1,985	40	1,119	2,084	2,468	10.18	
2,245	45	1,351	2,592	2,742	11.50	

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

**FARM BUSINESS CHART FOR  
FARM MANAGEMENT COOPERATORS**

169 New York Dairy Farms, 2012

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)
\$5,759	\$21.55	\$2,125	\$12.06	\$3,385	\$16.66
5,393	20.69	2,750	13.28	4,070	17.99
5,227	20.27	3,157	14.18	4,376	18.71
5,055	20.08	3,421	14.77	4,558	19.28
4,924	19.86	3,675	15.36	4,775	19.84
-----					
4,799	19.62	3,917	15.96	4,961	20.45
4,540	19.43	4,077	16.41	5,106	21.12
4,259	19.19	4,219	16.95	5,256	21.83
3,757	18.98	4,476	17.92	5,445	23.13
2,769	18.62	4,978	20.78	5,936	30.58

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)
\$1,807,809	\$1,386	0.24	\$2,487,315	\$2,304	\$1,181,869	\$573,326
886,507	1,100	0.21	1,237,868	1,481	511,491	245,759
568,370	947	0.17	797,437	1,206	304,614	144,784
348,335	833	0.15	590,220	1,072	140,219	71,062
235,665	698	0.13	392,856	923	73,424	39,068
-----						
146,642	589	0.11	234,808	825	38,075	23,796
105,991	445	0.08	156,704	680	16,294	9,585
70,666	325	0.06	100,114	546	-7,327	-5,009
27,227	154	0.03	57,168	363	-64,605	-40,246
-74,185	-309	-0.11	-117,058	-289	-277,870	-175,959

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

169 New York Dairy Farms, 2012

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)
\$ 37	\$1,400	19.36	25.95	0%	\$ 184	62%	141.98
205	1,051	2.86	3.24	2	1,291	41	6.77
296	891	2.11	2.44	5	1,853	33	4.38
411	772	1.61	1.99	7	2,462	28	3.16
492	679	1.41	1.58	9	2,996	23	2.55
592	600	1.17	1.35	11	3,436	19	2.06
667	483	1.00	1.10	13	3,947	14	1.67
759	378	0.85	0.77	15	4,470	9	1.32
878	210	0.53	0.32	17	5,109	3	0.98
1,316	-118	-0.31	-0.57	29	6,543	-11	-0.22
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%	0.01	0.00	0.67	0.00	0.02	
0.12	90	0.10	0.00	0.71	0.01	0.04	
0.21	83	0.18	0.06	0.75	0.01	0.05	
0.28	78	0.23	0.14	0.77	0.01	0.05	
0.39	72	0.29	0.22	0.78	0.02	0.06	
0.50	67	0.33	0.33	0.81	0.02	0.06	
0.61	63	0.38	0.40	0.83	0.03	0.07	
0.80	56	0.43	0.51	0.85	0.03	0.09	
0.99	50	0.50	0.60	0.88	0.04	0.09	
1.49	42	0.64	0.77	0.99	0.07	0.14	
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)	
0.86	\$1,998	\$697	\$6,641	\$1,823,101	28%	20%	
0.74	2,911	1,047	8,039	808,038	15	12	
0.67	3,349	1,330	8,645	544,071	13	10	
0.62	3,552	1,579	9,283	296,500	11	8	
0.58	3,949	1,819	10,115	185,991	9	7	
0.55	4,302	1,956	10,810	113,516	7	6	
0.51	4,864	2,112	11,361	62,170	5	4	
0.45	5,528	2,332	12,501	26,207	2	3	
0.40	6,519	2,688	13,593	-17,545	-1	1	
0.28	9,584	4,233	17,095	-438,730	-14	-6	

\*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 43 cows on the small conventional farms to 1,037 cows on the largest freestall farms.

