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AUGUST 2007

E.B. 2007-10

**DAIRY FARM  
BUSINESS SUMMARY**

**WESTERN AND  
CENTRAL PLATEAU  
REGION  
2006**



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



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**2006 DAIRY FARM BUSINESS SUMMARY**  
**WESTERN AND CENTRAL PLATEAU REGION**  
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## 2006 DAIRY FARM BUSINESS SUMMARY WESTERN AND CENTRAL PLATEAU REGION\*

### INTRODUCTION

Dairy farm managers throughout New York State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Managers of each participating farm business receive a comprehensive summary and analysis of their farm business. The information in this report represents averages of the data submitted from dairy farms in the Western and Central Plateau Region for 2006.

#### **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 2006 DFBS individual farm report received by participating dairy farmers. The analysis tables have an open column or section labeled My Farm. It may be used by any dairy farm manager who wants to compare his or her business with the average data of this region. The individual farm data, the regional averages and other data can then be used to establish goals for the business. Non-DFBS participants can download a DFBS Data Check-In Form at <http://dfbs.cornell.edu>. After collecting the data on the form, it can be entered in the U. S. Top Dairies business summary program at the same web site to obtain a summary of their business.

This report features:

- (1) an income statement including accrual adjustments for farm business expenses and receipts, as well as measures of profitability with and without appreciation,
- (2) a complete balance sheet with analytical ratios;
- (3) a statement of owner equity which shows the sources of the change in owner equity during the year;
- (4) a cash flow statement and debt repayment ability analysis;
- (5) an analysis of crop acreage, yields, and expenses;
- (6) an analysis of dairy livestock numbers, production, and expenses;
- (7) a capital and labor efficiency analysis; and
- (8) progress of the farm business over the past two years.

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\*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 Cooperative Extension Educators Joan Petzen, David Munsee, and James Grace; and Jason Karszes, Senior Extension Associate, PRO-DAIRY. Linda Putnam was in charge of data preparation. The Western and Central Plateau Region of New York State, with the number of participating farms in parentheses, is comprised of Allegany (2), Broome (2), Cattaraugus (4), Chautauqua (11), Chemung (3), Cortland (4), Schuyler (2), Steuben (7), Tioga (6), and Tompkins (3) 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**  
44 Western and Central Plateau Region Dairy Farms, 2006

Type of Farm	Number	Milking System	Number
Dairy	43	Bucket & carry	0
Part-time dairy	0	Dumping station	1
Dairy cash-crop	1	Pipeline	20
Certified organic milk producer	0	Herringbone conventional exit	12
Rotational grazing farm	20	Herringbone rapid exit	0
		Parallel	7
		Parabone	1
		Rotary	0
		Other	3
Type of Ownership	Number	Production Records	Number
Owner	43	Testing Service	35
Renter	1	On Farm System	4
		Other	1
		None	4
Type of Business	Number	bST Usage	Number
Sole Proprietorship	26	Used consistently	8
Partnership	11	Used inconsistently	1
Limited Liability Corporation	7	Started using in 2006	0
Subchapter S Corporation	0	Stopped using in 2006	3
Subchapter C Corporation	0	Not used in 2006	32
		Average percent usage, if used	49%
Type of Barn	Number	Business Record System	Number
Stanchion or Tie-Stall	19	Account Book	14
Freestall	23	Accounting Service	3
Combination	2	On-farm computer	26
		Other	1
Milking Frequency	Number		
2 times per day	35		
3 times per day	8		
Other	1		
Breed of Herd	Percent		
Holstein	85		
Jersey	8		
Other	7		

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 2006.

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

**CASH AND ACCRUAL FARM EXPENSES**  
44 Western and Central Plateau Region Dairy Farms, 2006

Expense Item	Cash Paid	-	Change in Inven- tory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired Labor</u>	\$ 71,677		\$ -227	<<	\$ -52		\$ 71,852
<u>Feed</u>							
Dairy grain & concentrate	133,230		-3,224		2,066		138,521
Dairy roughage	7,391		-38		1,061		8,490
Nondairy	51		0		0		51
Professional nutritional services	137		0		0		137
<u>Machinery</u>							
Machinery hire, rent & lease	10,975		0	<<	-46		10,929
Machinery repairs & farm vehicle exp.	26,756		48		490		27,197
Fuel, oil & grease	21,679		-109		166		21,954
<u>Livestock</u>							
Replacement livestock	1,367		0	<<	0		1,367
Breeding	7,869		-77		-194		7,752
Veterinary & medicine	18,769		21		2		18,750
Milk marketing	29,459		0	<<	113		29,572
Bedding	8,531		106		128		8,553
Milking supplies	11,344		-776		129		12,249
Cattle lease & rent	131		0	<<	5		136
Custom boarding	8,334		-14	<<	127		8,475
bST	4,761		-34		0		4,795
Livestock professional fees	2,056		-214		0		2,270
Other livestock expense	2,895		-92		0		2,987
<u>Crops</u>							
Fertilizer & lime	8,325		-2,779		-54		11,050
Seeds & plants	7,303		-757		57		8,116
Spray, other crop expense	6,286		-350		131		6,767
Crop professional fees	603		-48		0		652
<u>Real Estate</u>							
Land, building & fence repair	7,735		-10		-63		7,681
Taxes	9,190		-23	<<	24		9,238
Rent & lease	7,627		-156	<<	0		7,783
<u>Other</u>							
Insurance	7,234		-114	<<	41		7,389
Utilities (farm share)	15,774		0	<<	260		16,034
Interest paid	24,232		0	<<	0		24,232
Other professional fees	3,297		-51		7		3,355
Miscellaneous	4,822		-9		2		4,833
Total Operating	\$469,840		\$ -8,926		\$ 4,399		\$ 483,166
Expansion livestock	14,778		0	<<	182		14,960
Extraordinary expense	2,197		0	<<	0		2,197
Machinery depreciation							29,389
Building depreciation							16,446
<b>TOTAL ACCRUAL EXPENSES</b>							<b>\$ 546,158</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 2006 but not paid for. A decrease is subtracted because it represents payment for resources used before 2006.

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

**CASH AND ACCRUAL FARM RECEIPTS**  
44 Western and Central Plateau Region Dairy Farms, 2006

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$ 474,442				\$ 621		\$ 475,064
Dairy cattle	28,666		\$ 20,538		-770		48,433
Dairy calves	9,559		1,756		0		11,315
Other livestock	451		368		18		837
Crops	3,635		15,873		-735		18,773
Government receipts	33,615		0 *		-73		33,541
Custom machine work	520				0		520
Gas tax refund	11				0		11
Other	<u>10,788</u>				<u>-304</u>		10,484
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$ 561,686		\$ 38,535		\$ -1,243		\$ 598,978

\*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 2006 for the 2007 crop year in excess of funds earned for 2006. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2006 but received in 2005.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 2007 for milk produced in December 2006 compared to January 2006 payments for milk produced in 2005 are included as a change in accounts receivable in determining accrual milk sales.

