

**DAIRY FARM  
BUSINESS SUMMARY**

SEPTEMBER 2008

E.B. 2008-17

**CENTRAL VALLEYS  
REGION  
2007**



**Wayne A. Knoblauch  
Linda D. Putnam  
Jason Karszes  
Daniel Murray  
Charles Z. Radick  
Cathy S. Wickswat  
James P. Manning  
Bonnie Collins  
David Balbian  
George Allhusen  
Sandra Buxton  
Rella Moag**

**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:



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 2008 by Cornell University. All rights reserved.

**2007 DAIRY FARM BUSINESS SUMMARY**  
**CENTRAL VALLEYS 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



## 2007 DAIRY FARM BUSINESS SUMMARY CENTRAL VALLEYS REGION\*

### INTRODUCTION

Dairy farm managers throughout New York State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Managers of each participating farm business receive a comprehensive summary and analysis of their farm business. The information in this report represents averages of the data submitted from dairy farms in the Central Valleys Region for 2007.

#### **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 2007 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.

---

\* This report was written by Wayne A. Knoblauch, Department of Applied Economics and Management, College of Agriculture and Life Sciences, Cornell University, in cooperation with Jason Karszes, Senior Extension Associate, PRO-DAIRY; Charles Z. Radick, Consultant; Cathy S. Wickswat, Extension Team Coordinator, Rensselaer County; James P. Manning and Bonnie Collins, Extension Educators, Oneida County; David Balbian, Fulton/Montgomery Area Specialist; George Allhusen, Consultant; Sandra Buxton, Extension Educator, Washington County; and Dan Murray, Extension Support Specialist, Department of Applied Economics and Management. Linda Putnam was in charge of data preparation. Rella Moag prepared the publication. The Central Valleys Region of New York State, with the number of participating farms in parentheses, is comprised of Chenango (3), Fulton (1), Herkimer (2), Madison (4), Montgomery (3), Oneida (5), Onondaga (7), Otsego (6), and Schoharie (6) Counties in New York. We acknowledge the cooperation of First Pioneer Farm Credit for their assistance in data collection.

## SUMMARY AND ANALYSIS OF THE FARM BUSINESS

### Business Characteristics

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

### BUSINESS CHARACTERISTICS 37 Central Valleys Region Dairy Farms, 2007

Type of Farm	Number	Milking System	Number
Dairy	35	Bucket & carry	0
Part-time dairy	0	Dumping station	1
Dairy cash-crop	2	Pipeline	12
Certified organic milk producer	0	Herringbone conventional exit	12
Rotational grazing farm	3	Herringbone rapid exit	1
		Parallel	8
		Parabone	1
		Rotary	0
		Other	2
Type of Ownership	Number	Production Records	Number
Owner	36	Testing Service	26
Renter	1	On Farm System	3
		Other	0
		None	8
Type of Business	Number	bST Usage	Number
Sole Proprietorship	15	Used consistently	9
Partnership	9	Used inconsistently	0
Limited Liability Corporation	11	Started using in 2007	0
Subchapter S Corporation	2	Stopped using in 2007	0
Subchapter C Corporation	0	Not used in 2007	28
		Average percent usage, if used	22%
Type of Barn	Number	Business Record System	Number
Stanchion or Tie-Stall	13	Account Book	4
Freestall	22	Accounting Service	18
Combination	2	On-farm computer	15
		Other	0
Milking Frequency	Number		
2 times per day	27		
3 times per day	7		
Other	3		
Breed of Herd	Percent		
Holstein	88		
Jersey	8		
Other	4		

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 2007.

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**  
37 Central Valleys Region Dairy Farms, 2007

Expense Item	Cash Paid	-	Change in Invento- ry or Prepaid Ex- pense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired Labor</u>	\$ 147,942		\$ 883	<<	\$ 18		\$ 147,077
<u>Feed</u>							
Dairy grain & concentrate	357,261		55,762		759		302,258
Dairy roughage	12,591		1,554		-492		10,545
Nondairy	0		0		0		0
Professional nutritional services	177		0		0		177
<u>Machinery</u>							
Machinery hire, rent & lease	28,932		0	<<	-490		28,441
Machinery repairs & farm vehicle exp.	61,441		2,020		-742		58,679
Fuel, oil & grease	52,955		1,057		-88		51,810
<u>Livestock</u>							
Replacement livestock	2,535		0	<<	0		2,535
Breeding	18,089		1,593		-53		16,442
Veterinary & medicine	42,454		2,975		44		39,523
Milk marketing	59,325		0	<<	408		59,733
Bedding	17,382		583		-267		16,532
Milking supplies	31,570		467		-373		30,730
Cattle lease & rent	349		0	<<	0		349
Custom boarding	3,047		0	<<	0		3,047
bST	8,195		-55		0		8,249
Livestock professional fees	4,418		965		0		3,452
Other livestock expense	3,674		20		-568		3,086
<u>Crops</u>							
Fertilizer & lime	53,411		13,049		-190		40,172
Seeds & plants	34,124		11,678		-452		21,994
Spray, other crop expense	18,683		1,315		0		17,368
Crop professional fees	1,151		0		0		1,151
<u>Real Estate</u>							
Land, building & fence repair	21,119		405		26		20,740
Taxes	20,044		1,044	<<	11		19,011
Rent & lease	17,141		0	<<	-46		17,095
<u>Other</u>							
Insurance	14,147		490	<<	-27		13,630
Utilities (farm share)	33,699		286	<<	29		33,443
Interest paid	49,266		0	<<	-1,025		48,241
Other professional fees	8,088		230		0		7,859
Miscellaneous	10,075		-239		0		10,313
Total Operating	\$ 1,133,283		\$ 96,081		\$ -3,517		\$ 1,033,685
Expansion livestock	14,592		0		0		14,592
Extraordinary expense	0		0		0		0
Machinery depreciation							54,113
Building depreciation							27,219
<b>TOTAL ACCRUAL EXPENSES</b>							<b>\$ 1,129,609</b>

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

Change in accounts payable: An increase in accounts payable from beginning to end of year is added when calculating accrual expenses because these expenses were incurred (resources used) in 2007 but not paid for. A decrease is subtracted because it represents payment for resources used before 2007.

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**

37 Central Valleys Region Dairy Farms, 2007

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$ 1,254,507				\$ 52,712		\$ 1,307,219
Dairy cattle	34,947		\$ 44,293		970		80,209
Dairy calves	7,394		5,289		0		12,683
Other livestock	327		149		4		480
Crops	17,072		46,438		-92		63,418
Government receipts	23,748		0 *		92		23,839
Custom machine work	4,502				0		4,502
Gas tax refund	207				0		207
Other	<u>17,245</u>				<u>1,810</u>		19,055
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$ 1,359,948		\$ 96,169		\$ 55,497		\$ 1,511,614

\*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 2007 for the 2008 crop year in excess of funds earned for 2007. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2007 but received in 2006.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 2008 for milk produced in December 2007 compared to January 2007 payments for milk produced in 2006 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.

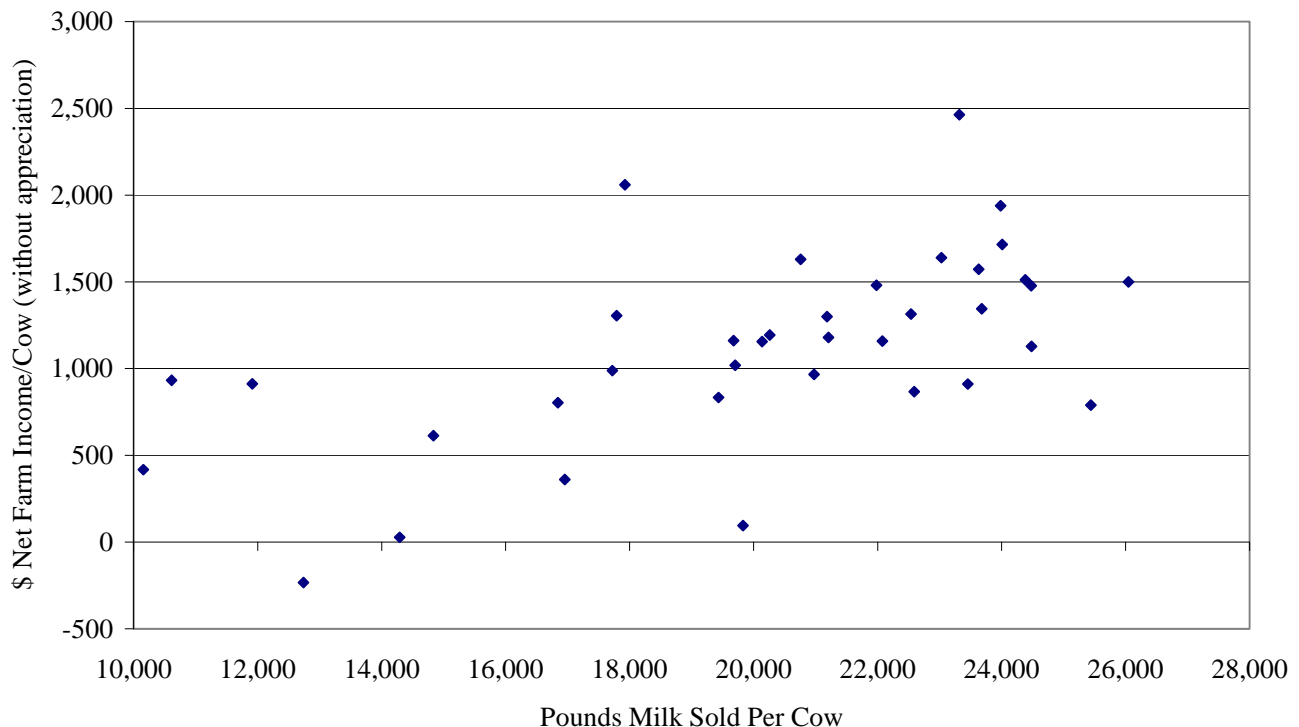
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit stock required for loan borrowings). Appreciation is a major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

