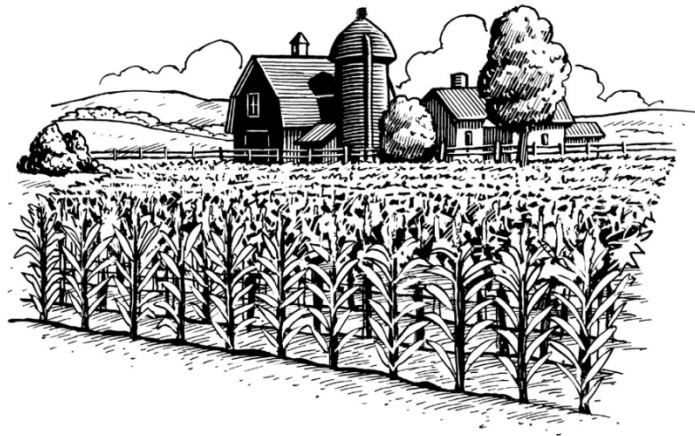


# DAIRY FARM BUSINESS SUMMARY

SEPTEMBER 2009

E.B. 2009-13

## NORTHERN HUDSON REGION 2008



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

George J. Conneman  
Linda D. Putnam  
Cathy S. Wickswat  
Sandra A. Buxton  
Richard C. Smith  
Jason Karszes

Department of Applied Economics and Management  
College of Agriculture and Life Sciences  
Cornell University, Ithaca, New York 14853-7801

It is the Policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age or handicap. The University is committed to the maintenance of affirmative action programs which will assure the continuation of such equality of opportunity.

The Dairy Farm Business Summary and Analysis Project is funded in part by:



*NY farm viability*  
**INSTITUTE**

For additional copies, please contact:

Linda Putnam  
Cornell University  
Dept of Applied Economics & Management  
305 Warren Hall  
Ithaca, NY 14853-7801

E-mail: [ldp2@cornell.edu](mailto:ldp2@cornell.edu)  
Fax: 607-255-1589  
Voice: 607-255-8429  
Or visit:  
[http://aem.cornell.edu/order/pub\\_order\\_form.pdf](http://aem.cornell.edu/order/pub_order_form.pdf)

© Copyright 2009 by Cornell University. All rights reserved.

**2008 DAIRY FARM BUSINESS SUMMARY**  
**NORTHERN HUDSON REGION**  
**Table of Contents**

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

## 2008 DAIRY FARM BUSINESS SUMMARY NORTHERN HUDSON REGION<sup>†\*</sup>

### 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 Northern Hudson Region for 2008.

#### **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 2008 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.

---

<sup>†\*</sup> The Northern Hudson Region of New York State, with the number of participating farms in parentheses, is comprised of Albany (4), Saratoga (6), Schenectady (3), Rensselaer (16), Washington (11), and Schoharie (1) counties in New York. This year three farms in Addison County, Vermont, were also included. This report was written by George J. Conneman, Professor, Farm Management. Linda Putnam was in charge of data preparation and Jessica Anderson assisted with the publication preparation. Farm business data were collected by Cooperative Extension Educators Cathy Wickswat; Sandra Buxton; and Richard Smith; and Senior Extension Associate in PRO-DAIRY, Jason Karszes.

## SUMMARY AND ANALYSIS OF THE FARM BUSINESS

### Business Characteristics

Planning optimal management strategies is a crucial component of operating a successful farm. Various combinations of farm resources, enterprises, business arrangements, and management techniques are used by the dairy farmers in this region. The following table shows important farm business characteristics and the number of farms with each characteristic.

**BUSINESS CHARACTERISTICS**  
44 Northern Hudson Region Dairy Farms, 2008

Type of Farm	Number	Milking System	Number
Dairy	43	Bucket & carry	0
Part-time dairy	0	Dumping station	0
Dairy cash-crop	1	Pipeline	9
Certified organic milk producer	0	Herringbone conventional exit	25
Rotational grazing farm	2	Herringbone rapid exit	2
		Parallel	5
		Parabone	0
		Rotary	1
		Other	2
Type of Ownership	Number	Production Records	Number
Owner	41	Testing Service	33
Renter	3	On Farm System	5
		Other	0
		None	6
Type of Business	Number	Business Record System	Number
Sole Proprietorship	17	Account Book	6
Partnership	14	Accounting Service	11
Limited Liability Corporation	10	On-farm computer	24
Subchapter S Corporation	3	Other	3
Subchapter C Corporation	0		
Type of Barn	Number	Breed of Herd	Percent
Stanchion or Tie-Stall	7	Holstein	93
Freestall	34	Jersey	3
Combination	3	Other	4
Milking Frequency	Number		
2 times per day	29		
3 times per day	10		
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, part-time 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 2008.

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**  
44 Northern Hudson Region Dairy Farms, 2008

Expense Item	Cash Paid	-	Change in Invento- ry or Prepaid Ex- pense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired Labor</u>	\$198,427		\$ -219	<<	\$ 54		\$ 198,700
<u>Feed</u>							
Dairy grain & concentrate	416,663		-17,641		10,669		444,973
Dairy roughage	24,350		40		260		24,571
Nondairy	0		0		0		0
Professional nutritional services	322		0	<<	5		326
<u>Machinery</u>							
Machinery hire, rent & lease	22,908		0	<<	2,644		25,552
Machinery repairs & farm vehicle exp.	68,506		-201		1,460		70,168
Fuel, oil & grease	69,127		-794		705		70,625
<u>Livestock</u>							
Replacement livestock	5,642		0	<<	0		5,642
Breeding	18,385		-480		790		19,654
Veterinary & medicine	47,217		-196		431		47,845
Milk marketing	82,096		615	<<	254		81,736
Bedding	25,101		-187		747		26,034
Milking supplies	28,356		262		185		28,280
Cattle lease & rent	58		0	<<	0		58
Custom boarding	26,377		0	<<	537		26,914
Livestock professional fees	3,125		-195	<<	84		3,404
Other livestock expense	31,342		447		640		31,536
<u>Crops</u>							
Fertilizer & lime	25,691		-9,775		3,664		39,130
Seeds & plants	23,217		478		834		23,572
Spray, other crop expense	16,403		560		784		16,628
Crop professional fees	2,998		-228	<<	-155		3,071
<u>Real Estate</u>							
Land, building & fence repair	22,811		-620		130		23,562
Taxes	16,361		-143	<<	70		16,574
Rent & lease	14,193		27	<<	498		14,664
<u>Other</u>							
Insurance	12,031		46	<<	25		12,010
Utilities (farm share)	32,414		-213	<<	90		32,716
Interest paid	37,687		0	<<	679		38,366
Other professional fees	3,402		-23	<<	-155		3,270
Miscellaneous	9,670		-59		64		9,793
Total Operating	<u>\$1,284,882</u>		<u>\$ -28,500</u>		<u>\$ 25,989</u>		<u>\$ 1,339,371</u>
Expansion livestock	10,921		0	<<	0		10,921
Extraordinary expense	946		0	<<	0		946
Machinery depreciation							47,353
Building depreciation							22,876
<b>TOTAL ACCRUAL EXPENSES</b>							<u>\$ 1,421,468</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 2008 but not paid for. A decrease is subtracted because it represents payment for resources used before 2008.

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**  
44 Northern Hudson Region Dairy Farms, 2008

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$ 1,387,313				\$ -31,073		\$1,356,239
Dairy cattle	71,166		\$ 20,444		-312		91,299
Dairy calves	6,015		-294		-59		5,661
Other livestock	11,203		-1,423		-68		9,712
Crops	9,712		60,197		1,741		71,650
Government receipts	15,435		0 *		-77		15,358
Custom machine work	1,816				-40		1,776
Gas tax refund	78				-45		32
Other	<u>17,778</u>				<u>-109</u>		17,669
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$ 1,520,515		\$ 78,924		\$ -30,043		\$ 1,569,396

\*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 2008 for the 2009 crop year in excess of funds earned for 2008. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2008 but received in 2007.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 2009 for milk produced in December 2008 compared to January 2008 payments for milk produced in 2007 are included as a change in accounts receivable in determining accrual milk sales.

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

### **Profitability Analysis**

Farm operators\* contribute labor, management, and equity capital to their businesses and the combination of these resources, and the other resources used in the business, determines profitability. Farm profitability can be measured as the return to all family resources or as the return to one or more individual resources such as labor and management.

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

---

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

Net farm income is the return to the farm operators and other unpaid family members for their labor, management, and equity capital. It is the farm family's net annual return from working, managing, and financing the farm business. This is not a measure of cash available from the year's business operation. Cash flow is evaluated later in this report.