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

### **Profitability Analysis**

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

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

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

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

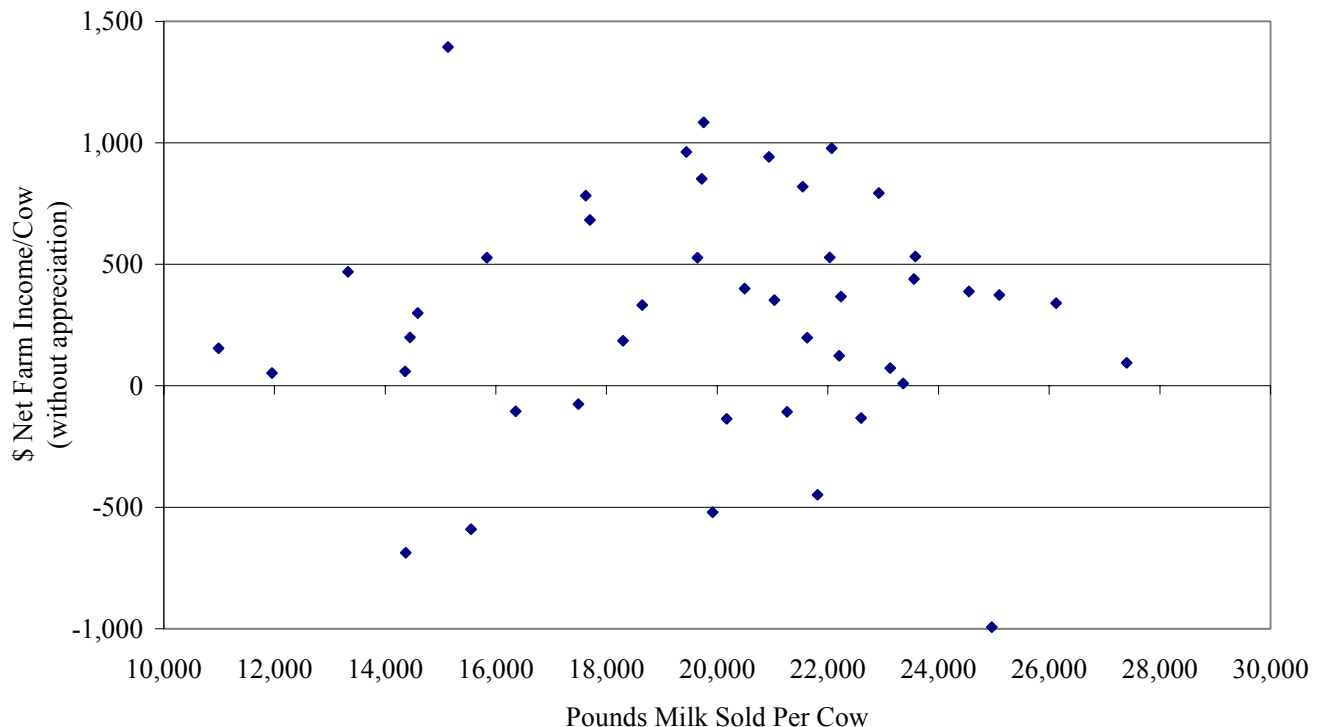
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit stock required for loan borrowings). Appreciation is a major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

**NET FARM INCOME**  
44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$ 598,978		\$ _____	
Appreciation: Livestock	11,491		_____	
Machinery	12,403		_____	
Real Estate	18,042		_____	
Other Stock & Certificates	390		_____	
Total Including Appreciation	\$ 641,304		\$ _____	
Total accrual expenses	546,158		- _____	
Net Farm Income (with appreciation)	\$ 95,146	\$ 612	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 52,820	\$ 340	\$ _____	\$ _____

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**  
44 Western and Central Plateau Region Dairy Farms, 2006



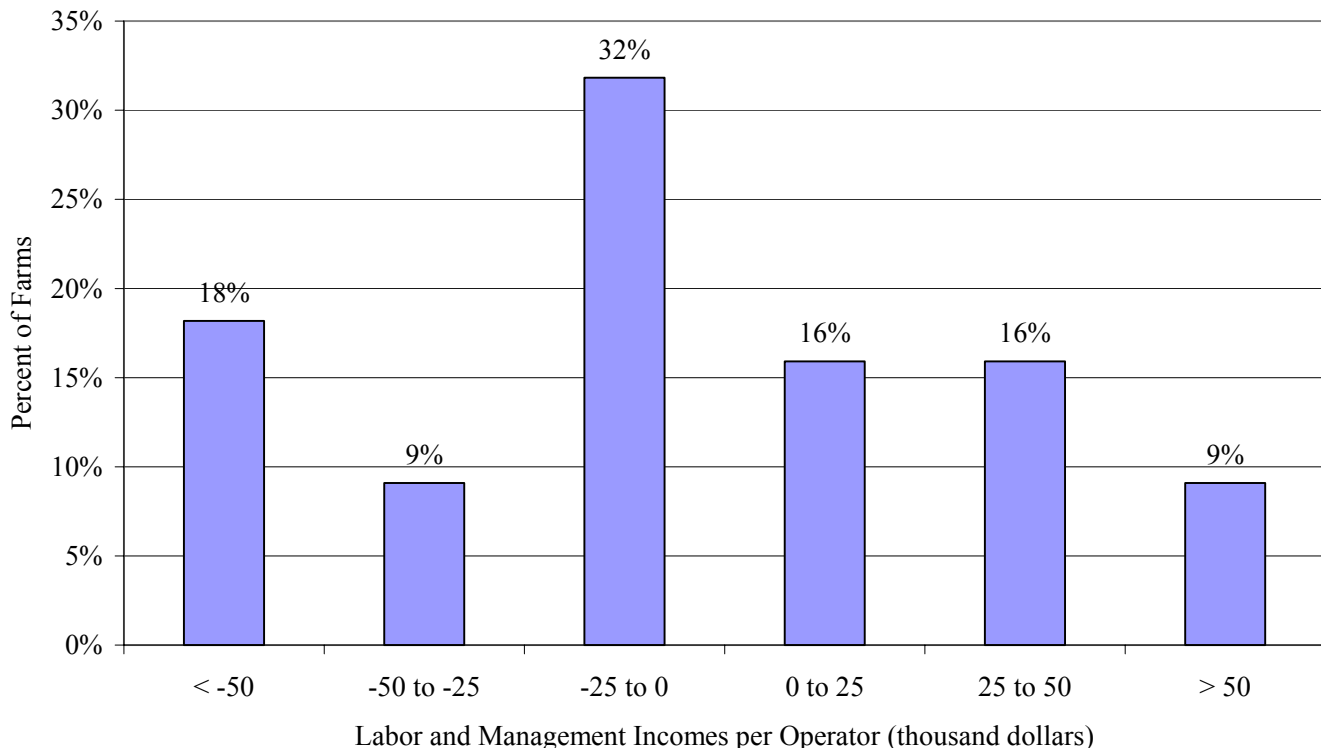
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and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

**LABOR AND MANAGEMENT INCOME**  
44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average	My Farm
Net farm income without appreciation	\$ 52,820	\$ _____
Family labor unpaid @ \$2,300 per month	- 6,335	- _____
Interest on \$883,169 average equity capital @ 5% real rate	<u>- 44,158</u>	- _____
Labor & Management Income per farm (1.47 Operators/farm)	\$ 2,326	\$ _____
Labor & Management Income per Operator/Manager	\$ 1,582	\$ _____

Labor and management income per operator averaged \$1,582 on these 44 farms in 2006. The range in labor and management income per operator was from about \$-131,000 to more than \$166,000. Returns to labor and management were less than \$-25,000 on 27 percent of the farms. Labor and management incomes per operator were between \$-25,000 and \$0 on 32 percent of the farms while 41 percent showed labor and management incomes per operator greater than \$0.

**DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR**  
44 Western and Central Plateau Region Dairy Farms, 2006



Return on equity capital measures the net return remaining for the farmer's equity or owned capital after a charge has been made for the owner-operator's labor and management. The earnings or amount of net farm income allocated to labor and management is the opportunity cost of operators' labor and management estimated by the cooperators. Return on equity capital is calculated with and without appreciation. The rate of return on equity capital is determined by dividing the amount returned by the average farm net worth (market value) or equity capital. Rate of return on total capital is calculated by adding interest paid to the return on equity capital and then dividing by average farm assets (market value). Net farm income from operations ratio is net farm income (without appreciation) divided by total accrual receipts.

**RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL**  
44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average	My Farm
Net farm income with appreciation	\$ 95,146	\$ _____
Family labor unpaid @\$2,300 per month	- 6,335	- _____
Value of operators' labor & management	<u>- 52,542</u>	- _____
Return on equity capital with appreciation	\$ 36,269	\$ _____
Interest paid	<u>+ 24,232</u>	+ _____
Return on total capital with appreciation	\$ 60,501	\$ _____
Return on equity capital without appreciation	\$ -6,057	\$ _____
Return on total capital without appreciation	\$ 18,175	\$ _____
Rate of return on average equity capital:		
with appreciation	4.1%	_____ %
without appreciation	-0.7%	_____ %
Rate of return on average total capital:		
with appreciation	4.8%	_____ %
without appreciation	1.5%	_____ %
Net Farm Income from Operations Ratio	0.09	_____

**Farm and Family Financial Status**

The first step in evaluating the financial position of the farm is to construct a balance sheet which identifies and values all the assets and liabilities of the business. The second step is to evaluate the relationship between assets, liabilities, and net worth and changes that occurred during the year.

Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business. For 2006, lease payments were discounted by 8.15 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 2006 that are for participation in the 2007 program are the end year balance and payments received in 2005 for participation in the 2006 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.

**2006 FARM BUSINESS & NONFARM MARKET VALUE BALANCE SHEET**  
44 Western and Central Plateau Region Dairy Farms, 2006

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 8,836	\$ 9,252	Accounts payable	\$ 6,232	\$ 10,813
Accounts receivable	30,533	29,290	Operating debt	13,713	17,510
Prepaid expenses	1,086	239	Short Term	284	3,278
Feed & supplies	<u>97,486</u>	<u>105,279</u>	Advanced govt. receipts	0	0
Total Current	\$ 137,941	\$ 144,060	Current Portion:		
			Intermediate	31,614	32,298
			Long Term	<u>10,142</u>	<u>13,913</u>
			Total Current	\$ 61,986	\$ 77,812
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 197,212	\$ 216,556	1-10 years	\$ 128,861	\$ 170,165
leased	0	5	Financial lease		
Heifers	111,115	125,596	(cattle/machinery)	1,153	3,213
Bulls & other livestock	1,423	1,753	Farm Credit stock	<u>3,264</u>	<u>1,729</u>
Mach. & equip. owned	235,881	254,400	Total Intermediate	\$ 133,277	\$ 175,108
Mach. & equip. leased	1,153	3,209			
Farm Credit stock	3,264	1,729			
Other stock/certificate	<u>10,891</u>	<u>12,592</u>			
Total Intermediate	\$ 560,940	\$ 615,839			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 511,509	\$ 541,222	>10 years	\$ 154,327	\$ 142,663
leased	<u>0</u>	<u>0</u>	Financial lease		
Total Long Term	\$ 511,509	\$ 541,222	(structures)	<u>0</u>	<u>0</u>
			Total Long Term	\$ 154,327	\$ 142,663
Total Farm Assets	\$1,210,390	\$1,301,121	Total Farm Liabilities	\$ 349,590	\$ 395,583
			FARM NET WORTH	\$ 860,800	\$ 905,538

Nonfarm Assets, Liabilities & Net Worth (Average of 19 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	\$ 3,375	\$ 3,342	Nonfarm Liabilities	\$ 3,158	\$ 6,698
Cash value life insurance	18,003	17,991			
Nonfarm real estate	8,053	12,263			
Auto (personal share)	19,317	17,295			
Stocks & bonds	52,745	63,118			
Household furnishings	10,132	9,895			
All other nonfarm assets	<u>11,437</u>	<u>14,414</u>			
Total Nonfarm Assets	\$ 123,062	\$ 138,318	NONFARM NET WORTH	\$ 119,904	\$ 131,620

Farm & Nonfarm Assets, Liabilities, and Net Worth*	Jan. 1	Dec. 31
Total Assets	\$1,333,452	\$1,439,439
Total Liabilities	<u>352,748</u>	<u>402,281</u>
TOTAL FARM & NONFARM NET WORTH	\$ 980,704	\$1,037,158

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

Balance sheet analysis involves examination of relative asset and debt levels for the business. Percent equity is calculated by dividing end of year net worth by end of year assets and multiplying by 100. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect business solvency and the potential capacity to borrow. The leverage ratio is the dollars of debt per dollar of equity, computed by dividing total farm liabilities by farm net worth. Debt levels per productive unit represent old standards that are still useful if used with measures of cash flow and repayment ability. A current ratio of less than 1.5 or that has been falling warrants additional evaluation. The amount of working capital that is adequate must be related to the size of the farm business.