**NET FARM INCOME**  
37 Central Valleys Region Dairy Farms, 2007

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$ 1,511,614		\$ _____	
Appreciation: Livestock	49,023		_____	
Machinery	22,507		_____	
Real Estate	51,255		_____	
Other Stock & Certificates	1,213		_____	
Total Including Appreciation	\$ 1,633,186		\$ _____	
Total accrual expenses	1,129,609		- _____	
Net Farm Income (with appreciation)	\$ 503,577	\$ 1,763	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 382,004	\$ 1,337	\$ _____	\$ _____

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

**NET FARM INCOME PER COW AND MILK PER COW**  
37 Central Valleys Region Dairy Farms, 2007



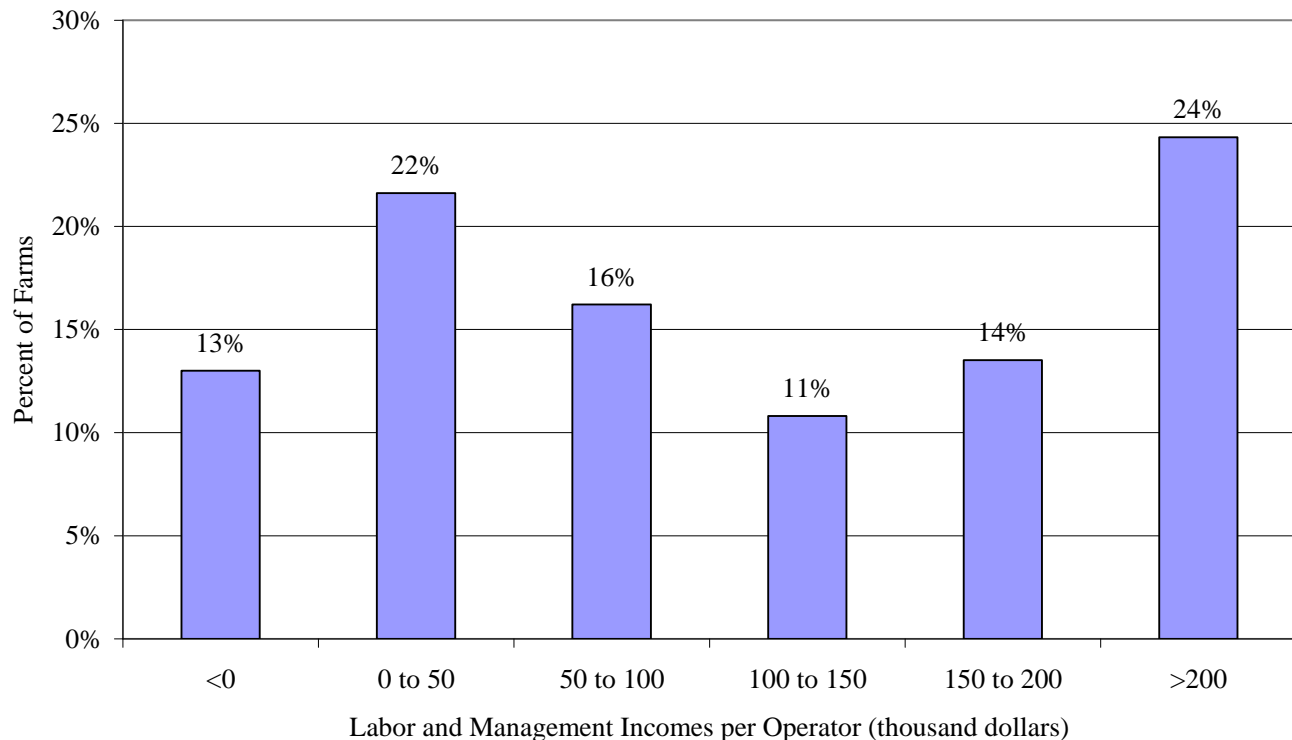
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and 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**  
37 Central Valleys Region Dairy Farms, 2007

Item	Average	My Farm
Net farm income without appreciation	\$ 382,004	\$ _____
Family labor unpaid @ \$2,400 per month	- 5,507	- _____
Interest on \$1,822,813 average equity capital @ 5% real rate	- 91,141	- _____
Labor & Management Income per farm (1.83 Operators/farm)	\$ 285,356	\$ _____
Labor & Management Income per Operator/Manager	\$ 155,933	\$ _____

Labor and management income per operator averaged \$155,933 on these 37 farms in 2007. The range in labor and management incomes per operator were from less than \$-44,000 to more than \$770,000. Returns to labor and management were less than \$50,000 on 35 percent of the farms, between \$50,000 and \$150,000 on 27 percent of the farms, while 38 percent of the farms had labor and management incomes of \$150,000 or more per operator.

**DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR**  
37 Central Valleys Region Dairy Farms, 2007



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**  
37 Central Valleys Region Dairy Farms, 2007

Item	Average	My Farm
Net farm income with appreciation	\$ 503,577	\$ _____
Family labor unpaid @\$2,400 per month	- 5,507	- _____
Value of operators' labor & management	<u>- 73,860</u>	- _____
Return on equity capital with appreciation	\$ 424,209	\$ _____
Interest paid	<u>+ 48,241</u>	+ _____
Return on total capital with appreciation	\$ 472,450	\$ _____
Return on equity capital without appreciation	\$ 302,636	\$ _____
Return on total capital without appreciation	\$ 350,877	\$ _____
Rate of return on average equity capital:		
with appreciation	23.3%	_____ %
without appreciation	16.6%	_____ %
Rate of return on average total capital:		
with appreciation	18.5%	_____ %
without appreciation	13.7%	_____ %
Net Farm Income from Operations Ratio	0.25	_____

**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 2007, lease payments were discounted by 9.06 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 2007 that are for participation in the 2008 program are the end year balance and payments received in 2006 for participation in the 2007 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.

**2007 FARM BUSINESS & NONFARM MARKET VALUE BALANCE SHEET**

37 Central Valleys Region Dairy Farms, 2007

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 20,732	\$ 9,845	Accounts payable	\$ 19,003	\$ 15,487
Accounts receivable	63,838	119,334	Operating debt	67,695	67,188
Prepaid expenses	1,348	5,245	Short Term	5,350	9,672
Feed & supplies	<u>216,987</u>	<u>355,608</u>	Advanced govt. receipts	0	0
Total Current	\$ 302,905	\$ 490,032	Current Portion:		
			Intermediate	58,906	61,941
			Long Term	<u>15,760</u>	<u>16,023</u>
			Total Current	\$ 166,714	\$ 170,311
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 374,231	\$ 439,808	1-10 years	\$ 299,386	\$ 274,879
leased	0	507	Financial lease		
Heifers	217,823	250,713	(cattle/machinery)	2,468	2,188
Bulls & other livestock	1,670	1,957	Farm Credit stock	<u>1,331</u>	<u>1,332</u>
Mach. & equip. owned	455,744	520,492	Total Intermediate	\$ 303,185	\$ 278,399
Mach. & equip. leased	2,468	1,681			
Farm Credit stock	1,331	1,332			
Other stock/certificate	<u>17,169</u>	<u>18,067</u>			
Total Intermediate	\$ 1,070,436	\$ 1,234,558			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 964,302	\$ 1,050,321	>10 years	\$ 262,998	\$ 285,320
leased	<u>605</u>	<u>448</u>	Financial lease		
Total Long Term	\$ 964,907	\$ 1,050,769	(structures)	<u>605</u>	<u>448</u>
			Total Long Term	\$ 263,603	\$ 285,768
Total Farm Assets	\$ 2,338,247	\$ 2,775,359	Total Farm Liabilities	\$ 733,502	\$ 734,478
			FARM NET WORTH	\$ 1,604,745	\$ 2,040,882

Nonfarm Assets, Liabilities & Net Worth (Average of 18 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	\$ 12,604	\$ 12,940	Nonfarm Liabilities	\$ 2,542	\$ 2,333
Cash value life insurance	37,523	41,761			
Nonfarm real estate	19,833	19,861			
Auto (personal share)	17,585	18,442			
Stocks & bonds	85,623	108,141			
Household furnishings	6,722	6,722			
All other nonfarm assets	<u>10,657</u>	<u>17,262</u>			
Total Nonfarm Assets	\$ 190,547	\$ 225,130	NONFARM NET WORTH	\$ 188,005	\$ 222,797

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

	Jan. 1	Dec. 31
Total Assets	\$2,528,794	\$3,000,489
Total Liabilities	<u>736,044</u>	<u>736,811</u>
TOTAL FARM & NONFARM NET WORTH	\$1,792,750	\$2,263,678

\*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**  
37 Central Valleys Region Dairy Farms, 2007