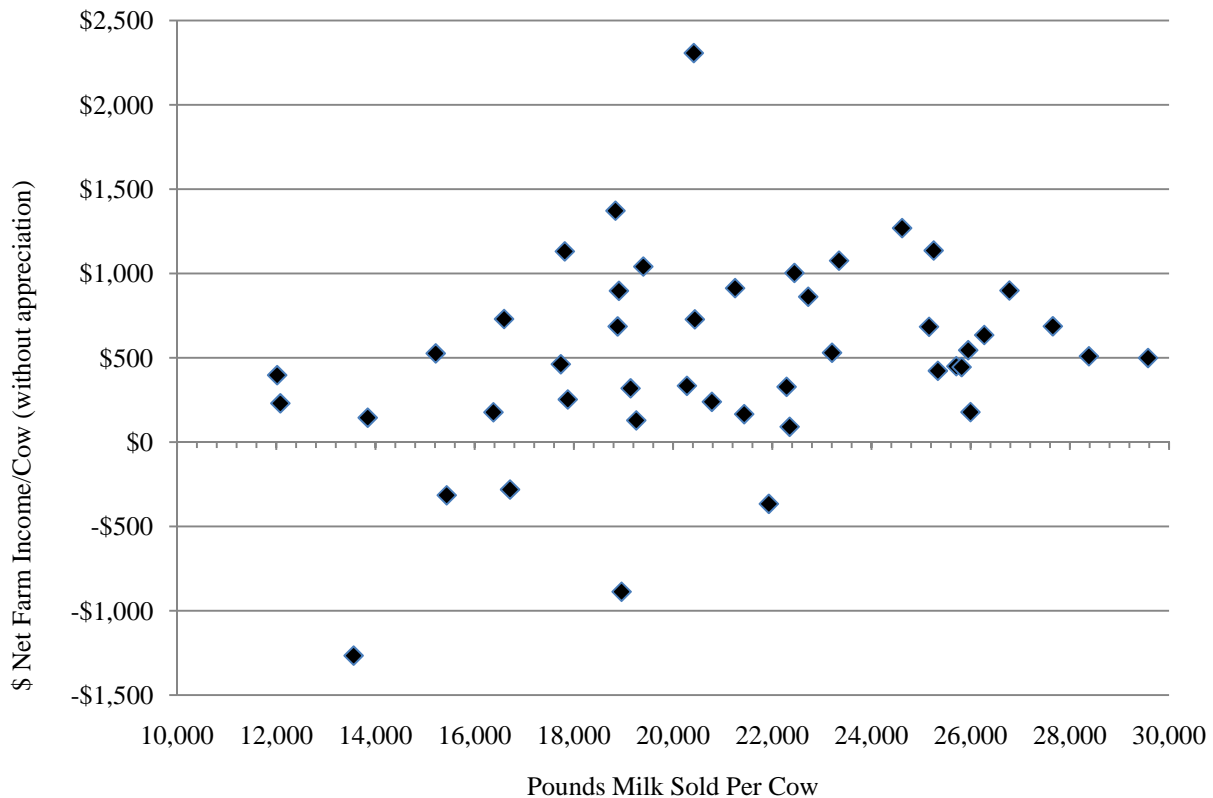
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit stock required for loan borrowings). Appreciation is a major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

**NET FARM INCOME**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$1,569,396		\$ _____	
Appreciation: Livestock	-32,876		_____	
Machinery	8,971		_____	
Real Estate	19,454		_____	
Other Stock & Certificates	<u>-422</u>		_____	
Total Including Appreciation	\$1,564,522		\$ _____	
Total accrual expenses	<u>1,421,468</u>		- _____	
Net Farm Income (with appreciation)	\$ 143,055	\$ 499	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 147,929	\$ 516	\$ _____	\$ _____

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 PERCOW**  
44 Northern Hudson Region Dairy Farms, 2008





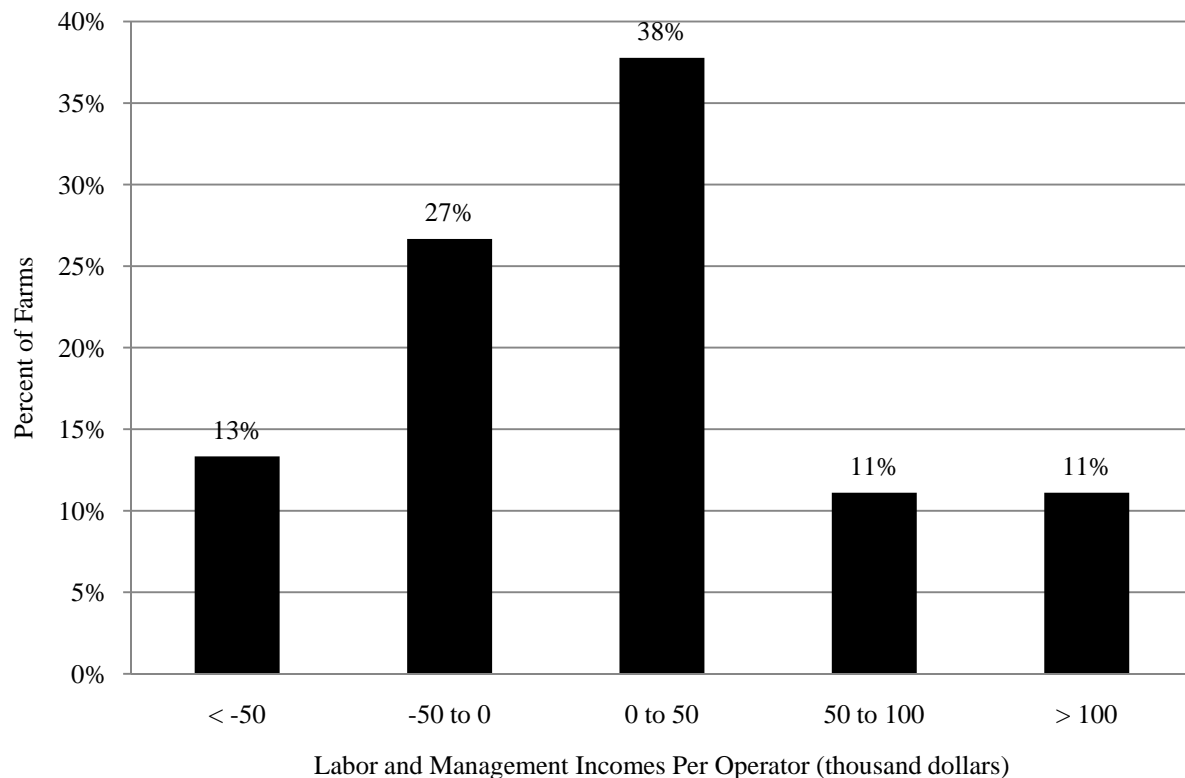
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and 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**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Average	My Farm
Net farm income without appreciation	\$ 147,929	\$ _____
Family labor unpaid @ \$2,500 per month	- 4,223	- _____
Interest on \$1,918,835 average equity capital @ 5% real rate	<u>- 95,942</u>	- _____
Labor & Management Income per farm (1.67 Operators/farm)	\$ 47,764	\$ _____
Labor & Management Income per Operator/Manager	\$ 28,601	\$ _____

Labor and management income per operator averaged \$28,601 on these 44 farms in 2008. The range in labor and management income per operator was from about \$-299,000 to more than \$288,000. Returns to labor and management were less than \$0 on 40 percent of the farms. Labor and management incomes per operator were between \$0 and \$50,000 on 38 percent of the farms, while 22 percent had labor and management incomes of \$50,000 or more per operator.

**DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR**  
44 Northern Hudson Region Dairy Farms, 2008



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**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Average	My Farm
Net farm income with appreciation	\$ 143,055	\$ _____
Family labor unpaid @ \$2,500 per month	- 4,223	- _____
Value of operators' labor & management	<u>- 61,201</u>	- _____
Return on equity capital with appreciation	\$ 77,631	\$ _____
Interest paid	<u>+ 38,366</u>	+ _____
Return on total capital with appreciation	\$ 115,997	\$ _____
Return on equity capital without appreciation	\$ 82,505	\$ _____
Return on total capital without appreciation	\$ 120,871	\$ _____
Rate of return on average equity capital:		
with appreciation	4.1%	_____ %
without appreciation	4.3%	_____ %
Rate of return on average total capital:		
with appreciation	4.3%	_____ %
without appreciation	4.4%	_____ %
Net Farm Income from Operations Ratio	0.09	_____

**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 2008, lease payments were discounted by 8.15 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 2008 that are for participation in the 2009 program are the end year balance and payments received in 2007 for participation in the 2008 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.

**2008 FARM BUSINESS & NONFARM MARKET VALUE BALANCE SHEET**

44 Northern Hudson Region Dairy Farms, 2008

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 16,069	\$ 14,667	Accounts payable	\$ 57,991	\$ 83,980
Accounts receivable	108,857	78,814	Operating debt	51,094	47,425
Prepaid expenses	2,653	2,321	Short Term	2,624	6,961
Feed & supplies	<u>253,423</u>	<u>285,452</u>	Advanced govt. receipts	0	0
			Current Portion:		
			Intermediate	65,119	72,221
			Long Term	<u>20,851</u>	<u>20,461</u>
Total Current	\$ 381,002	\$ 381,255	Total Current	\$ 197,679	\$ 231,048
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 441,173	\$ 425,001	1-10 years	\$ 314,090	\$ 326,906
leased	151	106	Financial lease		
Heifers	248,118	251,769	(cattle/machinery)	1,729	1,216
Bulls & other livestock	12,501	10,872	Farm Credit stock	<u>1,959</u>	<u>2,085</u>
Mach. & equip. owned	456,592	250,390	Total Intermediate	\$ 317,779	\$ 330,207
Mach. & equip. leased	1,578	1,109			
Farm Credit stock	1,959	2,085			
Other stock/certificate	<u>55,181</u>	<u>60,318</u>			
Total Intermediate	\$ 1,217,253	\$1,271,651			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 1,084,309	\$1,129,113	>10 years	\$ 267,900	\$ 282,301
leased	337	177	Financial lease		
Total Long Term	\$ 1,084,646	\$1,129,290	(structures)	<u>337</u>	<u>177</u>
			Total Long Term	\$ 268,237	\$ 282,478
Total Farm Assets	\$ 2,682,902	\$2,782,096	Total Farm Liabilities	\$ 783,694	\$ 843,733
			FARM NET WORTH	\$ 1,899,207	\$1,938,463