### BALANCE SHEET ANALYSIS

44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average		My Farm	
<u>Financial Ratios - Farm:</u>				
Percent equity		70%		%
Debt/asset ratio: total		0.30		
long-term		0.26		
intermediate/current		0.33		
Leverage Ratio:		0.44		
Current Ratio:		1.85		
Working capital	\$66,248	As % of total expenses:	12%	
<u>Farm Debt Analysis:</u>				
Accounts payable as % of total debt		3%		%
Long-term liabilities as a % of total debt		36%		%
Current & inter. liabilities as a % of total debt		64%		%
Cost of term debt (weighted average)		6.25%		%
<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	\$ 2,478	\$ 1,927	\$ _____	\$ _____
Long-term debt	894	695	_____	_____
Intermediate & long term	1,991	1,548	_____	_____
Intermediate & current debt	1,584	1,232	_____	_____

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

### FARM INVENTORY BALANCE

44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average of Region's Farms	
	Real Estate	Machinery & Equipment
Value beginning of year	\$ 511,509	\$ 235,881
Purchases	\$ 54,940*	\$ 36,818
Gift & inheritance	+ 0	+ 0
Lost capital	- 17,660	
Sales	- 9,163	- 1,312
Depreciation	- 16,446	- 29,389
Net investment	= 11,671	= 6,117
Appreciation	+ 18,042	+ 12,403
Value end of year	\$ 541,222	\$ 254,400

\*\$8,122 land and \$46,818 buildings and/or depreciable improvements.

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

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

**STATEMENT OF OWNER EQUITY (RECONCILIATION)**  
44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average	My Farm
Beginning of year farm net worth	\$ 860,800	\$ _____
Net farm income without appreciation	\$ 52,820	\$ _____
+Nonfarm cash income	+ 8,610	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 45,119</u>	- _____
RETAINED EARNINGS	+ \$ 16,311	+\$ _____
Nonfarm noncash transfers to farm	\$ 0	\$ _____
+Cash used in business from nonfarm capital	+ 4,492	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	<u>- 0</u>	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 4,492	+\$ _____
Appreciation	\$ 42,326	\$ _____
-Lost capital	<u>- 17,660</u>	- _____
CHANGE IN VALUATION EQUITY	+ \$ 24,666	+\$ _____
IMBALANCE/ERROR	<u>- 731</u>	- \$ _____
End of year net worth*	=\$ 905,538	=\$ _____
<hr/>		
<u>Change in Net Worth</u>		
Without appreciation	\$ 2,412	\$ _____
With appreciation	\$ 44,738	\$ _____

\*May not add due to rounding.

**Cash Flow Statement**

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

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

**ANNUAL CASH FLOW STATEMENT**  
44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average	
<b><u>Cash Flow from Operating Activities</u></b>		
Cash farm receipts	\$ 561,686	
- Cash farm expenses	469,840	
- Extraordinary expense	<u>2,197</u>	
= Net cash farm income		\$ 89,648
Personal withdrawals & family expenses including nonfarm debt payments	\$ 47,495	
- Nonfarm income	<u>8,610</u>	
- Net cash withdrawals from the farm		<u>\$ 38,884</u>
= Net Provided by Operating Activities		\$ 50,764
<b><u>Cash Flow From Investing Activities</u></b>		
Sale of assets: machinery	\$ 1,312	
+ real estate	9,163	
+ other stock & cert.	<u>258</u>	
= Total asset sales		\$ 10,733
Capital purchases: expansion livestock	\$ 14,778	
+ machinery	36,818	
+ real estate	54,940	
+ other stock & cert.	<u>1,568</u>	
- Total invested in farm assets		<u>\$ 108,104</u>
= Net Provided by Investment Activities		\$ -97,371
<b><u>Cash Flow From Financing Activities</u></b>		
Money borrowed (intermediate & long term)	\$ 95,949	
+ Money borrowed (short term)	4,016	
+ Increase in operating debt	3,797	
+ Cash from nonfarm capital used in business	4,492	
+ Money borrowed - nonfarm	<u>2,375</u>	
= Cash inflow from financing		\$ 110,629
Principal payments (intermediate & long term)	\$ 61,852	
+ Principal payments (short term)	1,023	
+ Decrease in operating debt	<u>0</u>	
- Cash outflow for financing		<u>\$ 62,875</u>
= Net Provided by Financing Activities		\$ 47,754
<b><u>Cash Flow From Reserves</u></b>		
Beginning farm cash, checking & savings	\$ 8,836	
- Ending farm cash, checking & savings	<u>9,252</u>	
= Net Provided from Reserves		\$ -415
Imbalance (error)		<u>\$ 731</u>

## ANNUAL CASH FLOW STATEMENT

Item	My Farm	
<u>Cash Flow from Operating Activities</u>		
Cash farm receipts	\$ _____	
- Cash farm expenses	_____	
- Extraordinary expense	_____	
= Net cash farm income		\$ _____
Personal withdrawals & family expenses including nonfarm debt payments	\$ _____	
- Nonfarm income	_____	
- Net cash withdrawals from the farm		\$ _____
= Net Provided by Operating Activities		\$ _____
<u>Cash Flow From Investing Activities</u>		
Sale of assets: machinery	\$ _____	
+ real estate	_____	
+ other stock & cert.	_____	
= Total asset sales		\$ _____
Capital purchases: expansion livestock	\$ _____	
+ machinery	_____	
+ real estate	_____	
+ other stock & cert.	_____	
- Total invested in farm assets		\$ _____
= Net Provided by Investment Activities		\$ _____
<u>Cash Flow From Financing Activities</u>		
Money borrowed (intermediate & long term)	\$ _____	
+ Money borrowed (short term)	_____	
+ Increase in operating debt	_____	
+ Cash from nonfarm capital used in business	_____	
+ Money borrowed - nonfarm	_____	
= Cash inflow from financing		\$ _____
Principal payments (intermediate & long term)	\$ _____	
+ Principal payments (short term)	_____	
+ Decrease in operating debt	_____	
- Cash outflow for financing		\$ _____
= Net Provided by Financing Activities		\$ _____
<u>Cash Flow From Reserves</u>		
Beginning farm cash, checking & savings	\$ _____	
- Ending farm cash, checking & savings	_____	
= Net Provided from Reserves		\$ _____
Imbalance (error)		\$ _____

## Repayment Analysis

A valuable use of cash flow analysis is to compare the debt payments planned for the last year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business. However, the critical question to many farmers and lenders is whether planned payments can be made in 2007. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2007 debt payments shown below.

### FARM DEBT PAYMENTS PLANNED

Same 31 Western and Central Plateau Region Dairy Farms, 2005 & 2006

Debt Payments	Average			My Farm		
	2006 Payments		Planned 2007	2006 Payments		Planned 2007
	Planned	Made		Planned	Made	
Long term	\$ 23,227	\$ 51,446	\$ 27,048	\$ _____	\$ _____	\$ _____
Intermediate term	44,557	38,475	52,449	_____	_____	_____
Short term	39	1,614	520	_____	_____	_____
Operating (net reduction)	4,840	2,155	2,749	_____	_____	_____
Accounts payable (net reduction)	<u>1,032</u>	<u>408</u>	<u>466</u>	_____	_____	_____
Total	\$ 73,695	\$ 94,098	\$ 83,232	\$ _____	\$ _____	\$ _____
Per cow	\$ 411	\$ 524		\$ _____	\$ _____	
Per cwt. 2006 milk	\$ 1.84	\$ 2.35		\$ _____	\$ _____	
Percent of total 2006 farm receipts	11%	13%		_____	_____	
Percent of 2006 milk receipts	13%	17%		_____	_____	

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 2006 (as of December 31, 2005) that could have been made with the amount available for debt service in 2006. Farmers who did not participate in DFBS in 2005 have their 2006 ratios based on planned debt payments for 2007.