Item	Average		My Farm	
<u>Financial Ratios - Farm:</u>				
Percent equity		74%	_____	%
Debt/asset ratio: total		.26	_____	
long-term		.27	_____	
intermediate/current		.26	_____	
Leverage Ratio:		.36	_____	
Current Ratio:		2.88		
Working capital	\$319,721	As % of total expenses:	28%	
<u>Farm Debt Analysis:</u>				
Accounts payable as % of total debt		2%	_____	%
Long-term liabilities as a % of total debt		39%	_____	%
Current & intermediate liabilities as a % of total debt		61%	_____	%
Cost of term debt (weighted average)		7.1%	_____	%
<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	\$ 2,490	\$ 2,015	\$ _____	\$ _____
Long-term debt	969	784	_____	_____
Intermediate & long term	1,912	1,548	_____	_____
Intermediate & current debt	1,521	1,231	_____	_____

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**  
37 Central Valleys Region Dairy Farms, 2007

Item	Average of Region's Farms			
	Real Estate		Machinery & Equipment	
Value beginning of year	\$	964,302	\$	455,744
Purchases	\$	90,510*	\$	98,757
Gift & inheritance	+	2,973	+	0
Lost capital	-	25,236	-	2,403
Sales	-	6,264	-	54,113
Depreciation	-	27,219	-	
Net investment		= 34,764		= 42,241
Appreciation		+ 51,255		+ 22,507
Value end of year	\$	1,050,321	\$	520,492

\*\$34,230 land and \$56,280 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)**

37 Central Valleys Region Dairy Farms, 2007

Item	Average	My Farm
Beginning of year farm net worth	\$ 1,604,745	\$ _____
Net farm income without appreciation	\$ 382,004	\$ _____
+Nonfarm cash income	+ 16,105	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 89,203</u>	- _____
RETAINED EARNINGS	+ \$ 308,906	+\$ _____
Nonfarm noncash transfers to farm	\$ 2,973	\$ _____
+Cash used in business from nonfarm capital	+ 27,259	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	<u>- 1,622</u>	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 28,610	+\$ _____
Appreciation	\$ 121,572	\$ _____
-Lost capital	<u>- 25,236</u>	- _____
CHANGE IN VALUATION EQUITY	+ \$ 96,337	+\$ _____
IMBALANCE/ERROR	- \$ <u>-2,284</u>	- \$ _____
End of year net worth*	=\$ 2,040,882	=\$ _____
<u>Change in Net Worth</u>		
Without appreciation	\$ 314,565	\$ _____
With appreciation	\$ 436,137	\$ _____

\*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**  
37 Central Valleys Region Dairy Farms, 2007

Item	Average	
<b><u>Cash Flow from Operating Activities</u></b>		
Cash farm receipts	\$ 1,359,948	
- Cash farm expenses	1,133,283	
- Extraordinary expense	<u>0</u>	
= Net cash farm income		\$ 226,665
Personal withdrawals & family expenses including nonfarm debt payments	\$ 89,608	
- Nonfarm income	<u>16,105</u>	
- Net cash withdrawals from the farm		\$ <u>73,504</u>
= Net Provided by Operating Activities		\$ 153,162
<b><u>Cash Flow From Investing Activities</u></b>		
Sale of assets: machinery	\$ 2,403	
+ real estate	4,642	
+ other stock & cert.	<u>4,511</u>	
= Total asset sales		\$ 11,556
Capital purchases: expansion livestock	\$ 14,592	
+ machinery	98,757	
+ real estate	90,510	
+ other stock & cert.	<u>6,622</u>	
- Total invested in farm assets		\$ <u>210,481</u>
= Net Provided by Investment Activities		\$ -198,925
<b><u>Cash Flow From Financing Activities</u></b>		
Money borrowed (intermediate & long term)	\$ 120,091	
+ Money borrowed (short term)	9,595	
+ Increase in operating debt	0	
+ Cash from nonfarm capital used in business	27,259	
+ Money borrowed - nonfarm	<u>405</u>	
= Cash inflow from financing		\$ 157,351
Principal payments (intermediate & long term)	\$ 118,980	
+ Principal payments (short term)	5,273	
+ Decrease in operating debt	<u>506</u>	
- Cash outflow for financing		\$ <u>124,759</u>
= Net Provided by Financing Activities		\$ 32,592
<b><u>Cash Flow From Reserves</u></b>		
Beginning farm cash, checking & savings	\$ 20,732	
- Ending farm cash, checking & savings	<u>9,845</u>	
= Net Provided from Reserves		\$ <u>10,888</u>
Imbalance (error)		\$ -2,284

## 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 2008. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2008 debt payments shown below.

### FARM DEBT PAYMENTS PLANNED

Same 34 Central Valleys Region Dairy Farms, 2006 & 2007

Debt Payments	Average			My Farm		
	2007 Payments		Planned 2008	2007 Payments		Planned 2008
	Planned	Made		Planned	Made	
Long term	\$ 27,257	\$ 31,022	\$ 26,264	\$ _____	\$ _____	\$ _____
Intermediate term	84,922	110,249	78,574	_____	_____	_____
Short term	721	5,721	8,625	_____	_____	_____
Operating (net reduction)	3,324	19,030	8,315	_____	_____	_____
Accounts payable (net reduction)	955	9,574	29	_____	_____	_____
Total	\$ 117,179	\$ 175,595	\$ 121,807	\$ _____	\$ _____	\$ _____
Per cow	\$ 410	\$ 615		\$ _____	\$ _____	
Per cwt. 2007 milk	\$ 1.86	\$ 2.79		\$ _____	\$ _____	
Percent of total 2007 farm receipts	9%	12%		_____	_____	
Percent of 2007 milk receipts	9%	14%		_____	_____	

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 2007 (as of December 31, 2006) that could have been made with the amount available for debt service in 2007. Farmers who did not participate in DFBS in 2006 have their 2007 ratios based on planned debt payments for 2008.

### COVERAGE RATIOS

Same 34 Central Valleys Region Dairy Farms, 2006 & 2007

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$1,355,749	Net farm income (w/o appreciation)	\$ 378,076
- Cash farm expenses	1,128,188	+ Depreciation	81,225
+ Interest paid (cash)	44,120	+ Interest paid (accrual)	43,005
- Net personal withdrawals from farm*	<u>74,102</u>	- Net personal withdrawals from farm*	<u>74,102</u>
(A) = Amount Available for Debt Service	\$ 197,580	(A') = Repayment Capacity	\$ 428,204
(B) = Debt Payments Planned for 2007 (as of December 31, 2006)	\$ 117,179	(B) = Debt Payments Planned for 2007 (as of December 31, 2006)	\$ 117,179
(A/B) = Cash Flow Coverage Ratio for 2007	1.69	(A'/B) = Debt Coverage Ratio for 2007	3.65

\*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	37 Central Valleys Region		My Farm	Expected Change	2008 Projection
	Dairy Farms		Per Cow/ Per Cwt.		
	Per Cow	Per Cwt.	Per Cwt.		
Average number of cows	286				
Total cwt. of milk sold		63,120			
<u>Accrual Operating Receipts</u>					
Milk	\$4,576	\$20.71	\$ _____	_____	\$ _____
Dairy cattle	281	1.27	_____	_____	_____
Dairy calves	44	0.20	_____	_____	_____
Other livestock	2	0.01	_____	_____	_____
Crops	222	1.00	_____	_____	_____
Miscellaneous Receipts	<u>167</u>	<u>0.75</u>	_____	_____	_____
Total	\$5,292	\$23.95	\$ _____	_____	\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$515	\$2.33	\$ _____	_____	\$ _____
Dairy grain & concentrate	1,058	4.79	_____	_____	_____
Dairy roughage	37	0.17	_____	_____	_____
Nondairy feed	0	0.00	_____	_____	_____
Professional nutritional services	1	0.00	_____	_____	_____
Machinery hire, rent & lease	100	0.45	_____	_____	_____
Machinery repair & vehicle expense	205	0.93	_____	_____	_____
Fuel, oil & grease	181	0.82	_____	_____	_____
Replacement livestock	9	0.04	_____	_____	_____
Breeding	58	0.26	_____	_____	_____
Veterinary & medicine	138	0.63	_____	_____	_____
Milk marketing	209	0.95	_____	_____	_____
Bedding	58	0.26	_____	_____	_____
Milking supplies	108	0.49	_____	_____	_____
Cattle lease	1	0.01	_____	_____	_____
Custom boarding	11	0.05	_____	_____	_____
bST	29	0.13	_____	_____	_____
Livestock professional fees	12	0.05	_____	_____	_____
Other livestock expense	11	0.05	_____	_____	_____
Fertilizer & lime	141	0.64	_____	_____	_____
Seeds & plants	77	0.35	_____	_____	_____
Spray & other crop expense	61	0.28	_____	_____	_____
Crop professional fees	4	0.02	_____	_____	_____
Land, building & fence repair	73	0.33	_____	_____	_____
Taxes	67	0.30	_____	_____	_____
Real estate rent & lease	60	0.27	_____	_____	_____
Insurance	48	0.22	_____	_____	_____
Utilities	117	0.53	_____	_____	_____
Other professional fees	28	0.12	_____	_____	_____
Miscellaneous	<u>36</u>	<u>0.16</u>	_____	_____	_____
Total Less Interest Paid	\$3,450	\$16	\$ _____	_____	\$ _____
<u>Net Accrual Operating Income</u>					
(without interest paid)	\$	<u>Total</u> 526,169	\$ _____	_____	\$ _____
- Change in livestock /crop inventory*		96,169	_____	_____	_____
- Change in accounts receivable		55,497	_____	_____	_____
- Change in feed & supply inventory**		96,081	_____	_____	_____
+ Change in accounts payable***		<u>-2,492</u>	_____	_____	_____
NET CASH FLOW	\$	275,931	\$ _____	_____	\$ _____
- Net family withdrawals		<u>71,265</u>	_____	_____	_____
Available for Farm	\$	204,666	\$ _____	_____	_____
- Farm debt payments		<u>197,035</u>	_____	_____	_____
Available for Farm Investment	\$	7,631	\$ _____	_____	\$ _____
- Capital purchases		<u>210,481</u>	_____	_____	_____
Additional Capital Needed	\$	202,850	\$ _____	_____	\$ _____