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

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	\$ 2,514	\$ 2,170	Nonfarm Liabilities	\$ 6,524	\$ 6,089
Cash value life insurance	33,704	32,367			
Nonfarm real estate	253,462	256,805			
Auto (personal share)	5,104	5,931			
Stocks & bonds	31,031	28,811			
Household furnishings	9,154	9,615			
All other nonfarm assets	<u>10,886</u>	<u>9,350</u>			
Total Nonfarm Assets	\$ 345,855	\$ 345,049	NONFARM NET WORTH	\$ 339,331	\$ 338,960

Farm & Nonfarm Assets, Liabilities, and Net Worth*	Jan. 1	Dec. 31
Total Assets	\$3,028,757	\$3,127,145
Total Liabilities	<u>790,218</u>	<u>849,822</u>
TOTAL FARM & NONFARM NET WORTH	\$2,238,539	\$2,277,323

\*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**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Average		My Farm	
<u>Financial Ratios - Farm:</u>				
Percent equity		70%	_____	%
Debt/asset ratio: total		.30	_____	
long-term		.25	_____	
intermediate/current		.34	_____	
Leverage Ratio:		.44	_____	
Current Ratio:		1.65		
Working capital	\$150,207	As % of total expenses:	11%	
<u>Farm Debt Analysis:</u>				
Accounts payable as % of total debt		10%	_____	%
Long-term liabilities as a % of total debt		33%	_____	%
Current & inter. liabilities as a % of total debt		67%	_____	%
Cost of term debt (weighted average)		4.59%	_____	%
<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	\$ 2,921	\$ 3,033	\$ _____	\$ _____
Long-term debt	978	1,016	_____	_____
Intermediate & long term	2,121	2,203	_____	_____
Intermediate & current debt	1,943	2,018	_____	_____

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**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Average of Region's Farms	
	Real Estate	Machinery & Equipment
Value beginning of year	\$ 1,084,309	\$ 456,592
Purchases	\$ 97,978*	\$ 105,825
Gift & inheritance	+ 0	+ 0
Lost capital	- 36,453	
Sales	- 13,300	- 3,645
Depreciation	- 22,876	- 47,353
Net investment	= 25,350	= 54,827
Appreciation	+ 19,454	+ 8,971
Value end of year	\$ 1,129,113	\$ 520,390

\*\$4,000 land and \$93,978 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)**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Average	My Farm
Beginning of year farm net worth	\$1,899,207	\$ _____
Net farm income without appreciation	\$ 147,929	\$ _____
+Nonfarm cash income	+ 8,117	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 91,898</u>	- _____
RETAINED EARNINGS	+ \$ 64,148	+\$ _____
Nonfarm noncash transfers to farm	\$ 0	\$ _____
+Cash used in business from nonfarm capital	+ 16,693	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	<u>- 0</u>	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 16,693	+\$ _____
Appreciation	\$ -4,874	\$ _____
-Lost capital	<u>- 36,453</u>	- _____
CHANGE IN VALUATION EQUITY	+ \$ -41,327	+\$ _____
IMBALANCE/ERROR	<u>- 258</u>	- \$ _____
End of year net worth*	= \$1,938,463	=\$ _____
<hr/>		
<u>Change in Net Worth</u>		
Without appreciation	\$ 44,130	\$ _____
With appreciation	\$ 39,256	\$ _____

\*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**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Average	
<b><u>Cash Flow from Operating Activities</u></b>		
Cash farm receipts	\$ 1,520,515	
- Cash farm expenses	1,284,882	
- Extraordinary expense	<u>946</u>	
= Net cash farm income		\$ 234,687
Personal withdrawals & family expenses including nonfarm debt payments	\$ 92,034	
- Nonfarm income	<u>8,117</u>	
- Net cash withdrawals from the farm		\$ <u>83,917</u>
= Net Provided by Operating Activities		\$ 150,770
<b><u>Cash Flow From Investing Activities</u></b>		
Sale of assets: machinery	\$ 3,645	
+ real estate	13,300	
+ other stock & cert.	<u>188</u>	
= Total asset sales		\$ 17,132
Capital purchases: expansion livestock	\$ 10,921	
+ machinery	105,825	
+ real estate	97,978	
+ other stock & cert.	<u>5,748</u>	
- Total invested in farm assets		\$ <u>220,472</u>
= Net Provided by Investment Activities		\$ -203,340
<b><u>Cash Flow From Financing Activities</u></b>		
Money borrowed (intermediate & long term)	\$ 120,153	
+ Money borrowed (short term)	7,683	
+ Increase in operating debt	0	
+ Cash from nonfarm capital used in business	16,693	
+ Money borrowed - nonfarm	<u>136</u>	
= Cash inflow from financing		\$ 144,665
Principal payments (intermediate & long term)	\$ 86,224	
+ Principal payments (short term)	3,346	
+ Decrease in operating debt	<u>3,669</u>	
- Cash outflow for financing		\$ <u>93,239</u>
= Net Provided by Financing Activities		\$ 51,426
<b><u>Cash Flow From Reserves</u></b>		
Beginning farm cash, checking & savings		\$ 16,069
- Ending farm cash, checking & savings		<u>14,667</u>
= Net Provided from Reserves		\$ 1,402
Imbalance (error)		\$ 258

## 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 2009. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2009 debt payments shown below.

### FARM DEBT PAYMENTS PLANNED

Same 39 Northern Hudson Region Dairy Farms, 2007 & 2008

Debt Payments	Average			My Farm		
	2008 Payments		Planned 2009	2008 Payments		Planned 2009
	Planned	Made		Planned	Made	
Long term	\$ 31,557	\$ 31,615	\$ 32,964	\$ _____	\$ _____	\$ _____
Intermediate term	85,213	82,867	86,680	_____	_____	_____
Short term	922	3,786	4,583	_____	_____	_____
Operating (net reduction)	897	13,587	256	_____	_____	_____
Accounts payable (net reduction)	536	580	2,564	_____	_____	_____
Total	\$ 119,125	\$ 132,435	\$ 127,048	\$ _____	\$ _____	\$ _____
Per cow	\$ 455	\$ 506		\$ _____	\$ _____	
Per cwt. 2008 milk	\$ 1.97	\$ 2.19		\$ _____	\$ _____	
Percent of total 2008 farm receipts	9%	9%		_____	_____	
Percent of 2008 milk receipts	10%	11%		_____	_____	

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 2008 (as of December 31, 2007) that could have been made with the amount available for debt service in 2008. Farmers who did not participate in DFBS in 2007 have their 2008 ratios based on planned debt payments for 2009.

### COVERAGE RATIOS

Same 39 Northern Hudson Region Dairy Farms, 2007 & 2008

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$1,357,535	Net farm income (w/o appreciation)	\$120,454
- Cash farm expenses	1,151,282	+ Depreciation	61,468
+ Interest paid (cash)	35,680	+ Interest paid (accrual)	36,446
- Net personal withdrawals from farm*	<u>80,700</u>	- Net personal withdrawals from farm*	<u>80,700</u>
(A) = Amount Available for Debt Service	\$161,233	(A') = Repayment Capacity	\$137,668
(B) = Debt Payments Planned for 2008 (as of December 31, 2007)	\$119,125	(B) = Debt Payments Planned for 2008 (as of December 31, 2007)	\$119,125
(A/B) = Cash Flow Coverage Ratio for 2008	1.35	(A'/B) = Debt Coverage Ratio for 2008	1.16

\*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.



14  
**ANNUAL CASH FLOW WORKSHEET**

Item	44 Northern Hudson Region Dairy Farms		My Farm	Expected Change	2009 Projection
	Per Cow	Per Cwt.	Per Cow/ Per Cwt.		
Average number of cows	287				
Total cwt. of milk sold		68,330			
<u>Accrual Operating Receipts</u>					
Milk	\$ 4,730	\$ 19.85	\$ _____	_____	\$ _____
Dairy cattle	318	1.34	_____	_____	_____
Dairy calves	20	0.08	_____	_____	_____
Other livestock	34	0.14	_____	_____	_____
Crops	250	1.05	_____	_____	_____
Miscellaneous Receipts	121	0.51	_____	_____	_____
Total	\$ 5,473	\$ 22.97	\$ _____	_____	\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$ 693	\$ 2.91	\$ _____	_____	\$ _____
Dairy grain & concentrate	1,552	6.51	_____	_____	_____
Dairy roughage	86	0.36	_____	_____	_____
Nondairy feed	0	0.00	_____	_____	_____
Professional nutritional services	1	0.00	_____	_____	_____
Machinery hire, rent & lease	89	0.37	_____	_____	_____
Machinery repair & vehicle expense	245	1.03	_____	_____	_____
Fuel, oil & grease	246	1.03	_____	_____	_____
Replacement livestock	20	0.08	_____	_____	_____
Breeding	69	0.29	_____	_____	_____
Veterinary & medicine	167	0.70	_____	_____	_____
Milk marketing	285	1.20	_____	_____	_____
Bedding	91	0.38	_____	_____	_____
Milking supplies	99	0.41	_____	_____	_____
Cattle lease	0	0.00	_____	_____	_____
Custom boarding	94	0.39	_____	_____	_____
Livestock professional fees	12	0.05	_____	_____	_____
Other livestock expense	110	0.46	_____	_____	_____
Fertilizer & lime	136	0.57	_____	_____	_____
Seeds & plants	82	0.34	_____	_____	_____
Spray & other crop expense	58	0.24	_____	_____	_____
Crop professional fees	11	0.04	_____	_____	_____
Land, building & fence repair	82	0.34	_____	_____	_____
Taxes	58	0.24	_____	_____	_____
Real estate rent & lease	51	0.21	_____	_____	_____
Insurance	42	0.18	_____	_____	_____
Utilities	114	0.48	_____	_____	_____
Other professional fees	11	0.05	_____	_____	_____
Miscellaneous	34	0.14	_____	_____	_____
Total Less Interest Paid	\$ 4,537	\$ 19.04	\$ _____	_____	\$ _____
<u>Net Accrual Operating Income</u>					
		<u>Total</u>			
(without interest paid)		\$268,391	\$ _____	_____	\$ _____
- Change in livestock /crop inventory*		78,924	_____	_____	_____
- Change in accounts receivable		-30,043	_____	_____	_____
- Change in feed & supply inventory**		-28,500	_____	_____	_____
+ Change in accounts payable***		<u>25,310</u>	_____	_____	_____
NET CASH FLOW		\$273,320	\$ _____	_____	\$ _____
- Net family withdrawals		<u>80,839</u>	_____	_____	_____
Available for Farm		\$192,482	\$ _____	_____	_____
- Farm debt payments		<u>139,973</u>	_____	_____	_____
Available for Farm Investment		\$ 52,509	\$ _____	_____	\$ _____
- Capital purchases		<u>220,472</u>	_____	_____	_____
Additional Capital Needed		\$-167,963	\$ _____	_____	\$ _____