The largest freestall farms averaged the highest milk output per cow and per worker, the lowest total cost of production and investment per cow as well as 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 2012 State Summary\*. In most years, as herd size increases, the net farm income increases (page 48)\*; and that was the case for 2012. Net farm income without appreciation averaged \$26,548 per farm for the less than 60 cow farms and \$1,006,695 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 2012. The largest herd size category experienced an increase in net worth of \$900,599. However, percent equity varied as herd size increased. The 200 to 399, 600 to 899, and more than 900 herd size categories had the lowest percent equity at 68 percent; while the less than 60 herd size category averaged the highest percent equity at 83 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 26,310 pounds of milk sold per cow, farms in the largest herd size group averaged 16.6 percent more milk output per cow than the average of all herds in the summary with less than 900 cows. Farm capital per cow generally decreased as herd size increased. Milk sold per worker increased dramatically as herd size increased. The farms with 100 cows or more averaged over 1,155,068 pounds of milk sold per worker while the farms with less than 100 cows averaged less than 544,000 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, 2012, Charles H. Dyson School of Applied Economics and Management, Cornell University, R.B. 2013-01, December 2013.

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

169 New York Dairy Farms, 2012

Item	Farms with:	Tiestall/Stanchion		Freestall		
		<= 60 Cows	>60 Cows	<=200 Cows	201-500 Cows	≥500 Cows
Number of farms		11	10	31	26	81
<u>Cropping Program Analysis</u>						
Total Tillable acres		174	242	334	722	1,962
Tillable acres rented*		68	113	164	357	909
Hay crop acres*		117	154	197	352	840
Corn silage acres*		21	47	96	260	855
Hay crop, tons DM/acre		1.9	2.2	2.4	2.7	3.1
Corn silage, tons/acre		13.8	17.7	16.7	16.8	16.9
Oats, bushels/acre		0	0	93	62	42
Forage DM per cow, tons		7.4	7.6	8.5	7.4	7.7
Tillable acres/cow		4.1	2.89	2.8	2.1	1.9
Fertilizer & lime expense/tillable acre		\$34.76	\$35.23	\$56.88	\$66.89	\$74.97
Total machinery costs		\$42,279	\$70,079	\$115,352	\$338,321	\$887,623
Machinery cost/tillable acre		\$243	\$290	\$324	\$454	\$442
<u>Dairy Analysis</u>						
Number of cows		43	84	125	359	1,037
Number of heifers		36	72	103	294	894
Milk sold, lbs.		772,658	1,529,326	2,665,505	8,975,562	26,950,796
Milk sold/cow, lbs.		18,082	18,272	21,314	25,028	25,999
Operating cost of producing milk/cwt.		\$14.28	\$16.38	\$15.34	\$15.72	\$15.69
Total cost of producing milk/cwt.		\$25.76	\$23.33	\$21.43	\$19.77	\$19.09
Price/cwt. milk sold		\$19.64	\$19.76	\$19.89	\$19.74	\$19.75
Purchased dairy feed/cow		\$1,205	\$1,344	\$1,566	\$1,870	\$1,883
Purchased dairy feed/cwt. milk		\$6.66	\$7.36	\$7.35	\$7.47	\$7.24
Purchased grain & concentrate as % of milk receipts		32%	34%	34%	34%	35%
Purchased feed & crop expense/cwt milk		\$8.00	\$8.43	\$8.82	\$8.68	\$8.46
<u>Capital Efficiency</u>						
Farm capital/worker		\$349,437	\$337,519	\$382,523	\$415,462	\$472,171
Farm capital/cow		\$15,292	\$10,525	\$10,920	\$10,067	\$10,240
Farm capital/tillable acre owned		\$6,186	\$6,850	\$8,022	\$9,875	\$10,078
Real estate/cow		\$8,113	\$4,585	\$4,769	\$4,121	\$4,173
Machinery investment/cow		\$3,331	\$2,274	\$2,091	\$1,903	\$1,646
Asset turnover ratio		0.31	0.44	0.47	0.61	0.61
<u>Labor Efficiency</u>						
Worker equivalent		1.87	2.61	3.57	8.69	22.47
Operator/manager equivalent		1.11	1.11	1.63	1.89	2.45
Milk sold/worker, lbs.		413,554	585,762	747,687	1,033,158	1,199,234
Cows/worker		23	32	35	41	46
Labor cost/cow		\$1,293	\$973	\$904	\$840	\$802
Labor cost/tillable acre		\$317	\$336	\$338	\$417	\$424
<u>Profitability &amp; Balance Sheet Analysis</u>						
Net farm income (without appreciation)		\$25,701	\$31,230	\$81,426	\$214,791	\$713,932
Labor & management income/operator		-\$10,666	-\$11,853	\$12,581	\$45,823	\$143,693
Rate return on all capital with appreciation		-0.6%	3.5%	3.2%	7.8%	9.21%
Farm debt/cow		\$2,858	\$2,178	\$1,415	\$3,375	\$3,355
Percent equity		81%	81%	73%	68%	68%