\*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

37 Central Valleys Region Dairy Farms, 2007

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	365	352	717	_____	_____	_____
Nontillable	38	5	43	_____	_____	_____
Other nontillable	91	0	91	_____	_____	_____
Total	494	357	851	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Production/Acre</u>	<u>Acres</u>	<u>Production/Acre</u>	
Hay crop	37	326	3.30 tons DM	_____	_____	tons DM
Corn silage	31	240	19.37 tons	_____	_____	tons
			6.59 tons DM	_____	_____	tons DM
Other forage	2	63	2.78 tons DM	_____	_____	tons DM
Total forage	37	531	4.54 tons DM	_____	_____	tons DM
Corn grain	21	227	140 bushels	_____	_____	bushels
Oats	3	38	64 bushels	_____	_____	bushels
Wheat	3	117	70 bushels	_____	_____	bushels
Other crops	10	76		_____		
Tillable pasture	6	74		_____		
Idle	4	124		_____		
Total Tillable Acres	37	717		_____		

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 326, corn silage 201, corn grain 129, oats 3, tillable pasture 12, and idle 13.

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

37 Central Valleys Region Dairy Farms, 2007

Item	Average	My Farm
Total tillable acres per cow	2.51	_____
Total forage acres per cow	1.86	_____
Harvested forage dry matter, tons per cow	8.44	_____

**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 3 farms in the region.

**CROP RELATED ACCRUAL EXPENSES**  
Central Valleys Region Dairy Farms Reporting, 2007

Item	Total Per Till. Acre	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Shell Bu.	Hay Crop		Pasture	
					Per Acre	Per Ton DM	Per Till Acre	Per Total Acre
No. of farms reporting	37	3			3		0	
Ave. number of acres	717	394			247		0	0
Fert. & lime	\$ 41.64	\$ 75.28	\$ 12.84	\$ 0.60	\$ 77.86	\$ 23.48	\$ 0.00	\$ 0.00
Seeds & plants	24.64	46.32	7.86	0.37	6.33	1.69	0.00	0.00
Spray & other crop expense	<u>18.90</u>	<u>52.91</u>	<u>8.38</u>	<u>0.42</u>	<u>8.68</u>	<u>2.48</u>	<u>0.00</u>	<u>0.00</u>
TOTAL	\$ 85.18	\$ 174.51	\$ 29.08	\$ 1.39	\$ 92.87	\$ 27.65	\$ 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**  
37 Central Valleys Region Dairy Farms, 2007

Machinery Expense	Average		My Farm	
	Total Expenses	Per Tillable Acre	Total Expenses	Per Tillable Acre
Fuel, oil & grease	\$ 51,810	\$ 72.27	\$ _____	\$ _____
Mach. repair & vehicle expense	58,679	81.85	_____	_____
Machine hire, rent & lease	28,441	39.67	_____	_____
Interest (5%)	24,510	34.19	_____	_____
Depreciation	<u>54,113</u>	<u>75.48</u>	_____	_____
Total	\$ 217,554	\$ 303.46	\$ _____	\$ _____

**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**  
37 Central Valleys Region Dairy Farms, 2007

Item	Dairy Cows		Bred		Heifer Open		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	272	\$374,231	80	\$109,430	83	\$74,354	62	\$34,039
+ Change w/o apprec.		33,020		8,892		2,381		5,289
+ Appreciation		<u>32,557</u>		<u>9,965</u>		<u>4,358</u>		<u>2,005</u>
End year (owned)	293	\$439,808	85	\$128,286	85	\$81,093	70	\$41,334
End including leased	295							
Average number	286		235	(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**  
37 Central Valleys Region Dairy Farms, 2007

Item	Average	My Farm
Total milk sold, lbs.	6,312,003	_____
Milk sold per cow, lbs.	22,097	_____
Average milk plant test, percent butterfat	3.71%	_____

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

**ANIMALS LEAVING THE HERD**  
37 Central Valleys Region Dairy Farms, 2007

Item	Average		My Farm	
	Number	Percent*	Number	Percent*
Cows sold for beef	64	22.4	_____	_____
Cows sold for dairy	2	0.8	_____	_____
Cows died	16	5.7	_____	_____
Culling rate**		28.0		_____

\*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**

37 Central Valleys Region Dairy Farms, 2007

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Cost of Producing Milk</u>						
Operating costs	\$843,883	\$2,954	\$13.37	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$925,215	\$3,239	\$14.66	\$ _____	\$ _____	\$ _____
Total Costs	\$1,095,724	\$3,836	\$17.36	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts</u>						
<u>From Milk</u>	\$1,307,219	\$4,576	\$20.71	\$ _____	\$ _____	\$ _____
Net Milk Receipts	\$1,247,487	\$3,949	\$19.76	\$ _____	\$ _____	\$ _____
Net Farm Income without Apprec.	\$382,004	\$1,337	\$6.05	\$ _____	\$ _____	\$ _____
Net Farm Income with Appreciation	\$503,577	\$1,763	\$7.98	\$ _____	\$ _____	\$ _____

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**

37 Central Valleys Region Dairy Farms, 2007

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 1,058	\$4.79	\$ _____	\$ _____
Purchased dairy roughage	37	0.17	_____	_____
Total Purchased Dairy Feed	\$ 1,095	4.96	\$ _____	\$ _____
Purchased grain & concentrate as % of milk receipts		23%		_____ %
Purchased feed & crop expense	\$1,378	6.23	\$ _____	\$ _____
Purchased feed & crop expense as % of milk receipts		30%		_____ %
Breeding	\$ 58	0.26	\$ _____	\$ _____
Veterinary & medicine	138	0.63	_____	_____
Milk marketing	209	0.95	_____	_____
Bedding	58	0.26	_____	_____
Milking supplies	108	0.49	_____	_____
Cattle lease	1	0.01	_____	_____
Custom boarding	11	0.05	_____	_____
bST	29	0.13	_____	_____
Livestock professional fees	12	0.05	_____	_____
Other livestock expense	11	0.05	_____	_____

**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**  
37 Central Valleys Region Dairy Farms, 2007

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$369,480	\$8,951	\$3,566	\$7,015
Real estate		\$3,528		\$2,765
Machinery & equipment	\$70,837	\$1,716	\$684	

Ratios

Asset turnover	Operating Expense	Interest Expense	Depreciation Expense
0.64	0.66	0.03	0.05

My Farm

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

Ratios

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

**LABOR FORCE INVENTORY**  
37 Central Valleys Region Dairy Farms, 2007

Labor Force	Months	Age	Years of Education	Value of Labor & Management
Operator number 1	13.5	52	14	\$ 40,071
Operator number 2	7.2	48	14	21,396
Operator number 3	2.6	49	15	7,313
Operator number 4	1.7	43	15	5,081
Family paid	4.6			
Family unpaid	2.3			
Hired	<u>51.3</u>			
Total	82.3	/ 12 = 6.92 Worker Equivalent		
		1.83 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

37 Central Valleys Region Dairy Farms, 2007

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	286	41	_____	_____
Milk sold, pounds	6,312,003	912,689	_____	_____
Tillable acres	717	104	_____	_____

### LABOR AND MACHINERY COSTS

37 Central Valleys Region Dairy Farms, 2007

Labor Costs	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Value of operator(s)						
labor (\$2,400/month)	\$ 59,616	\$ 209	\$ 0.94	\$ _____	\$ _____	\$ _____
Family unpaid						
(\$2,400/month)	5,496	19	0.09	_____	_____	_____
Hired	<u>147,077</u>	<u>515</u>	<u>2.33</u>	_____	_____	_____
Total Labor	\$ 212,189	\$ 743	\$ 3.36	\$ _____	\$ _____	\$ _____
Machinery Cost	<u>217,554</u>	<u>762</u>	<u>3.45</u>	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$ 429,743	\$ 1,504	\$ 6.81	\$ _____	\$ _____	\$ _____
Hired labor expense per hired worker equivalent			\$31,596	\$ _____		
Hired labor expense as % of milk sales			11.3%	_____%		



## 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 34 Central Valleys Region Dairy Farms, 2006 & 2007

Selected Factors	Average of 34 farms*		My Farm		
	2006	2007	2006	2007	Goal
<u>Size of Business</u>					
Average number of cows	267	286	_____	_____	_____
Average number of heifers	222	237	_____	_____	_____
Milk sold, pounds	5,853,519	6,283,591	_____	_____	_____
Worker equivalent	6.51	6.86	_____	_____	_____
Total tillable acres	648	704	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, pounds	21,909	22,007	_____	_____	_____
Hay DM per acre, tons	3.1	3.4	_____	_____	_____
Corn silage per acre, tons	16.3	18.9	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	41	42	_____	_____	_____
Milk sold/worker, pounds	899,158	915,975	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	28	23	_____ %	_____ %	_____ %
Dairy feed & crop expense per cwt. milk	\$ 5.11	\$ 6.26	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,433	\$ 1,492	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 12.26	\$ 13.37	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$ 8,116	\$ 8,826	\$ _____	\$ _____	\$ _____
Mach. & equipment per cow	\$ 1,661	\$ 1,716	\$ _____	\$ _____	\$ _____
Asset turnover ratio	0.48	0.64	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$ 38,985	\$ 378,076	\$ _____	\$ _____	\$ _____
Net farm income w/apprec.	\$ 91,883	\$ 494,355	\$ _____	\$ _____	\$ _____
Labor & mgmt. income per operator/manager	\$ -23,394	\$ 153,353	\$ _____	\$ _____	\$ _____
Rate of return on equity capital w/appreciation	1.0	22.3	_____ %	_____ %	_____ %
Rate of return on all capital w/appreciation	2.5	18.2	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$ 1,568,304	\$ 2,062,416	\$ _____	\$ _____	\$ _____
Debt to asset ratio	0.29	0.24	_____	_____	_____
Farm debt per cow	\$ 2,359	\$ 2,267	\$ _____	\$ _____	\$ _____

\*Farms participating both years.