\*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**

44 Northern Hudson Region Dairy Farms, 2008

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	278	411	689	_____	_____	_____
Nontillable	51	19	70	_____	_____	_____
Other nontillable	126	10	135	_____	_____	_____
Total	455	440	895	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Production/Acre</u>	<u>Acres</u>	<u>Production/Acre</u>	
Hay crop	44	351	2.90 tons DM	_____	_____	tons DM
Corn silage	43	255	18.15 ton	_____	_____	tons
			6.00 tons DM	_____	_____	tons DM
Other forage	5	67	2.34 tons DM	_____	_____	tons DM
Total forage	44	608	4.16 tons DM	_____	_____	tons DM
Corn grain	18	125	137 bushels	_____	_____	bushels
Oats	2	25	55 bushels	_____	_____	bushels
Wheat	0	0	0 bushels	_____	_____	bushels
Other crops	12	62		_____	_____	
Tillable pasture	2	84		_____	_____	
Idle	11	59		_____	_____	
Total Tillable Acres	44	689		_____	_____	

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 351, corn silage 249, corn grain 51, oats 1, tillable pasture 4, and idle 15.

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**

44 Northern Hudson Region Dairy Farms, 2008

Item	Average	My Farm
Total tillable acres per cow	2.40	_____
Total forage acres per cow	2.12	_____
Harvested forage dry matter, tons per cow	8.82	_____

**Cropping Analysis** (continued)

A number of cooperators have allocated crop expenses among the hay crop, corn, and other crops produced. Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per acre and per production unit for hay and corn. Additional expense items such as fuels, labor, and machinery repairs are not included. Rotational grazing was used on two farms in the region.

**CROP RELATED ACCRUAL EXPENSES**  
Northern Hudson Region Dairy Farms Reporting, 2008

Item	Total Per Till. Acre	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Sh. Bu.	Hay Crop		Pasture	
					Per Acre	Per Ton DM	Per Till Acre	Per Total Acre
No. of farms reporting	44	4				5		0
Ave. number of acres	689	258				288		0
Fert. & lime	\$ 51.95	\$ 9.58	\$ 9.59	\$ 0.15	\$ 28.46	\$ 8.48	\$ 0.00	\$ 0.00
Seeds & plants	28.46	10.36	7.11	0.08	27.00	8.50	0.00	0.00
Spray & other crop expense	<u>22.60</u>	<u>8.46</u>	<u>5.28</u>	<u>0.19</u>	<u>21.41</u>	<u>6.77</u>	<u>0.00</u>	<u>0.00</u>
TOTAL	\$ 103.01	\$ 28.40	\$ 21.98	\$ 0.42	\$ 76.87	\$ 23.75	\$ 0.00	\$ 0.00

My Farm

Fertilizer & lime	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
Seeds & plants	_____	_____	_____	_____	_____	_____	_____	_____
Spray & other crop expense	_____	_____	_____	_____	_____	_____	_____	_____
TOTAL	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____

Most machinery costs are associated with crop production and should be analyzed with the crop enterprise. Total machinery expenses include the major fixed costs (interest and depreciation), as well as the accrual operating costs. Although machinery costs have not been allocated to individual crops, they are shown below per total tillable acre.

**ACCRUAL MACHINERY EXPENSES**  
44 Northern Hudson Region Dairy Farms, 2008

Machinery Expense	Average		My Farm	
	Total Expenses	Per Tillable Acre	Total Expenses	Per Tillable Acre
Fuel, oil & grease	\$ 70,625	\$ 102	\$ _____	\$ _____
Mach. repair & vehicle expense	70,168	102	_____	_____
Machine hire, rent & lease	25,552	37	_____	_____
Interest (5%)	24,492	36	_____	_____
Depreciation	<u>47,353</u>	<u>69</u>	_____	_____
Total	\$ 238,189	\$ 346	\$ _____	\$ _____

**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**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Dairy Cows		Bred		Heifer Open		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	282	\$ 441,173	84	\$ 126,126	82	\$ 75,566	78	\$ 46,426
+ Change w/o apprec.		3,443		14,772		2,230		-294
+ Appreciation		<u>-19,614</u>		<u>-4,365</u>		<u>-3,427</u>		<u>-5,264</u>
End year (owned)	287	\$ 425,002	94	\$ 136,533	84	\$ 74,368	77	\$ 40,868
End including leased	289							
Average number	287		252	(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**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Average	My Farm
Total milk sold, lbs.	6,833,015	_____
Milk sold per cow, lbs.	23,829	_____
Average milk plant test, percent butterfat	3.70%	_____

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**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Average		My Farm	
	Number	Percent*	Number	Percent*
Cows sold for beef	73	25.5	_____	_____
Cows sold for dairy	15	5.2	_____	_____
Cows died	19	6.6	_____	_____
Culling rate**		32.0		_____

\*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**

44 Northern Hudson Region Dairy Farms, 2008

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Cost of Producing Milk</u>						
Operating costs	\$1,137,136	\$ 3,966	\$ 16.64	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$1,208,311	\$ 4,214	\$ 17.68	\$ _____	\$ _____	\$ _____
Total Costs	\$1,369,676	\$ 4,777	\$ 20.04	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts</u>						
<u>From Milk</u>	\$1,356,239	\$ 4,730	\$ 19.85	\$ _____	\$ _____	\$ _____
Net Milk Receipts	\$1,274,504	\$ 3,918	\$ 18.65	\$ _____	\$ _____	\$ _____
Net Farm Income without Apprec.	\$ 147,929	\$ 516	\$ 2.16	\$ _____	\$ _____	\$ _____
Net Farm Income with Appreciation	\$ 143,055	\$ 499	\$ 2.09	\$ _____	\$ _____	\$ _____

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**

44 Northern Hudson Region Dairy Farms, 2008

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 1,552	\$ 6.51	\$ _____	\$ _____
Purchased dairy roughage	86	.36	_____	_____
Total Purchased Dairy Feed	\$ 1,638	\$ 6.87	\$ _____	\$ _____
Purchased grain & concentrate as % of milk receipts		35%	_____ %	_____ %
Purchased feed & crop expense	\$ 1,925	\$ 8.08	\$ _____	\$ _____
Purchased feed & crop expense as % of milk receipts		44%	_____ %	_____ %
Breeding	\$ 69	\$ .29	\$ _____	\$ _____
Veterinary & medicine	167	.70	_____	_____
Milk marketing	285	1.20	_____	_____
Bedding	91	.38	_____	_____
Milking supplies	99	.41	_____	_____
Cattle lease	0	.00	_____	_____
Custom boarding	94	.39	_____	_____
Livestock professional fees	12	.05	_____	_____
Other livestock expense	110	.46	_____	_____

**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**  
44 Northern Hudson Region Dairy Farms, 2008

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$339,447	\$9,529	\$3,964	\$9,824
Real estate		3,860		3,980
Machinery & equipment	60,849	1,708	711	

Ratios

Asset turnover	Operating Expense	Interest Expense	Depreciation Expense
.57	.84	.02	.04

My Farm

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

Ratios

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

**LABOR FORCE INVENTORY**  
44 Northern Hudson Region Dairy Farms, 2008

Labor Force	Months	Age	Years of Education	Value of Labor & Management
Operator number 1	13.9	54	14	\$ 35,257
Operator number 2	7.7	48	14	20,058
Operator number 3	2.0	33	15	5,886
Family paid	5.7			
Family unpaid	1.7			
Hired	<u>65.5</u>			
Total	96.6	/ 12 = 8.05 Worker Equivalent 1.67 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 \$1,000 on small conventional stall barns, less than \$900 on large conventional stall barns, less than \$850 on small free stall barns and below \$750 on large free stall barns should be a goal.