### COVERAGE RATIOS

Same 31 Western and Central Plateau Region Dairy Farms, 2005 & 2006

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$663,137	Net farm income (w/o appreciation)	\$ 66,748
- Cash farm expenses	548,980	+ Depreciation	51,378
+ Interest paid (cash)	27,159	+ Interest paid (accrual)	27,159
- Net personal withdrawals from farm*	<u>39,033</u>	- Net personal withdrawals from farm*	<u>39,033</u>
(A) = Amount Available for Debt Service	\$102,283	(A') = Repayment Capacity	\$106,253
(B) = Debt Payments Planned for 2006 (as of December 31, 2005)	\$73,695	(B) = Debt Payments Planned for 2006 (as of December 31, 2005)	\$73,695
(A/B) = Cash Flow Coverage Ratio for 2006	1.39	(A'/B) = Debt Coverage Ratio for 2006	1.44

\*Personal withdrawals and family expenditures less nonfarm income and nonfarm money borrowed. If family withdrawals are excluded, or inaccurately included, the ratios will be incorrect.

## ANNUAL CASH FLOW WORKSHEET

Item	44 Western and Central Plateau Region Dairy Farms		My Farm	Expected Change	2007 Projection
	Per Cow	Per Cwt.	Per Cow/ Per Cwt.		
Average number of cows	155				
Total cwt. of milk sold		33,976			
<u>Accrual Operating Receipts</u>					
Milk	\$3,058	\$13.98	\$ _____	_____	\$ _____
Dairy cattle	312	1.43	_____	_____	_____
Dairy calves	73	0.33	_____	_____	_____
Other livestock	5	0.02	_____	_____	_____
Crops	121	0.55	_____	_____	_____
Miscellaneous Receipts	<u>287</u>	<u>1.31</u>	_____	_____	_____
Total	\$3,855	\$17.63	\$ _____	_____	\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$ 462	\$ 2.11	\$ _____	_____	\$ _____
Dairy grain & concentrate	892	4.08	_____	_____	_____
Dairy roughage	55	0.25	_____	_____	_____
Nondairy feed	0	0.00	_____	_____	_____
Professional nutritional services	1	0.00	_____	_____	_____
Machinery hire, rent & lease	70	0.32	_____	_____	_____
Machinery repair & vehicle expense	175	0.80	_____	_____	_____
Fuel, oil & grease	141	0.65	_____	_____	_____
Replacement livestock	9	0.04	_____	_____	_____
Breeding	50	0.23	_____	_____	_____
Veterinary & medicine	121	0.55	_____	_____	_____
Milk marketing	190	0.87	_____	_____	_____
Bedding	55	0.25	_____	_____	_____
Milking supplies	79	0.36	_____	_____	_____
Cattle lease	1	0.00	_____	_____	_____
Custom boarding	55	0.25	_____	_____	_____
bST	31	0.14	_____	_____	_____
Livestock professional fees	15	0.07	_____	_____	_____
Other livestock expense	19	0.09	_____	_____	_____
Fertilizer & lime	71	0.33	_____	_____	_____
Seeds & plants	52	0.24	_____	_____	_____
Spray & other crop expense	44	0.20	_____	_____	_____
Crop professional fees	4	0.02	_____	_____	_____
Land, building & fence repair	49	0.23	_____	_____	_____
Taxes	59	0.27	_____	_____	_____
Real estate rent & lease	50	0.23	_____	_____	_____
Insurance	48	0.22	_____	_____	_____
Utilities	103	0.47	_____	_____	_____
Other professional fees	22	0.10	_____	_____	_____
Miscellaneous	<u>31</u>	<u>0.14</u>	_____	_____	_____
Total Less Interest Paid	\$2,954	\$13.51	\$ _____	_____	\$ _____
<u>Net Accrual Operating Income</u>					
		<u>Total</u>			
(without interest paid)		\$140,044	\$ _____	_____	\$ _____
- Change in livestock /crop inventory*		38,535	_____	_____	_____
- Change in accounts receivable		-1,243	_____	_____	_____
- Change in feed & supply inventory**		-8,926	_____	_____	_____
+ Change in accounts payable***		<u>4,399</u>	_____	_____	_____
NET CASH FLOW		\$116,077	\$ _____	_____	\$ _____
- Net family withdrawals		<u>36,262</u>	_____	_____	_____
Available for Farm		\$79,816	\$ _____	_____	_____
- Farm debt payments		<u>88,523</u>	_____	_____	_____
Available for Farm Investment		\$ -8,708	\$ _____	_____	\$ _____
- Capital purchases		<u>108,104</u>	_____	_____	_____
Additional Capital Needed		\$116,812	\$ _____	_____	\$ _____

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

### Cropping Analysis

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

#### LAND RESOURCES AND CROP PRODUCTION 44 Western and Central Plateau Region Dairy Farms, 2006

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	205	171	376	_____	_____	_____
Nontillable	39	10	49	_____	_____	_____
Other nontillable	85	1	86	_____	_____	_____
Total	329	182	511	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Production/Acre</u>	<u>Acres</u>	<u>Production/Acre</u>	
Hay crop	42	215	2.91 tons DM	_____	_____	tons DM
Corn silage	35	143	19.84 ton	_____	_____	tons
			6.92 tons DM	_____	_____	tons DM
Other forage	0	0	0.00 tons DM	_____	_____	tons DM
Total forage	42	334	4.34 tons DM	_____	_____	tons DM
Corn grain	16	66	101 bushels	_____	_____	bushels
Oats	3	12	48 bushels	_____	_____	bushels
Wheat	0	0	0 bushels	_____	_____	bushels
Other crops	6	50		_____	_____	
Tillable pasture	19	49		_____	_____	
Idle	6	36		_____	_____	
Total Tillable Acres	44	376		_____	_____	

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 205, corn silage 113, corn grain 24, oats 1, tillable pasture 21, and idle 5.

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 42 Western and Central Plateau Region Dairy Farms, 2006

Item	Average*	My Farm
Total tillable acres per cow	2.45	_____
Total forage acres per cow	2.09	_____
Harvested forage dry matter, tons per cow	9.06	_____

\*Excludes farms that do not harvest forages.