\*\*Average for the year.

**RECEIPTS AND EXPENSES PER COW AND PER CWT.**  
Same 34 Central Valleys Region Dairy Farms, 2006 & 2007

Item	2006		2007	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	267		286	
Cwt. of Milk Sold		58,535		62,836
<b><u>ACCRUAL OPERATING RECEIPTS</u></b>				
Milk	\$3,131	\$14.29	\$4,552	\$20.68
Dairy cattle	232	1.06	259	1.18
Dairy calves	33	0.15	40	0.18
Other livestock	2	0.01	2	0.01
Crops	70	0.32	218	0.99
Miscellaneous receipts	<u>237</u>	<u>1.08</u>	<u>164</u>	<u>0.75</u>
Total Receipts	\$3,706	\$16.91	\$5,234	\$23.78
<b><u>ACCRUAL OPERATING EXPENSES</u></b>				
Hired labor	\$ 511	\$ 2.33	\$ 507	\$ 2.31
Dairy grain & concentrate	875	4.00	1,057	4.80
Dairy roughage	24	0.11	36	0.16
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	2	0.01	1	0.00
Machine hire, rent & lease	76	0.35	102	0.46
Machinery repair & vehicle expense	196	0.89	202	0.92
Fuel, oil & grease	151	0.69	181	0.82
Replacement livestock	8	0.04	9	0.04
Breeding	57	0.26	56	0.26
Veterinary & medicine	134	0.61	139	0.63
Milk marketing	211	0.96	211	0.96
Bedding	50	0.23	58	0.26
Milking supplies	112	0.51	107	0.49
Cattle lease	0	0.00	1	0.01
Custom boarding	10	0.05	11	0.05
bST expense	31	0.14	31	0.14
Livestock professional fees	7	0.03	11	0.05
Other livestock expense	14	0.06	11	0.05
Fertilizer & lime	100	0.46	142	0.65
Seeds & plants	66	0.30	77	0.35
Spray & other crop expense	52	0.24	60	0.27
Crop professional fees	1	0.00	4	0.02
Land, building & fence repair	51	0.23	68	0.31
Taxes	66	0.30	65	0.29
Real estate rent & lease	75	0.34	63	0.29
Insurance	55	0.25	49	0.22
Utilities	105	0.48	122	0.55
Interest paid	142	0.65	151	0.68
Other professional fees	19	0.08	27	0.12
Miscellaneous	<u>32</u>	<u>0.15</u>	<u>37</u>	<u>0.17</u>
Total Operating Expenses	\$3,232	\$14.75	\$3,598	\$16.35
Expansion Livestock	29	0.13	28	0.13
Extraordinary Expense	2	0.01	0	0.00
Machinery Depreciation	186	0.85	187	0.85
Real Estate Depreciation	<u>112</u>	<u>0.51</u>	<u>98</u>	<u>0.44</u>
Total Expenses	\$3,561	\$16.25	\$3,911	\$17.77
Net Farm Income Without Appreciation	\$ 146	\$ 0.67	\$1,324	\$ 6.02

### 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**

37 Central Valleys Region Dairy Farms, 2007

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)
17.65	742	17,568,534	24,688	4.8	24	58	1,188,883
8.60	378	8,458,403	23,177	3.7	20	44	951,478
4.54	209	4,222,240	21,206	3.2	18	39	813,755
3.13	104	1,802,007	19,207	2.5	17	33	683,767
1.92	54	922,978	13,543	1.7	13	24	376,874

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)	
\$520	15%	\$548	\$1,193	\$757	\$4.78	
799	19	674	1,445	1,117	5.57	
1,024	24	792	1,648	1,300	6.15	
1,156	27	965	1,890	1,452	6.72	
1,373	31	1,307	2,369	1,649	7.90	

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)
\$5,084	\$10.67	\$15.71	\$1,474,166	\$1,117,371	\$437,357	\$1,368,584
4,753	12.29	17.25	662,640	496,125	186,480	569,446
4,350	13.62	18.63	337,048	261,065	103,439	235,032
3,918	14.47	21.31	135,098	106,174	39,644	96,402
2,874	18.02	27.42	29,322	20,355	-12,151	19,303

\*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** 39 New York Dairy Farms, 2007

<u>Animals Entering Herd</u>	Average
Number calving in 2007 for first time	127.4
Animals purchased, % <sup>1</sup>	5.9%
Animals raised by farm, % <sup>2</sup>	94.1%
<u>Current Heifer Inventory</u>	
Raised on dairy, %	89.7%
Raised by a custom grower, %	10.3%

<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, 127.4 animals calved for the first time in 2007. The breakdown on these animals for source was 5.9 percent purchased and 94.1 percent raised by the farm. Of the current heifer inventory, 89.7 percent were raised on the dairy and 10.3 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, 62 Central Valleys and Northern Hudson region 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**  
62 Central Valleys and Northern Hudson Region Dairy Farms, 2007

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
<b>BASE FARM PRICE</b>					
Butterfat	237,449.24	3.71%	\$1.47	\$ 349,568	\$ 5.46
Protein	198,593.32	3.10%	\$3.53	\$ 700,439	\$10.93
Solids	368,191.53	5.75%	\$0.42	\$ 155,023	\$ 2.42
<b>Total Component Contribution</b>					\$18.81
<b>PPD</b>	6,405,642.13			\$85,702.98	\$1.34
<b>Base Farm Price</b>					\$20.15
<b>Premiums</b>					
Quality				\$13,122.92	\$0.20
Volume				\$23,721.26	\$0.37
Market Premiums				\$23,711.81	\$0.37
<b>Total Premiums</b>					\$0.95
<b>BASE FARM PRICE + PREMIUM</b>					\$21.10
<hr style="border-top: 1px dashed black;"/>					
<b>Deductions</b>					
Promotion				\$ 9,923.87	\$0.15
Hauling + Stop Charges.				\$48,370.76	\$0.76
Market Fees & Coop Dues				\$6,346.45	\$0.10
<b>Total Deductions</b>					\$1.01
<b>BASE FARM PRICE + PREMIUMS - DEDUCTIONS</b>					\$20.09
<b>Marketing Programs</b>					
Futures Contracts, Forward Contracting, Etc.				\$-7,710.55	\$-0.12
<b>Total Marketing Income</b>					\$-0.12
<b>Patronage Dividends</b>				\$1,324.71	\$ 0.02
<b>NET PRICE RECEIVED ON FARM, ALL SOURCES</b>					\$19.99
<b>PPD - Hauling, \$ per cwt.</b>					\$0.58
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>					\$0.95
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>					\$1.27

**MILK PRICE INFORMATION BY QUINTILE\***

(Each Category Sorted Independently)