**LABOR EFFICIENCY**  
44 Northern Hudson Region Dairy Farms, 2008

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	287	36	_____	_____
Milk sold, pounds	6,833,015	849,173	_____	_____
Tillable acres	689	86	_____	_____

**LABOR AND MACHINERY COSTS**  
44 Northern Hudson Region Dairy Farms, 2008

Labor Costs	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Value of operator(s) labor (\$2,500/month)	\$ 58,910	\$ 205	\$ .86	\$ _____	\$ _____	\$ _____
Family unpaid (\$2,500/month)	4,210	15	.06	_____	_____	_____
Hired	<u>198,700</u>	<u>693</u>	<u>2.91</u>	_____	_____	_____
Total Labor	\$ 261,820	\$ 913	\$ 3.83	\$ _____	\$ _____	\$ _____
Machinery Cost	\$ <u>238,189</u>	\$ <u>831</u>	\$ <u>3.49</u>	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$ 500,009	\$ 1,744	\$ 7.32	\$ _____	\$ _____	\$ _____
Hired labor expense per hired worker equivalent			\$ 33,479	\$ _____		
Hired labor expense as % of milk sales			14.7%	_____%		

## 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 39 Northern Hudson Region Dairy Farms, 2007 &amp; 2008

Selected Factors	Average of 39 Farms*		My Farm		Goal
	2007	2008	2007	2008	
<u>Size of Business</u>					
Average number of cows	258	262	_____	_____	_____
Average number of heifers	214	224	_____	_____	_____
Milk sold, pounds	5,809,722	6,038,023	_____	_____	_____
Worker equivalent	7.22	7.47	_____	_____	_____
Total tillable acres	628	652	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, pounds	22,503	23,080	_____	_____	_____
Hay DM per acre, tons	2.6	2.9	_____	_____	_____
Corn silage per acre, tons	17.9	18.6	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	36	35	_____	_____	_____
Milk sold/worker, pounds	804,671	808,303	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	26%	33%	_____ %	_____ %	_____ %
Dairy feed & crop expense per cwt. milk	\$ 6.81	\$ 8.23	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,570	\$ 1,744	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 14.80	\$ 16.98	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$ 9,008	\$ 9,667	\$ _____	\$ _____	\$ _____
Mach. & equipment per cow	\$ 1,489	\$ 1,672	\$ _____	\$ _____	\$ _____
Asset turnover ratio	0.65	0.55	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$ 302,431	\$ 120,454	\$ _____	\$ _____	\$ _____
Net farm income w/apprec.	\$ 403,338	\$ 121,682	\$ _____	\$ _____	\$ _____
Labor & mgmt. income per operator/manager	\$ 134,470	\$ 16,890	\$ _____	\$ _____	\$ _____
Rate of return on equity capital w/appreciation	21.2	3.2	_____ %	_____ %	_____ %
Rate of return on all capital w/appreciation	16.5	3.7	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$1,758,916	\$ 1,778,887	\$ _____	\$ _____	\$ _____
Debt to asset ratio	0.29	0.31	_____	_____	_____
Farm debt per cow	\$ 2,742	\$ 3,025	\$ _____	\$ _____	\$ _____

\*Farms participating both years.

\*\*Average for the year.



**RECEIPTS AND EXPENSES PER COW AND PER CWT.**  
Same 39 Northern Hudson Region Dairy Farms, 2007 & 2008

Item	2007		2008	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	258		262	
Cwt. of Milk Sold		58,097		60,380
<b><u>ACCRUAL OPERATING RECEIPTS</u></b>				
Milk	\$ 4,730	\$ 21.02	\$ 4,617	\$ 20.01
Dairy cattle	279	1.24	288	1.25
Dairy calves	29	0.13	27	0.11
Other livestock	21	0.09	42	0.18
Crops	201	0.89	248	1.07
Miscellaneous receipts	<u>172</u>	<u>0.76</u>	<u>129</u>	<u>0.56</u>
Total Receipts	\$ 5,431	\$ 24.14	\$ 5,351	\$ 23.18
<b><u>ACCRUAL OPERATING EXPENSES</u></b>				
Hired labor	\$ 620	\$ 2.76	\$ 667	\$ 2.89
Dairy grain & concentrate	1,215	5.40	1,541	6.68
Dairy roughage	76	0.34	73	0.32
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	1	0.00	1	0.01
Machine hire, rent & lease	98	0.43	103	0.45
Machinery repair & vehicle expense	234	1.04	248	1.07
Fuel, oil & grease	174	0.77	248	1.08
Replacement livestock	6	0.03	22	0.10
Breeding	62	0.27	69	0.30
Veterinary & medicine	163	0.73	163	0.71
Milk marketing	230	1.02	265	1.15
Bedding	78	0.35	92	0.40
Milking supplies	110	0.49	106	0.46
Cattle lease	3	0.01	0	0.00
Custom boarding	52	0.23	80	0.35
Livestock professional fees	15	0.06	13	0.06
Other livestock expense	92	0.41	96	0.42
Fertilizer & lime	112	0.50	130	0.56
Seeds & plants	66	0.29	86	0.37
Spray & other crop expense	62	0.28	57	0.25
Crop professional fees	2	0.01	12	0.05
Land, building & fence repair	57	0.25	80	0.35
Taxes	57	0.25	55	0.24
Real estate rent & lease	57	0.25	55	0.24
Insurance	38	0.17	44	0.19
Utilities	119	0.53	110	0.48
Interest paid	170	0.76	139	0.60
Other professional fees	15	0.07	14	0.06
Miscellaneous	<u>23</u>	<u>0.10</u>	<u>34</u>	<u>0.15</u>
Total Operating Expenses	\$ 4,006	\$ 17.80	\$ 4,606	\$ 19.96
Expansion Livestock	26	0.11	45	0.19
Extraordinary Expense	0	0.00	4	0.02
Machinery Depreciation	133	0.59	152	0.66
Real Estate Depreciation	<u>95</u>	<u>0.42</u>	<u>83</u>	<u>0.36</u>
Total Expenses	\$ 4,260	\$ 18.92	\$ 4,890	\$ 21.19
Net Farm Income Without Appreciation	\$ 1,171	\$ 5.21	\$ 460	\$ 1.99

### 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**

44 Northern Hudson Region Dairy Farms, 2008

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)
21.04	820	20,991,079	27,056	4.3	24	48	1,066,888
10.22	361	8,844,016	24,202	3.5	19	37	876,461
4.65	157	3,188,185	21,145	2.9	18	32	721,653
3.55	100	1,837,460	18,604	2.3	17	29	532,183
2.23	55	877,452	14,649	1.5	13	20	336,367

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)	
\$1,008	28%	\$568	\$1,387	\$1,289	\$6.91	
1,318	33	732	1,633	1,673	7.88	
1,446	34	838	1,761	1,864	8.67	
1,629	37	917	1,939	2,003	9.39	
1,824	43	1,083	2,437	2,191	10.90	

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)
\$5,379	\$12.81	\$17.87	\$518,323	\$526,958	\$149,242	\$302,247
4,809	15.58	19.80	163,885	187,537	45,947	78,896
4,280	16.91	20.75	77,291	87,967	18,143	19,106
3,652	17.72	22.60	32,745	31,945	-13,760	-3,945
2,912	21.15	29.65	-35,274	-52,649	-87,478	-170,805

\*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** 36 New York Dairy Farms, 2008

<u>Animals Entering Herd</u>	Average
Number calving in 2008 for first time	221.0
Animals purchased, % <sup>1</sup>	4.5%
Animals raised by farm, % <sup>2</sup>	95.5%
<u>Current Heifer Inventory</u>	
Raised on dairy, %	78.6%
Raised by a custom grower, %	21.4%

<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, 221 animals calved for the first time in 2008. The breakdown on these animals for source was 4.5 percent purchased and 95.5 percent raised by the farm. Of the current heifer inventory, 78.6 percent were raised on the dairy and 21.4 percent were being 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, 41 Northern Hudson farms provided data 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 new line item in this section is the expenses associated with utilizing forward contracting or hedging programs to market milk, such as commission or broker fees. The fifth area is income from the compact program or 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. Your net farm price can be found on page 12 of your farm's 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**  
41 Northern Hudson Region Dairy Farms, 2008

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
<b>BASE FARM PRICE</b>					
Butterfat	263,373	3.70%	\$1.57	\$ 412,249	\$ 5.80
Protein	219,242	3.08%	\$3.89	\$ 852,425	\$11.98
Solids	406,615	5.72%	\$0.06	\$ 23,218	\$ 0.33
<b>Total Component Contribution</b>					<b>\$18.11</b>
<b>PPD</b>	7,112,673			\$ 49,042	<b>\$0.69</b>
<b>Base Farm Price</b>					<b>\$18.80</b>
<b>Premiums</b>					
Quality				\$17,488	\$0.25
Volume				\$30,712	\$0.43
Market Premiums				\$25,168	\$0.35
<b>Total Premiums</b>					<b>\$1.03</b>
<b>BASE FARM PRICE + PREMIUM</b>					<b>\$19.83</b>
<hr style="border-top: 1px dashed black;"/>					
<b>Deductions</b>					
Promotion				\$10,681	\$0.15
Hauling + Stop Charges.				\$64,928	\$0.91
Market Fees & Coop Dues				9,601	\$0.13
<b>Total Deductions</b>					<b>\$1.20</b>
<b>BASE FARM PRICE + PREMIUMS - DEDUCTIONS</b>					<b>\$18.63</b>
<b>Marketing Programs</b>					
Futures Contracts, Forward Contracting, Etc.				\$0.00	\$0.00
<b>Total Marketing Income</b>					<b>\$0.00</b>
<b>Patronage Dividends</b>				\$2,983	<b>\$ 0.04</b>
<b>NET PRICE RECEIVED ON FARM, ALL SOURCES</b>					<b>\$18.67</b>
<b>PPD - Hauling, \$ per cwt.</b>					<b>\$-0.22</b>
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>					<b>\$ 0.13</b>
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>					<b>\$ 0.52</b>

**MILK PRICE INFORMATION BY QUINTILE\***(Each Category Sorted Independently)  
41 Northern Hudson Region Dairy Farms, 2008