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

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

11 Tiestall/Stanchion Dairy Farms with 60 or Less Cows, New York, 2012

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv- alent (14)*	No. of Cows (12)	Pounds Milk Sold (12)	Pounds Milk Sold Per Cow (12)	Tons Hay Crop DM/Acre (11)	Tons Corn Silage Per Acre (11)	Cows Per Worker (14)	Pounds Milk Sold Per Worker (14)
2.44	51	1,099,397	24,144	2.4	19	32	617,082
2.22	48	1,004,574	21,149	2.0	15	29	504,290
1.91	46	905,298	19,145	1.8	15	24	457,492
1.63	43	707,410	16,007	1.7	11	20	392,546
1.39	33	355,292	10,373	1.5	2	18	205,593

Cost Control						
Grain Bought Per Cow (12)	% Grain is of Milk Receipts (12)	Machinery Costs Per Cow (14)	Labor & Machinery Costs Per Cow (14)	Feed & Crop Expenses Per Cow (12)	Feed & Crop Expenses Per Cwt. Milk (12)	
\$486	21%	\$557	\$1,495	\$726	\$5.80	
1,088	29	698	2,333	1,279	7.25	
1,164	33	1,125	2,438	1,452	8.08	
1,362	36	1,326	2,720	1,722	8.83	
1,816	49	1,507	3,017	2,094	10.78	

Value and Cost of Production			Profitability			
Milk Receipts Per Cow (12)	Operating Cost Producing Milk Per Cwt. (12)	Total Cost Production Per Cwt. (12)	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator (4)	Change in Net Worth w/Appreciation (8)
			Total (4)	Per Cow (12)		
\$1,928	\$11.53	\$20.87	\$66,660	\$1,325	\$28,505	\$54,159
3,171	13.65	23.13	51,276	1,077	9,862	41,314
3,759	14.71	25.73	35,876	787	4,972	3,580
4,194	16.32	33.65	12,848	310	-16,891	-7,691
4,804	19.28	45.33	-16,869	-441	-63,225	-22,395

\*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, 2012

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)
3.60	115	2,118,482	22,760	3.2	20	48	907,797
3.25	94	1,703,704	19,869	2.8	18	37	662,395
2.75	77	1,409,589	18,711	2.5	16	35	591,694
2.03	70	1,297,735	17,449	1.8	15	27	522,236
1.44	64	1,117,122	13,815	1.2	0	25	438,954

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)	
\$893	24%	\$490	\$1,311	\$1,105	\$5.78	
1,050	28	629	1,509	1,286	7.29	
1,130	35	881	1,735	1,383	8.34	
1,402	39	926	1,985	1,913	10.19	
1,685	45	1,154	2,346	2,249	11.63	

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)
\$2,812	\$11.85	\$18.99	\$92,631	\$1,161	\$42,362	\$241,259
3,471	13.80	20.52	72,361	874	23,395	70,699
3,648	15.49	21.84	49,277	661	7,785	44,158
3,794	16.11	24.00	33,562	476	630	10,392
4,535	25.27	32.72	-91,678	-803	-141,907	-114,271