62 Central Valleys and Northern Hudson Region Dairy Farms, 2007

	Lowest Quintile				Highest Quintile
Butterfat, %	3.52	3.64	3.74	3.84	4.12
Protein, %	2.96	3.03	3.07	3.14	3.30
Other Solids, %	5.58	5.69	5.73	5.76	5.81
Butterfat, \$ per Cwt.	5.21	5.38	5.49	5.63	6.05
Protein, \$ per Cwt.	10.26	10.69	10.92	11.09	11.64
Other solids, \$ per Cwt.	2.31	2.38	2.41	2.45	2.52
<b>Total Component Value per Cwt.</b>	<b>\$18.00</b>	<b>\$18.49</b>	<b>\$18.82</b>	<b>\$19.05</b>	<b>\$20.06</b>
PPD, \$ per Cwt.	1.04	1.23	1.31	1.43	1.67
<b>Base Farm Price per Cwt.</b>	<b>\$19.27</b>	<b>\$19.77</b>	<b>\$20.10</b>	<b>\$20.42</b>	<b>\$21.51</b>
Quality, \$ per Cwt.	-0.01	0.08	0.15	0.22	0.48
Volume, \$ per Cwt.	0.00	0.04	0.11	0.27	0.61
Market premium, \$ per Cwt.	0.02	0.24	0.36	0.44	0.74
<b>Total Premium, \$ per Cwt.</b>	<b>0.34</b>	<b>0.50</b>	<b>0.65</b>	<b>0.88</b>	<b>1.35</b>
<b>Base Farm Price + Premiums per Cwt.</b>	<b>\$19.97</b>	<b>\$20.46</b>	<b>\$20.82</b>	<b>\$21.20</b>	<b>\$22.29</b>
Promotion, \$ per Cwt.	0.15	0.15	0.15	0.15	0.19
Hauling, \$ per Cwt.	0.43	0.63	0.83	1.01	1.29
Market fees & coop dues per Cwt.	0.01	0.09	0.14	0.18	0.20
<b>Total Marketing Expenses per Cwt.</b>	<b>\$0.64</b>	<b>\$0.92</b>	<b>\$1.15</b>	<b>\$1.31</b>	<b>\$1.56</b>
<b>Base + Premiums – Deductions per Cwt.</b>	<b>\$18.75</b>	<b>\$19.37</b>	<b>\$19.82</b>	<b>\$20.17</b>	<b>\$21.11</b>
Futures contract, forward contracting, \$ per Cwt.	-0.16	0.00	0.00	0.00	0.00
<b>Total Marketing Income, \$ per Cwt.</b>	<b>-\$0.16</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Patronage Dividends, \$ per Cwt.</b>	<b>\$ 0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.01</b>	<b>\$0.11</b>
<b>Net Price Received From All Sources, \$ per Cwt.</b>	<b>\$18.76</b>	<b>\$19.32</b>	<b>\$19.80</b>	<b>\$20.20</b>	<b>\$21.08</b>
<b>PPD - Hauling, \$ per cwt.</b>	<b>0.22</b>	<b>0.37</b>	<b>0.49</b>	<b>0.63</b>	<b>0.83</b>
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>	<b>0.45</b>	<b>0.69</b>	<b>0.81</b>	<b>0.97</b>	<b>1.40</b>
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>	<b>0.34</b>	<b>0.63</b>	<b>0.91</b>	<b>1.24</b>	<b>1.75</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 240 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

240 New York Dairy Farms, 2006

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)
28.1	1,334	32,838,030	26,422	5.7	26	63	1,408,635
16.3	709	16,957,054	24,798	4.1	22	51	1,164,573
11.0	477	10,783,772	23,910	3.7	20	47	1,039,317
7.6	331	7,448,566	23,018	3.4	19	42	954,496
5.2	214	4,585,983	22,109	3.1	18	39	826,233
-----							
4.0	146	2,847,092	20,965	2.7	17	36	731,278
3.4	110	2,130,985	19,752	2.4	16	33	650,759
2.8	81	1,531,301	18,425	2.2	14	30	585,305
2.1	60	1,068,877	16,623	1.9	12	26	478,008
1.5	40	670,582	12,981	1.3	9	20	321,457

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)	
\$405	17%	\$340	\$951	\$570	\$3.30	
622	23	464	1,148	800	4.11	
706	26	530	1,255	884	4.48	
782	27	573	1,336	988	4.76	
842	29	621	1,396	1,061	4.99	
-----						
892	30	658	1,462	1,125	5.17	
945	31	702	1,544	1,174	5.36	
1,006	33	760	1,679	1,255	5.70	
1,057	36	855	1,849	1,325	6.24	
1,221	42	1,139	2,320	1,501	7.37	

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

**FARM BUSINESS CHART FOR  
FARM MANAGEMENT COOPERATORS**  
240 New York Dairy Farms, 2006

Milk Receipts Per Cow	Milk Receipts Per Cwt.	Oper. Cost Milk Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cow	Total Cost Production Per Cwt.
(12)	(12)	(12)	(12)	(12)	(12)
\$3,700	\$15.39	\$1,328	\$8.24	\$2,373	\$12.93
3,413	14.56	1,738	9.69	2,865	14.08
3,274	14.26	2,026	10.30	3,118	14.66
3,163	14.00	2,231	10.74	3,306	15.28
3,061	13.83	2,369	11.27	3,444	15.83
-----					
2,909	13.68	2,564	11.93	3,546	16.43
2,720	13.54	2,707	12.44	3,712	17.35
2,565	13.40	2,901	12.94	3,839	18.55
2,338	13.24	3,131	13.62	4,062	20.16
1,808	12.88	3,465	15.95	4,500	24.96

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)
\$322,100	\$811	0.23	\$580,521	\$1,156	\$152,400	\$103,004
140,266	557	0.16	251,067	777	43,564	25,997
85,016	444	0.12	162,504	628	12,316	7,456
51,109	344	0.10	103,202	523	-3,736	-2,485
32,171	214	0.06	69,484	416	-18,707	-13,358
-----						
18,126	125	0.03	45,567	309	-37,164	-26,146
4,697	34	0.01	29,036	228	-62,910	-45,584
-16,215	-80	-0.02	15,548	100	-88,972	-65,273
-41,972	-194	-0.06	-5,920	-40	-137,571	-96,575
-183,853	-653	-0.25	-76,486	-442	-368,899	-215,708

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**  
240 New York Dairy Farms, 2006

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)
\$70	\$916	6.08	5.75	2%	\$355	44%	21.29
207	677	1.62	1.69	7	1,144	29	4.45
309	570	1.29	1.31	10	1,735	22	2.97
372	518	1.04	1.09	12	2,217	17	2.24
414	451	0.85	0.92	14	2,531	14	1.86
465	371	0.75	0.71	16	2,867	10	1.62
536	290	0.64	0.50	18	3,221	7	1.36
605	186	0.50	0.34	21	3,581	2	1.08
689	90	0.25	0.01	24	4,197	-4	0.80
872	-323	-1.12	-1.67	34	5,299	-18	0.42
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)	
0.03	97%	0.03	0.00	0.65	0.00	0.02	
0.16	87	0.11	0.00	0.72	0.02	0.05	
0.23	82	0.17	0.02	0.76	0.03	0.05	
0.33	76	0.25	0.13	0.79	0.04	0.06	
0.45	69	0.29	0.22	0.81	0.04	0.07	
0.57	64	0.33	0.31	0.83	0.05	0.08	
0.65	61	0.39	0.42	0.85	0.06	0.09	
0.85	54	0.48	0.56	0.88	0.07	0.10	
1.14	47	0.56	0.68	0.92	0.07	0.12	
2.38	34	0.79	0.89	1.09	0.11	0.17	
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)	
0.73	\$1,452	\$596	\$5,471	\$370,169	16%	12%	
0.60	2,183	872	6,557	125,206	9	8	
0.54	2,529	1,087	7,001	70,554	5	5	
0.50	2,859	1,305	7,418	35,165	3	4	
0.46	3,176	1,508	7,851	14,111	1	3	
0.43	3,572	1,681	8,564	3,977	-1	2	
0.38	4,041	1,899	9,460	-7,539	-2	0	
0.35	4,658	2,211	10,346	-23,182	-5	-2	
0.30	5,572	2,670	11,680	-62,442	-10	-4	
0.21	8,469	3,845	15,097	-254,438	-27	-11	

\*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 737 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 2006 State Summary\*. As herd size increases, the net farm income profitability generally increases (page 48)\*. Net farm income without appreciation averaged \$5,133 per farm for the less than 50 cow farms and \$71,561 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 but the smallest herd size category saw an increase in net worth during 2006. The largest herd size category experienced an increase in net worth of more than \$55,000. However, percent equity went down as assets increased. The largest herds had the lowest percent equity; while the smaller herds averaged 75 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 18,788 pounds of milk sold per cow. Farm capital per worker increased, and farm capital per cow decreased as herd size increased. Milk sold per worker increased dramatically as herd size increased, ranging from 394,777 pounds at the lowest herd size category up to 1,139,299 pounds at the largest size category.

---

\*Wayne A. Knoblauch, Linda D. Putnam, and Jason Karszes, Dairy Farm Management Business Summary, New York, 2006, Department of Applied Economics and Management, Cornell University, R.B. 2007-01, October 2007.