	Lowest Quintile				Highest Quintile
Butterfat, %	3.55	3.68	3.82	3.94	4.16
Protein, %	3.01	3.04	3.12	3.19	3.34
Other Solids, %	5.62	5.67	5.70	5.74	5.79
Butterfat, \$ per Cwt.	5.57	5.79	5.93	6.13	6.52
Protein, \$ per Cwt.	11.62	11.85	12.12	12.40	13.10
Other solids, \$ per Cwt.	0.27	0.32	0.33	0.34	0.38
<b>Total Component Value per Cwt.</b>	<b>\$17.56</b>	<b>\$17.93</b>	<b>\$18.43</b>	<b>\$18.80</b>	<b>\$19.92</b>
PPD, \$ per Cwt.	0.44	0.61	0.67	0.86	1.15
<b>Base Farm Price per Cwt.</b>	<b>\$18.17</b>	<b>\$18.73</b>	<b>\$19.13</b>	<b>\$19.57</b>	<b>\$20.72</b>
Quality, \$ per Cwt.	-0.01	0.06	0.15	0.25	0.41
Volume, \$ per Cwt.	0.01	0.06	0.11	0.29	0.64
Market premium, \$ per Cwt.	0.06	0.25	0.36	0.44	0.71
Total Premium, \$ per Cwt.	<b>0.29</b>	<b>0.50</b>	<b>0.70</b>	<b>0.89</b>	<b>1.36</b>
<b>Base Farm Price + Premiums per Cwt.</b>	<b>\$19.05</b>	<b>\$19.45</b>	<b>\$19.84</b>	<b>\$20.23</b>	<b>\$21.39</b>
Promotion, \$ per Cwt.	0.15	0.15	0.15	0.15	0.22
Hauling, \$ per Cwt.	0.53	0.76	0.98	1.15	1.42
Market fees & coop dues per Cwt.	0.03	0.10	0.16	0.18	0.21
<b>Total Marketing Expenses per Cwt.</b>	<b>\$0.78</b>	<b>\$1.07</b>	<b>\$1.29</b>	<b>\$1.48</b>	<b>\$1.71</b>
<b>Base + Premiums – Deductions per Cwt.</b>	<b>\$17.70</b>	<b>\$18.31</b>	<b>\$18.75</b>	<b>\$19.08</b>	<b>\$19.87</b>
Futures contract, forward contracting, \$ per Cwt.	0.00	0.00	0.00	0.00	0.01
<b>Total Marketing Income, \$ per Cwt.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.01</b>
<b>Patronage Dividends, \$ per Cwt.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.02</b>	<b>\$0.23</b>
<b>Net Price Received From All Sources, \$ per Cwt.</b>	<b>\$17.71</b>	<b>\$18.33</b>	<b>\$18.84</b>	<b>\$19.18</b>	<b>\$19.92</b>
PPD - Hauling, \$ per cwt.	-0.63	-0.38	-0.17	-0.04	0.21
PPD - Hauling + Market Premiums, \$ per cwt.	-0.34	-0.08	0.14	0.29	0.76
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>	<b>-0.47</b>	<b>-0.06</b>	<b>0.17</b>	<b>0.56</b>	<b>1.00</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 250 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

250 New York Dairy Farms, 2007

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)
28.1	1,314	32,322,710	26,645	5.2	26	61	1,309,445
17.1	773	18,291,548	24,891	4.0	23	50	1,121,656
11.9	494	11,182,833	23,916	3.5	21	46	1,026,711
8.1	346	7,739,127	23,029	3.1	20	43	943,700
5.2	217	4,765,001	21,916	2.8	19	40	849,317
-----							
4.0	149	2,798,701	20,742	2.6	18	36	764,401
3.2	108	2,051,550	19,708	2.4	17	34	662,962
2.7	80	1,444,394	18,062	2.1	16	30	569,954
2.2	60	1,035,063	15,732	1.8	15	25	454,811
1.6	41	684,234	12,412	1.2	12	20	314,396

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)	
\$515	15%	\$430	\$1,088	\$705	\$4.28	
726	19	551	1,294	948	4.96	
814	20	605	1,373	1,067	5.45	
894	22	648	1,436	1,160	5.77	
991	23	700	1,513	1,262	5.95	
-----						
1,066	25	757	1,595	1,341	6.22	
1,134	26	821	1,693	1,426	6.60	
1,205	27	899	1,817	1,511	7.00	
1,305	29	995	2,020	1,609	7.44	
1,492	35	1,251	2,388	1,831	9.03	

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

**FARM BUSINESS CHART FOR  
FARM MANAGEMENT COOPERATORS**  
250 New York Dairy Farms, 2007

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)
\$5,473	\$22.53	\$1,631	\$9.70	\$2,801	\$14.86
5,036	21.38	2,096	11.55	3,306	16.34
4,850	20.97	2,385	12.46	3,536	16.99
4,689	20.70	2,632	12.97	3,708	17.60
4,473	20.48	2,812	13.56	3,885	18.16
-----					
4,247	20.32	2,990	14.03	4,024	18.91
4,002	20.12	3,139	14.57	4,173	19.99
3,719	19.87	3,353	15.44	4,351	21.53
3,252	19.62	3,627	16.41	4,566	23.15
2,599	19.04	4,077	19.13	5,111	28.29

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)
\$1,658,164	\$1,985	0.37	\$2,258,907	\$2,580	\$1,350,735	\$828,820
881,033	1,602	0.31	1,159,819	2,039	690,457	422,319
593,261	1,424	0.28	786,149	1,861	459,165	250,521
385,119	1,262	0.26	537,897	1,674	267,642	163,957
227,152	1,131	0.23	323,558	1,540	154,444	94,290
-----						
142,549	1,021	0.21	182,217	1,407	91,721	57,044
102,171	909	0.19	131,539	1,231	56,345	42,053
68,086	722	0.16	97,870	987	30,338	23,345
43,034	467	0.11	63,898	733	2,284	1,427
3,007	67	0.01	21,902	280	-41,030	-36,506

Farm Business Charts for farms with freestall barns and 150 cows or less, 151-300 cows, and more than 300 cows; and farms with conventional barns with 60 cows or less and more than 60 cows are shown on pages 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**  
250 New York Dairy Farms, 2007

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)
\$92	\$1,522	6.22	9.80	2%	\$203	55%	36.91
233	1,106	2.82	4.47	6	992	38	5.77
315	977	2.24	3.60	8	1,678	30	4.12
387	881	1.91	3.09	10	2,100	26	3.23
454	813	1.65	2.74	11	2,515	23	2.59
-----							
517	737	1.44	2.29	12	2,881	19	2.21
566	655	1.26	1.88	13	3,265	14	1.83
626	534	1.08	1.60	15	3,711	10	1.52
735	377	0.84	1.11	19	4,170	4	1.07
1,007	-5	-0.08	0.02	28	5,777	-12	0.49
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	0.54	0.00	0.02	
0.11	90	0.09	0.00	0.59	0.01	0.03	
0.19	84	0.15	0.01	0.62	0.02	0.04	
0.29	78	0.20	0.10	0.65	0.03	0.05	
0.36	74	0.25	0.21	0.67	0.03	0.05	
-----							
0.45	69	0.29	0.29	0.69	0.04	0.06	
0.54	65	0.34	0.39	0.71	0.05	0.07	
0.67	60	0.42	0.50	0.73	0.05	0.08	
0.94	52	0.53	0.63	0.78	0.06	0.10	
1.68	39	0.70	0.89	0.87	0.09	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)	
0.95	\$1,504	\$634	\$5,726	\$1,980,666	55%	29%	
0.78	2,240	876	6,959	969,490	36	24	
0.72	2,696	1,111	7,431	612,376	29	21	
0.68	3,012	1,358	7,894	396,561	23	18	
0.62	3,388	1,559	8,452	238,455	19	15	
-----							
0.57	3,752	1,792	9,113	137,890	14	12	
0.50	4,339	2,003	10,060	98,507	11	10	
0.44	5,105	2,256	11,046	69,452	7	7	
0.37	6,374	2,599	12,687	37,054	3	4	
0.26	10,220	3,766	16,830	-5,198	-7	-2	

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

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

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



### **Comparison by Type of Barn and Herd Size**

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

The table on page 31 includes the average values for the resulting five groups of dairy farms. The average size of farms in the five groups ranges from 45 cows on the small conventional farms to 765 cows on the largest freestall farms.

The largest freestall farms averaged the highest milk output per cow and per worker, the lowest total cost of production and investment per cow, and the greatest returns to labor, management and capital.

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 2007 State Summary\*. As herd size increases, the net farm income profitability generally increases (page 48)\*. Net farm income without appreciation averaged \$36,257 per farm for the less than 50 cow farms and \$1,156,991 per farm for those with more than 600 cows. Return to all capital without appreciation also generally increased as herd size increased.

Assets, liabilities and financial measures are presented on pages 55-58\*. All herd size categories saw an increase in net worth during 2007. The largest herd size category experienced an increase in net worth of \$1,301,770. However, percent equity went down as assets increased. The largest herds had the lowest percent equity; while the smaller herds averaged 79 percent.

Crop yields showed little relationship to herd size, but fertilizer and lime expenses, and machinery cost per tillable acre generally increased as herd size increased (pages 59-60)\*. The farms with 600 and more cows per farm averaged 34 percent more milk sold per cow than the smallest farms. All of the groups with 200 or more cows averaged above 20,000 pounds of milk sold per cow while the farms smaller than 200 cows averaged 18,431 pounds of milk sold per cow. Farm capital per cow generally decreased as herd size increased. Milk sold per worker increased dramatically as herd size increased, ranging from 411,770 pounds at the lowest herd size category up to 1,130,956 pounds at the largest size category.

---

\*Wayne A. Knoblauch, Linda D. Putnam, and Jason Karszes, Dairy Farm Management Business Summary, New York, 2007, Department of Applied Economics and Management, Cornell University, R.B. 2008-03, October 2008.