**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 twenty farms in the region.

**CROP RELATED ACCRUAL EXPENSES**  
Western and Central Plateau Region Dairy Farms Reporting, 2006

Item	Total Per Till. Acre	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Sh. Bu.	Hay Crop		Pasture	
					Per Acre	Per Ton DM	Per Till Acre	Per Total Acre
No. of farms reporting	44	9			9		2	
Ave. number of acres	376	86			151		40	142
Fert. & lime	\$ 27.23	\$ 73.22	\$ 16.10	\$ 0.28	\$ 23.78	\$ 9.51	\$ 48.34	\$ 15.80
Seeds & plants	18.94	56.12	11.16	0.31	10.33	4.10	0.00	0.00
Spray & other crop expense	14.79	63.76	11.47	0.18	2.96	1.09	0.00	0.00
TOTAL	\$ 60.96	\$ 193.10	\$ 39.03	\$ 0.77	\$ 37.07	\$ 14.70	\$ 48.34	\$ 15.80

**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**  
42 Western and Central Plateau Region Dairy Farms, 2006\*

Machinery Expense	Average		My Farm	
	Total Expenses	Per Tillable Acre	Total Expenses	Per Tillable Acre
Fuel, oil & grease	\$ 22,700	\$ 57.93	\$ _____	\$ _____
Mach. repair & vehicle expense	28,010	71.47	_____	_____
Machine hire, rent & lease	11,295	28.82	_____	_____
Interest (5%)	12,860	32.82	_____	_____
Depreciation	30,538	77.93	_____	_____
Total	\$ 105,403	\$ 268.97	\$ _____	\$ _____

\*Excludes farms that do not harvest forages.

**Dairy Analysis**

Analysis of the dairy enterprise can reveal strengths and weaknesses of the dairy farm business. Information on this page should be used in conjunction with DHI and other dairy production information. Changes in dairy herd size and market values that occur during the year are identified in the table below. The change in inventory value without appreciation is attributed to physical changes in herd size and quality. Any change in inventory is included as an accrual farm receipt when calculating all of the profitability measures on pages 6 and 7.

**DAIRY HERD INVENTORY**

44 Western and Central Plateau Region Dairy Farms, 2006

Item	Dairy Cows		Bred		Heifer Open		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	146	\$ 197,212	43	\$ 56,530	40	\$ 34,984	37	\$ 19,601
+ Change w/o apprec.		13,611		5,883		1,044		1,756
+ Appreciation		<u>5,733</u>		<u>2,936</u>		<u>1,427</u>		<u>1,434</u>
End year (owned)	156	\$ 216,556	47	\$ 65,349	41	\$ 37,456	40	\$ 22,791
End including leased	160							
Average number	155		125	(all age groups)				

**My Farm:**

Beg. year (owned)	_____	\$ _____	_____	\$ _____	_____	\$ _____	_____	\$ _____
+ Change w/o apprec.		_____		_____		_____		_____
+ Appreciation		_____		_____		_____		_____
End year (owned)	_____	\$ _____	_____	\$ _____	_____	\$ _____	_____	\$ _____
End including leased	_____							
Average number	_____		_____	(all age groups)				

Total milk sold and milk sold per cow are extremely valuable measures of size and productivity, respectively, on the dairy farm. These measures of milk output are based on pounds of milk marketed during the year.

**MILK PRODUCTION**

44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average	My Farm
Total milk sold, lbs.	3,397,594	_____
Milk sold per cow, lbs.	21,869	_____
Average milk plant test, percent butterfat	3.73%	_____

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**

44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average		My Farm	
	Number	Percent*	Number	Percent*
Cows sold for beef	36	23.4	_____	_____
Cows sold for dairy	4	2.6	_____	_____
Cows died	12	7.6	_____	_____
Culling rate**		31.0	_____	_____

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

The cost of producing milk has been compiled using the whole farm method and is featured in the following table. Accrual receipts from milk sales can be compared with the accrual costs of producing milk per cow and per hundredweight of milk. Using the whole farm method, operating costs of producing milk are estimated by deducting nonmilk accrual receipts from total accrual operating expenses including expansion livestock purchased. Purchased inputs cost of producing milk are the operating costs plus depreciation. Total costs of producing milk include the operating costs of producing milk plus depreciation on machinery and buildings, the value of unpaid family labor, the value of operators' labor and management, and the interest charge for using equity capital.

**ACCRUAL RECEIPTS FROM DAIRY, COSTS OF PRODUCING MILK,  
AND PROFITABILITY**

44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Cost of Producing Milk</u>						
Operating costs	\$374,212	\$ 2,409	\$ 11.01	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$422,244	\$ 2,718	\$ 12.43	\$ _____	\$ _____	\$ _____
Total Costs	\$525,280	\$ 3,381	\$ 15.46	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts</u>						
<u>From Milk</u>	\$475,064	\$ 3,058	\$ 13.98	\$ _____	\$ _____	\$ _____
Net Milk Receipts	\$445,491	\$ 2,562	\$ 13.11	\$ _____	\$ _____	\$ _____
Net Farm Income without Apprec.	\$ 52,820	\$ 340	\$ 1.55	\$ _____	\$ _____	\$ _____
Net Farm Income with Appreciation	\$ 95,146	\$ 612	\$ 2.80	\$ _____	\$ _____	\$ _____

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

**DAIRY RELATED ACCRUAL EXPENSES**

44 Western and Central Plateau Region Dairy Farms, 2006

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 892	\$ 4.08	\$ _____	\$ _____
Purchased dairy roughage	55	0.25	_____	_____
Total Purchased Dairy Feed	\$ 946	\$ 4.33	\$ _____	\$ _____
Purchased grain & concentrate as % of milk receipts		30%	_____	_____ %
Purchased feed & crop expense	\$ 1,117	\$ 5.11	\$ _____	\$ _____
Purchased feed & crop expense as % of milk receipts		39%	_____	_____ %
Breeding	\$ 50	\$ 0.23	\$ _____	\$ _____
Veterinary & medicine	121	0.55	_____	_____
Milk marketing	190	0.87	_____	_____
Bedding	55	0.25	_____	_____
Milking supplies	79	0.36	_____	_____
Cattle lease	1	0.00	_____	_____
Custom boarding	55	0.25	_____	_____
bST	31	0.14	_____	_____
Livestock professional fees	15	0.07	_____	_____
Other livestock expense	19	0.09	_____	_____

**Capital and Labor Efficiency Analysis**

Capital efficiency factors measure how effectively the capital is being used in the farm business. Measures of labor efficiency are key indicators of management's success in generating products per unit of labor input. When evaluating a business, the relationship between capital efficiency and labor efficiency should be explored. For example, if capital efficiency shows high capital investment per worker or per cow, labor efficiency should be high reflecting use of capital to make labor more effective. However, if capital investment is high per worker or per cow, and labor efficiency is low, a problem may exist on that farm.