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

226 New York Dairy Farms, 2006

Item	Farms with:	Conventional		Freestall		
		<= 60 Cows	>60 Cows	<=150 Cows	151-300 Cows	≥300 Cows
Number of farms		33	31	40	32	90
<u>Cropping Program Analysis</u>						
Total Tillable acres		163	291	268	509	1,412
Tillable acres rented*		72	108	125	227	722
Hay crop acres*		112	177	162	255	671
Corn silage acres*		18	58	70	146	540
Hay crop, tons DM/acre		1.9	2.4	2.6	3.1	3.5
Corn silage, tons/acre		13.0	15.0	15.9	17.7	18.8
Oats, bushels/acre		32	48	67	55	68
Forage DM per cow, tons		6.7	8.2	8.3	8.2	8.0
Tillable acres/cow		3.7	3.3	2.7	2.5	2.0
Fertilizer & lime expense/tillable acre		\$18.16	\$26.07	\$31.06	\$35.50	\$36.49
Total machinery costs		\$30,680	\$65,384	\$72,772	\$139,662	\$445,945
Machinery cost/tillable acre		\$185	\$225	\$252	\$270	\$310
<u>Dairy Analysis</u>						
Number of cows		45	88	103	212	737
Number of heifers		36	73	85	169	594
Milk sold, lbs.		812,007	1,623,888	1,952,823	4,634,237	17,592,917
Milk sold/cow, lbs.		17,985	18,441	19,006	21,889	23,880
Operating cost of producing milk/cwt.		\$10.89	\$11.43	\$12.12	\$11.15	\$12.21
Total cost of producing milk/cwt.		\$19.50	\$18.55	\$18.29	\$15.05	\$14.98
Price/cwt. milk sold		\$13.70	\$13.75	\$13.99	\$13.72	\$13.86
Purchased dairy feed/cow		\$827	\$742	\$917	\$916	\$1,024
Purchased dairy feed/cwt. milk		\$4.60	\$4.02	\$4.82	\$4.18	\$4.29
Purchased grain & concentrate as % of milk receipts		31%	29%	32%	28%	29%
Purchased feed & crop expense/cwt milk		\$5.28	\$4.95	\$5.74	\$5.02	\$4.99
<u>Capital Efficiency</u>						
Farm capital/worker		\$272,686	\$293,447	\$317,114	\$345,627	\$338,825
Farm capital/cow		\$11,234	\$9,964	\$9,413	\$8,358	\$7,414
Farm capital/tillable acre owned		\$5,572	\$4,797	\$6,749	\$6,281	\$7,921
Real estate/cow		\$5,840	\$3,942	\$4,156	\$3,620	\$2,792
Machinery investment/cow		\$2,152	\$2,629	\$2,015	\$1,494	\$1,251
Asset turnover ratio		0.30	0.33	0.36	0.46	0.56
<u>Labor Efficiency</u>						
Worker equivalent		1.86	2.99	3.05	5.12	16.12
Operator/manager equivalent		1.13	1.46	1.51	1.64	1.97
Milk sold/worker, lbs.		435,977	542,653	641,321	905,419	1,091,541
Cows/worker		24	29	34	41	46
Labor cost/cow		\$1,041	\$895	\$804	\$700	\$746
Labor cost/tillable acre		\$288	\$271	\$308	\$291	\$389
<u>Profitability &amp; Balance Sheet Analysis</u>						
Net farm income (without appreciation)		\$11,533	\$12,103	\$5,886	\$64,354	\$71,152
Labor & management income/operator		\$-14,350	\$-21,733	\$-24,984	\$-1,615	\$-48,899
Rate return on all capital with appreciation		-2.5%	-1.2%	-1.2%	3.9%	4.9%
Farm debt/cow		\$2,608	\$2,137	\$2,554	\$2,529	\$3,048
Percent equity		76%	79%	73%	69%	59%

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

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

33 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 2006

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)
2.96	59	1,192,109	24,092	3.7	20	40	815,100
2.50	55	1,022,366	22,470	3.0	18	36	642,167
2.22	52	982,135	20,497	2.6	16	32	566,243
2.07	50	954,362	19,848	2.3	14	28	525,681
1.92	47	889,922	19,286	2.1	13	25	451,840
-----							
1.82	45	827,669	17,946	2.0	12	25	423,297
1.58	44	797,005	17,083	1.9	12	23	389,718
1.49	41	747,286	15,205	1.8	11	22	365,412
1.41	36	569,820	14,110	1.5	9	19	321,522
1.17	30	382,780	12,138	0.9	7	16	236,755

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)
\$337	16%	\$312	\$1,070	\$465	\$3.18	\$3.18
580	24	464	1,303	711	4.12	4.12
661	27	525	1,440	820	4.72	4.72
701	30	600	1,559	892	4.90	4.90
752	31	649	1,725	930	5.10	5.10
-----						
790	33	712	1,840	1,002	5.18	5.18
848	34	737	1,959	1,039	5.60	5.60
915	35	815	2,078	1,089	6.20	6.20
1,016	39	983	2,416	1,298	7.05	7.05
1,155	47	1,191	2,669	1,435	8.30	8.30

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
			Total	Per Cow		
(12)	(12)	(12)	(4)	(12)	(4)	(8)
\$3,229	\$7.01	\$13.74	\$55,764	\$1,111	\$35,285	\$60,691
3,106	8.72	17.03	36,861	829	7,558	19,430
2,907	9.52	17.99	28,102	687	3,047	14,650
2,724	10.03	18.73	24,784	504	-2,217	11,494
2,604	10.29	19.13	18,710	399	-4,368	7,836
-----						
2,454	10.55	19.66	15,313	353	-10,192	3,294
2,361	11.14	21.25	9,672	257	-16,497	529
2,151	12.47	23.35	5,947	161	-30,598	-3,217
1,880	13.21	24.43	-663	-23	-50,984	-6,700
1,664	19.26	27.59	-52,039	-1,077	-64,639	-44,982

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

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

31 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 2006

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds of 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)
4.35	135	2,472,209	25,249	3.7	20	54	1,078,074
3.76	120	2,158,230	22,777	3.4	20	43	747,577
3.39	97	1,918,592	20,915	3.2	19	39	696,173
3.22	91	1,818,612	20,105	2.7	17	33	632,396
3.13	86	1,675,584	19,567	2.4	16	30	601,404
3.03	78	1,467,295	18,704	2.3	15	29	583,983
2.96	75	1,397,258	17,486	2.1	15	27	536,303
2.71	73	1,310,830	16,462	2.0	13	24	441,855
2.14	69	1,229,133	15,415	1.8	12	23	360,779
1.69	65	999,329	12,042	1.2	10	18	276,423

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)
\$237	11%	\$340	\$970	\$433	\$2.68	\$2.68
471	19	468	1,286	611	3.47	3.47
589	23	568	1,389	764	4.02	4.02
652	26	621	1,427	826	4.25	4.25
718	28	657	1,519	880	4.64	4.64
761	29	687	1,684	915	5.06	5.06
860	31	735	1,812	1,059	5.36	5.36
916	34	787	1,942	1,139	5.93	5.93
1,051	43	942	2,129	1,229	6.92	6.92
1,175	49	1,477	2,487	1,399	8.04	8.04

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)
\$3,448	\$8.33	\$14.05	\$61,538	\$732	\$27,041	\$88,608
3,020	9.27	15.24	45,611	582	10,534	61,926
2,923	9.75	16.25	43,602	492	2,418	31,908
2,756	10.33	17.01	29,765	400	-2,914	19,281
2,627	10.94	17.45	24,864	295	-8,611	12,450
2,559	11.59	18.61	16,987	211	-15,394	5,256
2,527	12.10	20.02	11,918	136	-21,575	-5,117
2,275	13.06	21.39	-8,176	-70	-33,407	-15,148
2,130	14.70	21.97	-24,688	-243	-55,561	-30,903
1,667	16.05	31.41	-57,268	-646	-111,988	-78,830

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

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

40 Freestall Barn Dairy Farms with 150 or Less Cows, New York, 2006

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)
4.44	147	3,009,202	23,975	5.4	23	54	1,020,554
4.14	138	2,646,140	22,739	4.2	22	45	802,089
3.91	130	2,446,828	21,775	3.7	20	40	740,894
3.45	119	2,248,574	19,910	3.5	19	36	682,575
3.18	109	2,151,144	18,982	3.0	19	34	642,635
2.79	97	2,000,472	18,384	2.6	18	33	614,097
2.55	88	1,671,262	18,043	2.3	16	32	581,642
2.30	84	1,467,241	17,449	2.1	14	30	541,226
2.21	66	1,146,756	15,389	1.7	11	25	484,770
1.51	50	740,611	12,326	1.3	7	21	363,039

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)
\$486	22%	\$307	\$913	\$642	\$4.14	\$4.14
639	26	382	1,131	840	4.62	4.62
716	28	489	1,217	898	4.91	4.91
747	30	545	1,290	976	5.24	5.24
797	31	601	1,353	1,035	5.64	5.64
853	32	638	1,455	1,077	5.96	5.96
921	35	717	1,614	1,198	6.20	6.20
949	36	865	1,792	1,295	6.65	6.65
1,052	38	1,012	1,972	1,371	6.97	6.97
1,257	42	1,326	2,540	1,612	7.66	7.66

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)	
\$3,308	\$8.25	\$13.95	\$84,862	\$786	\$20,428	\$134,309	
3,177	9.72	15.90	54,526	562	7,529	52,952	
3,014	10.26	16.71	44,353	411	-2,928	25,788	
2,808	10.70	17.26	26,066	255	-9,030	18,006	
2,630	11.47	17.87	14,580	155	-19,517	9,120	
2,591	12.37	18.63	996	-5	-27,570	3,019	
2,492	13.02	19.18	-10,879	-119	-37,765	-6,404	
2,377	13.71	20.64	-28,779	-277	-53,931	-18,299	
2,200	14.83	21.71	-40,264	-448	-76,273	-33,853	
1,775	16.83	25.74	-86,598	-851	-140,434	-66,774	

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

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

32 Freestall Barn Dairy Farms with 151-300 Cows, New York, 2006

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
6.85	295	6,803,733	26,202	6.2	27	56	1,262,341
6.40	266	6,199,266	24,268	4.2	24	53	1,134,379
6.10	244	5,663,779	23,844	3.7	22	50	1,054,796
5.81	233	5,304,067	22,760	3.5	20	47	984,712
5.32	224	4,893,865	22,360	3.3	18	44	965,082
4.97	210	4,362,160	21,728	3.3	18	41	944,801
4.65	191	3,813,986	21,099	3.2	17	38	854,606
4.41	175	3,700,072	19,976	2.7	15	36	799,302
3.96	160	3,485,104	19,600	2.3	13	34	710,021
3.62	155	3,033,097	17,792	1.2	9	30	609,123

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)	
\$494	17%	\$366	\$958	\$711	\$3.38	
609	22	518	1,146	824	4.21	
684	25	583	1,226	888	4.46	
834	27	615	1,290	1,038	4.93	
867	30	648	1,331	1,117	5.07	
894	31	722	1,422	1,174	5.16	
1,007	31	760	1,526	1,228	5.31	
1,035	33	800	1,606	1,282	5.44	
1,069	34	833	1,689	1,306	5.74	
1,220	40	1,012	1,850	1,492	6.88	