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

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

31 Freestall Barn Dairy Farms with 200 Cows or less, New York, 2012

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)
6.70	197	4,579,557	26,576	5.0	23	55	1,109,123
5.08	184	4,078,702	24,483	3.4	20	48	1,030,125
4.33	164	3,591,053	23,541	2.9	20	42	939,403
3.72	144	3,025,756	23,035	2.7	18	38	843,602
3.47	123	2,824,879	22,119	2.3	17	37	726,613
-----							
3.12	115	2,400,226	21,152	2.1	16	34	686,522
2.82	106	2,134,466	20,115	1.9	15	33	659,247
2.72	97	1,816,223	18,325	1.7	13	31	633,156
2.50	82	1,513,547	17,460	1.4	8	29	583,881
1.80	60	1,184,361	15,949	0.3	0	23	482,718

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)	
\$809	23%	\$548	\$1,265	\$1,032	\$6.16	
1,077	29	657	1,498	1,504	7.17	
1,202	31	686	1,549	1,673	7.74	
1,398	32	768	1,630	1,889	8.35	
1,461	33	807	1,729	1,960	8.67	
-----						
1,601	35	861	1,806	1,993	9.37	
1,679	37	945	1,890	2,050	9.74	
1,773	40	1,016	1,979	2,201	10.03	
1,815	42	1,191	2,246	2,345	10.65	
1,994	46	1,481	2,800	2,495	12.57	

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
			Total	Per Cow		
(12)	(12)	(12)	(4)	(12)	(4)	(8)
\$5,357	\$12.62	\$18.65	\$154,167	\$1,119	\$66,076	\$172,727
4,947	13.34	19.54	131,616	990	44,769	127,157
4,691	13.62	20.12	118,231	939	34,460	102,706
4,504	14.05	20.51	110,788	894	27,002	85,266
4,365	14.79	21.16	104,002	803	16,473	61,640
-----						
4,138	15.29	21.68	91,937	739	8,921	47,813
3,977	15.91	22.18	78,203	649	6,850	32,438
3,836	16.32	23.30	58,821	509	1,561	19,590
3,527	17.21	24.95	28,003	350	-18,889	11,057
3,134	21.62	28.54	-25,774	-189	-58,275	-51,177

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

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

26 Freestall Barn Dairy Farms with 201-500 Cows, New York, 2012

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)
13.87	495	12,329,374	27,998	3.9	24	64	1,564,831
12.67	442	11,692,326	27,415	3.6	23	54	1,343,334
11.13	420	10,805,436	26,872	3.5	21	50	1,271,722
9.33	410	10,623,697	26,355	3.4	20	49	1,205,301
8.82	404	10,150,046	25,840	3.3	18	48	1,151,950
8.38	371	9,093,718	25,142	2.9	17	44	1,073,088
7.57	351	8,237,865	24,170	2.3	15	38	990,903
6.88	308	7,704,426	23,833	2.1	14	36	891,931
6.35	280	7,102,700	23,093	1.9	13	34	841,429
5.96	217	5,198,893	22,064	0.3	0	28	703,463

## 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)
\$1,200	25%	\$576	\$1,227	\$1,692	\$7.14
1,364	30	747	1,456	1,869	7.60
1,507	31	796	1,688	2,000	7.98
1,591	32	891	1,761	2,076	8.29
1,700	36	950	1,852	2,101	8.62
1,821	37	1,004	1,912	2,242	8.81
1,932	38	1,067	1,954	2,452	9.09
1,975	39	1,208	1,996	2,526	9.94
2,009	41	1,274	2,162	2,588	10.59
2,193	42	1,336	2,430	2,822	11.28