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

235 New York Dairy Farms, 2007

Item	Farms with:	Conventional		Freestall		
		<= 60 Cows	>60 Cows	<=150 Cows	151-300 Cows	≥300 Cows
Number of farms		32	35	41	36	91
<u>Cropping Program Analysis</u>						
Total Tillable acres		173	264	256	546	1,502
Tillable acres rented*		81	107	131	260	782
Hay crop acres*		134	177	165	259	663
Corn silage acres*		18	54	63	163	572
Hay crop, tons DM/acre		1.9	2.5	2.5	2.7	3.3
Corn silage, tons/acre		17	17.5	17.0	18.8	19.0
Oats, bushels/acre		25	60.5	0	48	71
Forage DM per cow, tons		8.3	8.8	8.3	8.3	7.9
Tillable acres/cow		4.0	3.1	2.7	2.6	2.0
Fertilizer & lime expense/tillable acre		\$29.91	\$27.65	\$36.31	\$52.78	\$45.47
Total machinery costs		\$37,126	\$69,721	\$85,153	\$178,009	\$524,509
Machinery cost/tillable acre		\$208	\$265	\$301	\$321	\$349
<u>Dairy Analysis</u>						
Number of cows		45	86	102	215	765
Number of heifers		36	72	84	170	617
Milk sold, lbs.		803,437	1,540,743	1,907,152	4,669,673	18,323,557
Milk sold/cow, lbs.		18,055	17,999	18,676	21,759	23,957
Operating cost of producing milk/cwt.		\$13.22	\$14.03	\$13.90	\$13.98	\$14.03
Total cost of producing milk/cwt.		\$22.57	\$21.09	\$20.39	\$18.35	\$16.98
Price/cwt. milk sold		\$20.32	\$20.46	\$20.85	\$20.31	\$20.30
Purchased dairy feed/cow		\$938	\$942	\$1,076	\$1,087	\$1,244
Purchased dairy feed/cwt. milk		\$5.19	\$5.23	\$5.76	\$5.00	\$5.19
Purchased grain & concentrate as % of milk receipts		24%	25%	25%	23%	24%
Purchased feed & crop expense/cwt milk		\$6.12	\$6.11	\$6.81	\$6.18	\$6.08
<u>Capital Efficiency</u>						
Farm capital/worker		\$303,979	\$310,146	\$341,029	\$384,576	\$364,434
Farm capital/cow		\$12,842	\$10,507	\$9,818	\$9,282	\$8,086
Farm capital/tillable acre owned		\$6,210	\$5,749	\$8,013	\$6,970	\$8,588
Real estate/cow		\$6,988	\$4,728	\$4,296	\$3,825	\$3,118
Machinery investment/cow		\$2,426	\$2,310	\$2,058	\$1,707	\$1,328
Asset turnover ratio		0.35	0.43	0.48	0.58	0.73
<u>Labor Efficiency</u>						
Worker equivalent		1.88	2.90	2.94	5.18	16.97
Operator/manager equivalent		1.09	1.34	1.45	1.65	1.96
Milk sold/worker, lbs.		427,929	530,986	649,796	901,336	1,079,497
Cows/worker		24	30	35	41	45
Labor cost/cow		\$1,136	915	\$829	\$747	\$776
Labor cost/tillable acre		\$292	\$297	\$331	\$294	\$395
<u>Profitability &amp; Balance Sheet Analysis</u>						
Net farm income (without appreciation)		\$43,748	\$76,448	\$100,892	\$233,622	\$909,264
Labor & management income/operator		\$11,942	\$25,590	\$37,718	\$94,556	\$363,992
Rate return on all capital with appreciation		4.2%	7.0%	9.1%	14.0%	20.7%
Farm debt/cow		\$2,310	\$2,473	\$2,505	\$2,393	\$2,985
Percent equity		82%	77%	75%	75%	65%

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

**FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS**

32 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 2007

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)
2.86	58	1,099,232	24,446	2.9	25	39	810,088
2.40	53	1,036,401	22,911	3.6	22	33	707,891
2.16	51	996,659	21,564	2.4	20	29	588,257
2.03	48	941,296	20,915	2.3	18	26	488,972
1.95	47	874,710	20,045	2.1	18	25	438,230
1.88	45	833,652	17,757	1.9	16	23	397,870
1.70	43	816,327	16,563	1.8	15	20	365,041
1.55	40	727,982	15,284	1.6	14	20	337,736
1.44	36	574,365	13,818	1.3	14	19	300,938
1.20	31	358,434	10,386	0.8	12	17	217,459

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)	
\$487	16%	\$471	\$1,355	\$662	\$4.41	
669	20	621	1,669	863	5.12	
706	21	680	1,762	906	5.46	
777	23	721	1,830	962	5.64	
829	24	772	1,881	996	5.81	
895	25	832	2,103	1,171	6.08	
963	25	937	2,245	1,280	6.51	
1,028	27	1,019	2,364	1,335	7.09	
1,119	28	1,125	2,425	1,418	7.79	
1,239	31	1,371	2,646	1,548	9.10	

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)
\$4,908	\$9.25	\$16.77	\$103,687	\$2,080	\$71,795	\$104,731
4,584	10.36	19.62	77,384	1,791	39,495	71,980
4,528	12.16	20.88	66,142	1,398	33,110	54,915
4,199	12.44	21.86	55,982	1,195	27,372	49,040
3,957	12.83	22.67	49,561	1,103	21,721	41,663
3,596	13.51	23.35	40,986	1,024	11,107	30,723
3,396	14.23	24.80	36,123	874	3,731	27,089
3,166	14.85	25.92	28,950	695	-3,995	23,231
2,875	16.16	29.89	15,510	388	-21,220	17,838
2,181	21.36	34.70	-9,637	-162	-30,844	-18,866

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

**FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS**

35 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 2007

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
4.27	136	2,417,111	26,067	4.6	24	48	831,609
3.76	118	2,153,052	22,077	3.6	22	43	741,411
3.28	104	1,991,129	21,085	3.2	21	40	675,874
3.21	92	1,737,093	19,592	2.9	19	35	659,682
3.11	86	1,572,605	18,910	2.7	17	33	627,227
2.99	78	1,463,017	18,038	2.5	17	29	576,019
2.75	72	1,331,867	17,037	2.2	17	27	512,065
2.46	69	1,251,344	16,032	2.1	16	24	443,686
2.30	66	1,102,026	14,590	1.8	15	22	354,283
1.67	63	930,008	12,554	1.3	11	20	295,072

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)	
\$380	13%	\$425	\$1,230	\$567	\$3.84	
580	17	569	1,335	780	4.53	
753	19	608	1,443	955	4.91	
822	21	723	1,530	1,046	5.43	
911	24	808	1,684	1,100	5.87	
983	26	859	1,840	1,189	6.48	
1,102	28	937	1,954	1,252	7.01	
1,145	32	992	2,072	1,364	7.68	
1,272	35	1,049	2,258	1,516	8.71	
1,605	42	1,278	2,555	1,765	9.77	

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)
\$5,152	\$9.81	\$16.75	\$150,946	\$1,927	\$96,499	\$210,929
4,540	11.49	18.01	129,912	1,443	65,644	133,891
4,215	12.26	19.10	118,299	1,353	55,584	119,683
4,048	12.85	20.21	114,228	1,259	50,698	101,908
3,896	13.78	21.15	99,121	1,055	44,709	91,344
3,749	14.89	22.07	80,009	962	25,060	82,915
3,476	15.59	22.79	60,271	803	14,508	66,619
3,308	16.81	24.10	51,427	499	2,785	39,546
3,086	17.81	26.26	24,184	332	-18,266	21,345
2,526	20.92	28.74	-6,350	-77	-39,115	4,583

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

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

41 Freestall Barn Dairy Farms with 150 or Less Cows, New York, 2007

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
4.33	145	3,038,782	24,012	5.0	26	54	1,049,507
4.00	136	2,651,052	22,366	3.9	21	45	833,822
3.63	127	2,331,685	21,003	3.6	20	41	774,651
3.26	113	2,253,098	19,918	2.9	19	37	687,389
3.00	106	2,097,298	19,204	2.5	18	35	659,654
-----							
2.81	99	1,908,138	18,480	2.3	17	34	615,421
2.50	94	1,654,700	17,724	2.2	16	32	581,302
2.31	86	1,420,979	16,048	2.0	15	31	537,002
2.18	71	1,184,373	14,658	1.6	14	29	483,454
1.66	57	806,565	12,031	1.1	12	24	387,904

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	Feed & Crop Expenses Per Cwt. Milk
(12)	(12)	(14)	(14)	(12)	(12)	(12)
\$566	17%	\$412	\$1,101	\$724	\$4.63	\$4.63
705	19	552	1,307	956	5.48	5.48
796	22	585	1,364	1,078	6.01	6.01
848	24	637	1,441	1,116	6.15	6.15
923	25	686	1,527	1,187	6.77	6.77
-----						
999	26	758	1,582	1,314	6.98	6.98
1,085	27	830	1,708	1,387	7.11	7.11
1,158	29	935	1,856	1,533	7.29	7.29
1,264	30	1,143	2,084	1,625	8.03	8.03
1,449	39	1,397	2,414	1,744	11.20	11.20

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)
\$4,904	\$9.62	\$16.89	\$204,925	\$1,633	\$101,149	\$240,026
4,606	11.45	18.02	160,620	1,466	78,127	152,756
4,427	12.27	18.70	148,490	1,387	58,021	141,631
4,228	12.86	19.04	130,702	1,214	52,201	127,558
4,034	13.32	19.48	112,330	1,144	46,071	112,525
-----						
3,832	13.84	20.74	94,681	1,049	38,670	97,598
3,622	14.70	21.83	82,277	921	28,098	81,001
3,323	16.46	23.25	62,049	665	10,720	73,081
3,058	18.00	25.06	35,857	377	-2,391	49,312
2,610	19.88	29.84	1,774	-60	-29,731	23,250