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)
\$3,491	\$8.13	\$12.15	\$180,461	\$866	\$97,756	\$231,312
3,331	9.68	13.28	148,574	624	70,187	151,076
3,243	10.10	14.09	128,360	547	46,110	83,350
3,140	10.44	14.99	112,749	524	21,853	57,576
3,086	10.69	15.46	91,102	427	6,880	49,736
3,011	11.28	15.78	65,600	334	-6,094	33,845
2,888	12.23	16.11	48,907	262	-18,454	14,890
2,808	12.65	16.50	7,306	45	-30,134	-10,534
2,674	13.54	17.13	-22,496	-116	-64,698	-20,075
2,480	14.54	18.65	-49,965	-260	-105,913	-106,776

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

### FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS

90 Freestall Barn Dairy Farms with 300 or More Cows, New York, 2006

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)
36.03	1,810	45,183,773	27,268	6.5	25	72	1,600,266
25.13	1,107	27,312,355	25,866	4.9	23	55	1,299,401
20.33	945	21,841,861	25,141	4.2	21	52	1,228,778
17.33	739	18,196,941	24,602	3.8	20	49	1,158,575
14.55	643	15,574,548	24,086	3.5	20	47	1,098,777
12.45	562	12,842,749	23,589	3.2	18	44	1,031,749
11.07	468	10,755,092	23,022	3.0	18	41	981,735
9.59	418	9,257,135	22,195	2.7	16	39	934,132
8.28	358	8,048,583	21,380	2.3	15	35	818,668
6.41	316	6,916,134	18,120	1.8	12	31	699,839

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)	
\$643	22%	\$391	\$981	\$846	\$3.92	
788	24	492	1,119	1,008	4.38	
840	26	532	1,226	1,065	4.58	
875	27	562	1,309	1,121	4.76	
924	28	613	1,368	1,152	4.91	
962	29	645	1,398	1,178	5.09	
994	30	670	1,456	1,225	5.22	
1,026	32	708	1,505	1,282	5.37	
1,079	33	762	1,569	1,347	5.70	
1,245	35	868	1,726	1,518	6.09	

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)
\$3,879	\$9.94	\$13.10	\$505,232	\$621	\$156,812	\$582,002
3,617	10.68	13.80	234,784	455	51,000	231,461
3,486	11.05	14.16	165,121	348	18,977	148,971
3,392	11.48	14.44	135,942	199	-535	112,773
3,310	11.92	14.90	87,077	125	-34,348	65,450
3,242	12.35	15.17	43,559	67	-58,502	2,109
3,157	12.65	15.40	4,213	11	-75,082	-29,412
3,093	12.94	15.87	-32,305	-59	-109,530	-80,368
2,970	13.48	16.31	-78,751	-140	-165,483	-166,542
2,604	14.62	18.09	-353,349	-383	-308,007	-426,908

\*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: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**GLOSSARY AND LOCATION OF COMMON TERMS**

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

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

**Accrual Expenses** - (defined on page 3)

**Accrual Receipts** - (defined on page 4)

**Annual Cash Flow Statement** - (defined on page 11)

**Appreciation** - (defined on page 5)

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

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

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

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

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

**Cash Flow Coverage Ratio** - (defined on page 13)

**Cash Paid** - (defined on page 2)

**Cash Receipts** - (defined on page 4)

**Change in Accounts Payable** - (defined on page 3)

**Change in Accounts Receivable** - (defined on page 4)

**Change in Inventory** - (defined on page 2)

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

**Culling Rate** - (defined on page 17)

**Current Portion** - (defined on page 7)

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

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

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

**Debt Coverage Ratio** – (defined on page 13)

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

**Debt to Asset Ratios** - (defined on page 9)

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

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

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

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

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

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

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

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

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

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

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

**Labor and Management Income** - (defined on page 6)

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

**Labor Efficiency** - Production capacity and output per worker.

**Leverage Ratio** - (defined on page 9)

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

**Net Farm Income** - (defined on page 5)

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

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

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

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

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

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

**Other Livestock Expenses** - All other dairy herd and livestock expenses not included in more specific categories. Other livestock expenses include; 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	Expansion Livestock .....	3,11
Accounts Receivable .....	4,8	Expenses .....	3
Accrual Expenses .....	3,5	Farm Business Chart.....	23, 27-29, 32-36
Accrual Receipts.....	4,5	Farm Debt Payments as Percent	
Acreage.....	15	of Milk Sales.....	12
Advanced Government Receipts .....	7,8	Farm Debt Payments Per Cow.....	12
Age .....	19	Financial Analysis Chart .....	29
Amount Available for Debt Service .....	13	Financial Lease.....	8
Annual Cash Flow Statement .....	11	Hired Labor Expenses per Hired Worker	
Appreciation .....	10,17	Equivalent.....	20
Asset Turnover Ratio.....	19	Hired Labor Expense as % of Milk Sales.....	20
Balance Sheet .....	8	Income Statement .....	2
Barn Type .....	2	Inflows.....	11
bST Usage .....	2	Interest Expense Ratio .....	19
Business Type.....	2	Labor & Management Income.....	6
Capital Efficiency .....	19	Labor & Management Income Per Operator .....	6
Cash From Nonfarm Capital Used in		Labor Efficiency .....	19
the Business .....	11	Land Resources .....	15
Cash Flow Coverage Ratio .....	13	Leverage Ratio.....	9
Cash Paid.....	2	Liquidity .....	9
Cash Receipts .....	4,11	Lost Capital .....	9
Certified Organic Milk Producer .....	2	Machinery Expenses.....	3,16
Change in Accounts Payable .....	3	Marketing Report.....	25
Change in Accounts Receivable .....	4	Milk Price .....	25, 26
Change in Inventory .....	2,3	Milk Production.....	17
Change in Net Worth.....	10	Milking Frequency .....	2
Cost of Term Debt .....	9	Milking System .....	2
Crop Expenses .....	3,16	Money Borrowed.....	11
Crop/Dairy Ratios.....	15	Net Farm Income.....	5
Culling Rate.....	17	Net Farm Income from Operations Ratio .....	7
Current Portion .....	7,8	Net Investment.....	9
Current Ratio .....	9	Net Milk Receipts.....	18
Dairy (farm).....	2	Net Worth.....	8
Dairy Cash-Crop (farm).....	2	Number of Cows.....	17
Dairy Replacements.....	24	Operating Costs of Prod. Milk.....	18
Debt Coverage Ratio .....	13	Operating Expense Ratio.....	19
Debt per Cow.....	9	Opportunity Cost .....	6
Debt to Asset Ratios .....	9	Other Livestock Expenses .....	3
Deferred Taxes .....	9	Outflows .....	11
Depreciation.....	3, 9	Part-Time Cash-Crop Dairy (farm) .....	2
Depreciation Expense Ratio .....	19	Part-Time Dairy (farm).....	2
Dry Matter .....	15	Percent Equity .....	9
Education.....	19	Personal Withdrawals and Family Expenditures	
Equity Capital .....	7	Including Nonfarm Debt Payments .....	11

Principal Payments .....	11
Profitability .....	4
Purchased Inputs Cost .....	18
Receipts .....	4
Record System .....	2
Repayment Analysis .....	13
Replacement Livestock.....	3
Retained Earnings.....	10
Return on Equity Capital .....	7

Return on Total Capital .....	7
Rotational Grazing.....	2,16
Solvency .....	9
Total Costs of Producing Milk .....	18
Whole Farm Method.....	18
Worker Equivalent .....	19
Working Capital .....	9
Yields Per Acre.....	15









## OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2008-16	Dairy Replacement Programs: Costs & Analysis December 2007		Karszes, J., Wickswat, C. and F. Vokey
2008-15	Implications of Growing Biofuels Demands on Northeast Livestock Feed Costs – Understanding the Technical Relationships between Ingredient Prices and Feed Costs		Schmit, T., Verteramo, L. and W. Tomek
2008-14	Dairy Farm Business Summary, Southeastern New York Region, 2007	(\$12.00)	Knoblauch, W., Putnam, L., Kiraly, M., Walsh, J., Hulle, L. and C. Wickswat
2008-13	Dairy Farm Business Summary, Western and Central Plateau Region, 2007	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Grace, J., Munsee, D., Petzen, J. and L. O'Brien
2008-12	Dairy Farm Business Summary, New York Small Herd Farms, 80 Cows or Fewer, 2007	(\$16.00)	Knoblauch, W., Putnam, L., Kiraly, M. and J. Karszes
2008-11	Cognitive Therapy for Suicidal Patients (3 Video Tapes) **Outside NYS cost is \$25.00**		Mastronardi, K.
2008-10	Dairy Farm Business Summary, Northern Hudson Region, 2007	(\$12.00)	Conneman, G., Putnam, L., Wickswat, C., Buxton, S., Smith, R. and J. Karszes
2008-09	New York FarmNet Stress on the Farm Video (26min)	(\$20.00)	Mastronardi, K.
2008-08	An Inventory of Educational Resources for Directors of US Agricultural Cooperatives		Henehan, B. and T. Schmit
2008-07	Dairy Farm Business Summary, Western and Central Plain Region, 2007	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Hanchar, J. and K. Getty
2008-06	Dairy Farm Business Summary, New York Large Herd Farms, 300 Cows or Larger, 2007	(\$16.00)	Karszes, J., Knoblauch, W. and L. Putnam

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.