**CAPITAL EFFICIENCY**  
44 Western and Central Plateau Region Dairy Farms, 2006

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$301,140	\$8,083	\$3,338	\$6,118
Real estate		3,388		2,565
Machinery & equipment	59,310	1,592	657	

**Ratios**

Asset turnover	Operating Expense	Interest Expense	Depreciation Expense
0.51	0.79	0.04	0.08

**My Farm**

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

**Ratios**

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

**LABOR FORCE INVENTORY**

44 Western and Central Plateau Region Dairy Farms, 2006

Labor Force	Months	Age	Years of Education	Value of Labor & Management
Operator number 1	13.4	48	14	\$34,792
Operator number 2	5.7	46	13	16,284
Operator number 3	0.5	52	15	1,466
Family paid	2.2			
Family unpaid	2.8			
Hired	<u>25.5</u>			
Total	50.1			
		/ 12 = 4.17	Worker Equivalent	
		1.47	Operator/Manager Equivalent	
<b><u>My Farm:</u></b> Total	_____	/ 12 = _____	Worker Equivalent	
Operator's	_____	/ 12 = _____	Operator/Manager Equivalent	

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

Labor costs and machinery costs should also be evaluated both individually and jointly. The more machinery or technology at a worker's disposal, the less time, and therefore cost, that should be required to get work accomplished. Striving for labor and machinery costs per cow of less than \$1,000 on small conventional stall barns, less than \$900 on large conventional stall barns, less than \$850 on small free stall barns and below \$750 on large free stall barns should be a goal.

### LABOR EFFICIENCY

44 Western and Central Plateau Region Dairy Farms, 2006

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	155	37	_____	_____
Milk sold, pounds	3,397,594	814,445	_____	_____
Tillable acres	376	90	_____	_____

### LABOR AND MACHINERY COSTS

44 Western and Central Plateau Region Dairy Farms, 2006

Labor Costs	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Value of operator(s)						
labor (\$2,300/month)	\$ 45,126	\$ 290	\$ 1.33	\$ _____	\$ _____	\$ _____
Family unpaid						
(\$2,300/month)	6,325	41	0.19	_____	_____	_____
Hired	<u>71,852</u>	<u>463</u>	<u>2.11</u>	_____	_____	_____
Total Labor	\$ 123,303	\$ 794	\$ 3.63	\$ _____	\$ _____	\$ _____
Machinery Cost	\$ <u>101,835</u>	\$ <u>655</u>	\$ <u>3.00</u>	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$ 225,139	\$ 1,449	\$ 6.63	\$ _____	\$ _____	\$ _____
Hired labor expense per hired worker equivalent			\$31,139	\$ _____		
Hired labor expense as % of milk sales			15.1%	_____%		

## 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 31 Western and Central Plateau Region Dairy Farms, 2005 & 2006

Selected Factors	Average of 31 Farms*		My Farm		Goal
	2005	2006	2005	2006	
<u>Size of Business</u>					
Average number of cows	169	180	_____	_____	_____
Average number of heifers	127	142	_____	_____	_____
Milk sold, pounds	3,760,485	3,997,122	_____	_____	_____
Worker equivalent	4.43	4.74	_____	_____	_____
Total tillable acres	389	413	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, pounds	22,243	22,266	_____	_____	_____
Hay DM per acre, tons	2.7	3.0	_____	_____	_____
Corn silage per acre, tons	17.1	20.4	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	38	38	_____	_____	_____
Milk sold/worker, pounds	848,868	843,275	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	27	29	_____ %	_____ %	_____ %
Dairy feed & crop expense per cwt. milk	\$ 5.28	\$ 5.13	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,452	\$ 1,408	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 11.97	\$ 10.96	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$ 7,790	\$ 7,913	\$ _____	\$ _____	\$ _____
Mach. & equipment per cow	\$ 1,522	\$ 1,531	\$ _____	\$ _____	\$ _____
Asset turnover ratio	0.57	0.53	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$ 97,334	\$ 66,748	\$ _____	\$ _____	\$ _____
Net farm income with apprec.	\$ 148,326	\$ 117,649	\$ _____	\$ _____	\$ _____
Labor & mgmt. income per operator/manager	\$ 30,879	\$ 7,422	\$ _____	\$ _____	\$ _____
Rate of return on equity capital with appreciation	9.7	5.9	_____ %	_____ %	_____ %
Rate of return on all capital with appreciation	8.4	6.1	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$ 986,960	\$ 1,036,336	\$ _____	\$ _____	\$ _____
Debt to asset ratio	0.28	0.30	_____	_____	_____
Farm debt per cow	\$ 2,246	\$ 2,400	\$ _____	\$ _____	\$ _____

\*Farms participating both years.

\*\*Average for the year.

**RECEIPTS AND EXPENSES PER COW AND PER CWT.**  
Same 31 Western and Central Plateau Region Dairy Farms, 2005 & 2006

Item	2005		2006	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	169		180	
Cwt. of Milk Sold		37,605		39,971
<b><u>ACCRUAL OPERATING RECEIPTS</u></b>				
Milk	\$3,590	\$16.14	\$3,114	\$13.98
Dairy cattle	257	1.16	319	1.43
Dairy calves	69	0.31	76	0.34
Other livestock	6	0.03	6	0.03
Crops	27	0.12	122	0.55
Miscellaneous receipts	<u>151</u>	<u>0.68</u>	<u>299</u>	<u>1.34</u>
Total Receipts	\$4,101	\$18.43	\$3,936	\$17.68
<b><u>ACCRUAL OPERATING EXPENSES</u></b>				
Hired labor	\$ 479	\$ 2.16	\$ 503	\$ 2.26
Dairy grain & concentrate	963	4.33	909	4.08
Dairy roughage	33	0.15	63	0.28
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	1	0.01	0	0.00
Machine hire, rent & lease	86	0.38	71	0.32
Machinery repair & vehicle expense	182	0.82	161	0.72
Fuel, oil & grease	126	0.56	136	0.61
Replacement livestock	13	0.06	9	0.04
Breeding	54	0.24	51	0.23
Veterinary & medicine	118	0.53	129	0.58
Milk marketing	174	0.78	185	0.83
Bedding	48	0.21	58	0.26
Milking supplies	70	0.32	74	0.33
Cattle lease	2	0.01	1	0.00
Custom boarding	50	0.23	67	0.30
bST expense	27	0.12	32	0.14
Livestock professional fees	14	0.06	16	0.07
Other livestock expense	16	0.07	16	0.07
Fertilizer & lime	88	0.40	71	0.32
Seeds & plants	53	0.24	50	0.22
Spray & other crop expense	31	0.14	43	0.19
Crop professional fees	8	0.03	5	0.02
Land, building & fence repair	75	0.34	52	0.23
Taxes	56	0.25	56	0.25
Real estate rent & lease	58	0.26	52	0.23
Insurance	43	0.19	41	0.19
Utilities	101	0.45	102	0.46
Interest paid	118	0.53	151	0.68
Other professional fees	22	0.10	24	0.11
Miscellaneous	<u>32</u>	<u>0.14</u>	<u>28</u>	<u>0.13</u>
Total Operating Expenses	\$3,140	\$14.12	\$3,156	\$14.18
Expansion Livestock	32	0.14	107	0.48
Extraordinary Expense	8	0.04	15	0.07
Machinery Depreciation	223	1.00	184	0.82
Real Estate Depreciation	<u>122</u>	<u>0.55</u>	<u>103</u>	<u>0.46</u>
Total Expenses	\$3,525	\$15.85	\$3,565	\$16.01
Net Farm Income Without Appreciation	\$ 576	\$ 2.58	\$ 371	\$ 1.67