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

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

36 Freestall Barn Dairy Farms with 151-300 Cows, New York, 2007

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
7.83	294	6,792,548	26,424	4.8	28	65	1,236,400
6.89	284	6,372,431	24,496	3.9	23	57	1,068,408
6.52	252	6,016,780	24,111	3.6	22	54	1,029,794
5.91	247	5,602,690	23,628	3.3	19	48	1,016,717
5.47	233	5,215,650	23,159	3.2	18	43	972,076
4.95	210	4,627,626	22,198	2.8	18	39	919,212
4.67	189	4,093,227	20,680	2.3	17	38	885,395
4.41	173	3,762,683	19,839	2.1	17	37	800,010
3.87	165	3,351,085	19,235	1.8	15	35	751,921
2.90	155	2,388,376	14,614	1.5	12	30	606,594

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	Feed & Crop Expenses Per Cwt. Milk
(12)	(12)	(14)	(14)	(12)	(12)	(12)
\$540	14%	\$511	\$1,067	\$723	\$3.91	\$3.91
743	18	586	1,281	1,042	5.00	5.00
823	20	685	1,366	1,132	5.75	5.75
924	22	745	1,457	1,271	5.89	5.89
1,069	24	818	1,567	1,352	6.02	6.02
1,127	26	884	1,676	1,459	6.37	6.37
1,199	26	911	1,744	1,537	6.82	6.82
1,278	27	977	1,808	1,598	7.11	7.11
1,353	29	1,137	2,018	1,660	7.56	7.56
1,384	31	1,347	2,150	1,806	8.28	8.28

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)
\$5,199	\$10.03	\$14.97	\$522,171	\$2,072	\$221,725	\$468,328
4,985	11.52	16.51	424,140	1,874	196,716	388,206
4,923	12.70	17.26	344,509	1,578	176,569	358,154
4,861	13.67	17.85	288,759	1,246	157,837	329,288
4,690	14.06	18.30	254,690	1,142	137,360	260,976
4,501	15.29	19.15	215,859	1,031	84,888	222,178
4,291	15.81	20.29	189,827	859	60,076	195,828
4,068	16.05	21.31	136,788	634	40,883	138,575
3,938	16.69	22.05	74,094	433	8,882	94,801
2,876	19.07	23.32	46,657	278	-32,490	49,839

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

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

91 Freestall Barn Dairy Farms with 300 or More Cows, New York, 2007

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)
35.08	1,745	43,004,232	27,708	5.7	26	60	1,442,799
25.81	1,128	27,970,111	25,873	4.6	23	53	1,228,772
21.66	995	23,835,953	25,285	3.9	22	50	1,175,249
18.59	865	20,478,846	24,607	3.6	20	47	1,134,274
15.92	695	17,089,191	24,064	3.3	20	46	1,090,405
14.17	599	13,917,572	23,604	3.1	19	44	1,040,403
12.37	500	11,748,180	22,960	2.9	18	42	991,802
10.60	436	9,928,631	22,459	2.6	17	41	940,420
9.32	396	8,949,216	21,325	2.4	16	37	868,410
7.29	337	7,514,627	19,524	2.0	14	31	722,816

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)	
\$790	18%	\$479	\$1,110	\$1,053	\$4.69	
914	20	558	1,285	1,192	5.23	
1,012	21	612	1,356	1,267	5.57	
1,053	22	643	1,403	1,339	5.73	
1,125	23	673	1,442	1,412	5.89	
1,173	24	720	1,496	1,459	6.11	
1,222	25	764	1,560	1,500	6.39	
1,281	26	817	1,620	1,582	6.68	
1,373	27	900	1,710	1,698	7.10	
1,578	31	989	1,899	1,958	7.58	

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)
\$5,766	\$10.81	\$14.51	\$2,337,300	\$2,043	\$1,103,132	\$2,686,277
5,344	12.31	15.59	1,362,553	1,708	746,602	1,778,284
5,125	12.83	16.14	1,144,933	1,530	566,178	1,286,712
5,010	13.31	16.57	969,379	1,430	461,248	1,058,420
4,860	13.78	16.88	829,297	1,308	395,098	935,098
4,788	14.11	17.13	719,767	1,167	313,715	774,985
4,700	14.39	17.55	618,874	1,042	257,134	645,479
4,538	14.89	17.83	519,316	937	197,335	543,433
4,314	15.79	18.29	416,726	788	152,336	421,480
3,985	16.81	20.23	247,977	442	46,295	205,528

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

## IDENTIFY AND SET GOALS

If businesses are to be successful, they must have direction. Written goals help provide businesses with an identifiable direction over both the long and short term. Goal setting is as important on a dairy farm as it is in other businesses. Written goals are a tool which farm operators can use to ensure that the business continues to move in the desired direction. Goals should be SMART:

1. Goals should be Specific.
2. Goals should be Measurable.
3. Goals should be Achievable but challenging.
4. Goals should be Rewarding.
5. Goals should be Timed with a designated date by which the goal will be achieved.

Goal setting on a dairy farm should be a process for writing down and agreeing on goals that you have already given some thought to. It is also important to remember that once you write out your goals they are not cast in concrete. If a change takes place which has a major impact on the farm business, the goals should be reworked to accommodate that change. Refer to your goals as often as necessary to keep the farm business progressing.

It is important to identify both objectives (long-range) and goals (short-range) when looking at the future of your farm business.

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

- a. Begin with a mission statement which describes why the business exists based on the preferences and values of the owners.
- b. Identify 4-6 objectives.
- c. Identify SMART goals.

### Worksheet for Setting Goals

#### I. Mission and Objectives

---



---



---



---



---



---



---



---



Worksheet for Setting Goals (Continued)

II. Goals

What	How	When	Who is Responsible
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Summarize Your Business Performance

The Farm Business and Financial Analysis Charts on pages 23 and 27-29 can be used to help identify strengths and weaknesses of your farm business. Identify three major strengths and three areas of your farm business that need improvement.

Strengths: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

**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; bST, DHIC, registration fees and transfers.

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

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

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

**Purchased Inputs Cost of Producing Milk** - (defined on page 18)

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

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

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

**Return on Equity Capital** - (defined on page 7)

**Return on Total Capital** - (defined on page 7)

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

**Total Costs of Producing Milk** - (defined on page 18)

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

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

## INDEX

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

Purchased Inputs Cost.....	18	Rotational Grazing.....	2,16
Receipts .....	4	Solvency .....	9
Record System .....	2	Total Costs of Producing Milk .....	18
Repayment Analysis .....	13	Whole Farm Method.....	18
Replacement Livestock.....	3	Worker Equivalent.....	19
Retained Earnings.....	10	Working Capital .....	9
Return on Equity Capital .....	7	Yields Per Acre.....	15
Return on Total Capital.....	7		

## OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2009-12	Dairy Farm Business Summary, Southeastern New York Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Kiraly, M., Walsh, J., Hulle, L. and C. Wickswat
2009-11	Dairy Farm Business Summary, Intensive Grazing Farms, New York, 2008	(\$16.00)	Conneman, G., Karszes, J., Grace, J., Beck, R., Staehr, A., Benson, A., Murray, P., Glazier, P., Carlberg, V., Anderson, J. and L. Putnam
2009-10	Dairy Farm Business Summary, Western and Central Plain Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Hanchar, J. and K. Getty
2009-09	Census of Agriculture Highlights, New York State, 2007		Bills, N. and B.F. Stanton
2009-08	Assessing the Success of Farmers' Markets in Northern New York: A Survey of Vendors, Customers, and Market Managers		Logozar, B. and T. Schmit
2009-07	Dairy Farm Business Summary, Western and Central Plateau Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Grace, J., Beck, R., Carlberg, V., Bliven, L. and T. Parmenter
2009-06	Dairy Farm Business Summary, New York Small Herd Farms, 80 Cows or Fewer, 2008	(\$16.00)	Knoblauch, W., Putnam, L., Kiraly, M. and J. Karszes
2009-05	Dairy Farm Business Summary, New York Large Herd Farms, 300 Cows or Larger, 2008	(\$16.00)	Karszes, J., Knoblauch, W. and L. Putnam
2009-04	Putting Market Information to Work: A Guide to Market Planning		Gloy, A.
2009-03	Evaluating Marketing Channel Options for Small-Scale Fruit and Vegetable Producers: Case Study Evidence from Central New York		LeRoux, M.N., Schmit, T.M., Roth, M. and D.H. Streeter
2009-02	Case Studies on the Use of Crop Insurance in Managing Risk		Gloy, B.A. and A.E. Staehr
2009-01	Do I Need Crop Insurance? Self Evaluating Crop Insurance as a Risk Management Tool in New York State		Richards, S., Staehr, A. and B. Gloy
2008-26	Immigration Issues: Perceptions of Golf Course Superintendents		Maloney, R. and R. Bills
2008-25	New York Economic Handbook	(\$10.00)	Extension Staff

Paper copies are being replaced by electronic Portable Document Files (PDFs). To request PDFs of AEM publications, write to (be sure to include your e-mail address): Publications, Department of Applied Economics and Management, Warren Hall, Cornell University, Ithaca, NY 14853-7801. If a fee is indicated, please include a check or money order made payable to Cornell University for the amount of your purchase. Visit our Web site (<http://aem.cornell.edu/outreach/materials.htm>) for a more complete list of recent bulletins.