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
			Total	Per Cow		
(12)	(12)	(12)	(4)	(12)	(4)	(8)
\$5,827	\$12.18	\$16.00	\$502,282	\$1,269	\$164,772	\$834,122
5,344	13.36	18.10	338,708	1,081	143,113	364,795
5,230	14.68	19.02	332,086	819	121,566	258,951
5,164	15.34	19.80	280,427	765	113,937	202,812
5,087	15.76	20.15	223,631	684	63,799	192,750
4,931	16.02	20.54	197,836	593	38,795	150,331
4,826	16.25	20.99	171,928	494	27,748	93,715
4,735	17.25	21.40	151,725	407	14,344	57,635
4,429	18.10	21.90	128,846	366	-1,853	11,178
4,268	19.55	22.50	18,555	98	-89,664	-93,314

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

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

81 Freestall Barn Dairy Farms with 500 or More Cows, New York, 2012

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)
46.40	2,263	60,289,397	29,309	5.4	25	60	1,606,174
31.21	1,521	39,040,936	27,637	4.1	20	53	1,389,915
26.24	1,207	32,748,186	27,084	3.7	19	50	1,321,936
23.52	1,065	27,961,562	26,680	3.4	18	48	1,231,299
20.99	945	24,798,633	26,164	3.1	17	46	1,193,752
19.11	861	22,556,058	25,633	3.0	16	45	1,160,915
17.74	750	19,733,257	25,086	2.8	16	44	1,115,817
15.88	683	17,075,435	24,702	2.5	15	42	1,065,573
13.90	599	14,511,626	23,987	2.2	14	40	985,725
11.18	535	12,588,196	21,906	1.5	10	34	841,681

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)	
\$1,243	25%	\$554	\$1,212	\$1,667	\$6.67	
1,460	29	684	1,447	1,841	7.45	
1,585	32	751	1,546	1,971	7.68	
1,650	33	809	1,611	2,079	8.05	
1,737	34	859	1,649	2,159	8.35	
1,803	35	913	1,698	2,231	8.73	
1,866	37	957	1,759	2,306	8.98	
1,921	38	1,013	1,842	2,382	9.27	
2,049	39	1,073	1,934	2,516	9.63	
2,358	44	1,135	2,060	2,808	10.48	

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)
\$5,842	\$12.36	\$16.46	\$2,266,759	\$1,477	\$672,724	\$2,399,931
5,583	13.96	17.49	1,326,685	1,165	387,869	1,227,999
5,361	14.55	18.16	971,270	1,006	275,376	872,461
5,269	15.04	18.56	760,450	863	207,134	706,318
5,136	15.71	18.97	620,419	696	154,087	569,879
5,039	16.28	19.52	502,288	587	91,455	452,986
4,955	16.65	19.82	369,849	455	40,376	292,602
4,832	16.95	20.53	295,128	327	13,314	205,847
4,676	17.41	21.22	159,783	203	-37,044	55,840
4,331	19.26	22.73	-39,172	-28	-182,782	-711,388

\*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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**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.

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**OTHER A.E.M. EXTENSION BULLETINS**

<b>EB No</b>	<b>Title</b>	<b>Fee (if applicable)</b>	<b>Author(s)</b>
2014-05	Dairy Farm Business Summary, New York Large Herd Farms, 300 Cows or Larger, 2013	(\$16.00)	Karszes, J., Knoblauch, W. and C. Dymond
2014-04	Agriculture-Based Economic Development in New York State: The Contribution of Agriculture to the New York Economy		Schmit, T.
2014-03	Agriculture-Based Economic Development in New York State: Assessing the Inner-Industry Linkages in the Agricultural and Food System		Schmit, T. and R. Boisvert
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2013-17	New York Economic Handbook, 2014		Extension Faculty and Staff
2013-16	Dairy Farm Business Summary, Northern New York Region, 2012	(\$12.00)	Knoblauch, W., Conneman, G., Dymond, C., Karszes, J., Howland, B., Buxton, S., Kiraly, M., and K. Shoen
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