### Regional Farm Business Chart

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

#### FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS

44 Western and Central Plateau Region Dairy Farms, 2006

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)
10.94	464	11,159,356	24,830	4.4	25	57	1,294,136
4.22	164	3,204,252	22,292	3.1	20	38	754,006
2.80	82	1,731,994	20,538	2.6	18	33	609,788
2.19	59	1,085,889	17,895	2.1	14	27	506,203
1.46	41	668,898	13,859	1.7	9	21	364,099

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)
\$512	21%	\$365	\$1,066	\$729	\$4.04	\$4.04
718	27	581	1,385	939	4.88	4.88
863	30	659	1,605	1,067	5.25	5.25
956	34	748	1,797	1,207	6.00	6.00
1,099	41	1,046	2,102	1,409	7.29	7.29

Value and Cost of Production			Profitability			Change in Net Worth with Appreciation
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	
(12)	(12)	(12)	(4)	(4)	(4)	(8)
\$3,404	\$7.72	\$13.34	\$339,049	\$211,521	\$70,969	\$196,266
3,091	10.09	15.07	107,231	59,778	18,458	68,438
2,849	10.83	17.13	46,657	30,889	-3,843	17,092
2,461	12.15	18.97	20,331	7,669	-22,153	-1,197
1,950	13.78	23.27	-10,438	-28,126	-70,616	-40,072

\*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** 56 New York Dairy Farms, 2006

<u>Animals Entering Herd</u>	Average
Number calving in 2006 for first time	146
Animals purchased, % <sup>1</sup>	5%
Animals raised by farm, % <sup>2</sup>	95%
 <u>Current Heifer Inventory</u>	
Raised on dairy, %	86%
Raised by a custom grower, %	14%

<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, 146 animals calved for the first time in 2006. The breakdown on these animals for source was 5 percent purchased and 95 percent raised by the farm. Of the current heifer inventory, 86 percent were raised on the dairy and 14 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, 22 Western and Central Plateau 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**  
22 Western and Central Plateau Region Dairy Farms, 2006

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
<b>BASE FARM PRICE</b>					
Butterfat	179,835.55	3.73%	\$1.33	\$239,313.77	\$4.96
Protein	147,385.55	3.05%	\$2.09	\$307,936.41	\$6.38
Solids	276,723.59	5.74%	\$0.17	\$47,922.82	\$0.99
<b>Total Component Contribution</b>					\$12.34
<b>PPD</b>	4,824,918.82			\$40,669.41	\$0.84
<b>Base Farm Price</b>					\$13.18
<b>Premiums</b>					
Quality				\$8,673.41	\$0.18
Volume				\$7,070.00	\$0.15
Market Premiums				\$17,266.14	\$0.36
<b>Total Premiums</b>					\$0.68
<b>BASE FARM PRICE + PREMIUM</b>					\$13.86
<b>Deductions</b>					
Promotion				\$7,424.86	\$0.15
Hauling + Stop Charges.				\$27,770.77	\$0.58
Market Fees & Coop Dues				\$4,612.27	\$0.10
<b>Total Deductions</b>					\$0.83
<b>BASE FARM PRICE + PREMIUMS - DEDUCTIONS</b>					\$13.04
<b>Marketing Programs</b>					
Futures Contracts, Forward Contracting, Etc.				\$2,499.77	\$0.05
<b>Total Marketing Income</b>					\$0.05
<b>Patronage Dividends</b>				\$3,209.14	\$0.07
<b>NET PRICE RECEIVED ON FARM, ALL SOURCES</b>					\$13.16
<b>PPD - Hauling, \$ per cwt.</b>					\$0.27
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>					\$0.63
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>					\$0.70



### 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 225 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

225 New York Dairy Farms, 2005

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)
27.7	1,307	32,162,089	26,498	5.5	25	58	1,302,355
15.8	665	15,991,194	24,611	4.3	22	50	1,109,493
11.6	472	10,679,945	23,635	3.7	20	44	1,024,936
8.2	339	7,462,166	22,761	3.4	20	42	914,742
5.7	231	4,952,606	22,049	2.9	18	38	806,982
-----							
4.3	147	2,981,822	21,086	2.6	18	35	721,745
3.4	115	2,169,047	19,706	2.2	17	33	654,421
2.7	82	1,457,785	18,465	2.0	16	30	571,531
2.2	61	1,101,729	16,584	1.6	14	26	478,273
1.5	40	688,227	13,540	1.1	11	20	336,661

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)	
\$470	16%	\$354	\$977	\$651	\$3.62	
650	21	467	1,183	841	4.26	
742	23	535	1,275	933	4.57	
821	25	582	1,355	1,017	4.86	
862	25	628	1,418	1,080	5.08	
-----						
908	27	667	1,480	1,153	5.32	
956	28	715	1,552	1,200	5.61	
1,013	29	769	1,677	1,262	5.95	
1,082	31	869	1,836	1,334	6.47	
1,207	37	1,135	2,186	1,495	7.51	

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

**FARM BUSINESS CHART FOR  
FARM MANAGEMENT COOPERATORS**  
225 New York Dairy Farms, 2005

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)
\$4,288	\$17.86	\$1,434	\$8.05	\$2,566	\$13.38
3,888	16.86	1,894	10.02	2,929	14.29
3,745	16.45	2,104	10.97	3,111	14.91
3,614	16.20	2,291	11.39	3,277	15.53
3,502	16.01	2,440	11.77	3,457	16.02
-----					
3,358	15.87	2,603	12.14	3,561	16.85
3,194	15.73	2,738	12.65	3,689	17.57
2,969	15.56	2,916	13.19	3,816	18.40
2,679	15.31	3,043	13.90	3,986	20.05
2,210	14.80	3,430	15.78	4,438	23.73

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)
\$838,892	\$1,268	0.31	\$1,268,115	\$1,874	\$606,471	\$345,493
381,327	971	0.24	553,456	1,341	270,698	160,827
249,077	778	0.20	374,997	1,148	152,164	82,609
163,709	676	0.17	275,301	974	77,807	53,794
110,789	613	0.15	179,610	872	45,585	33,460
-----						
76,210	509	0.13	118,216	774	27,514	19,911
55,068	423	0.11	84,479	703	13,051	9,317
37,574	334	0.09	56,394	577	-2,015	-1,455
20,160	193	0.05	35,877	428	-23,513	-15,712
-23,283	-132	-0.04	3,630	96	-104,244	-82,838

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**  
225 New York Dairy Farms, 2005

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)
\$122	\$1,083	5.55	6.67	3%	\$257	48%	39.30
233	888	2.54	3.09	7	1,048	32	5.67
303	775	2.01	2.51	10	1,677	25	3.64
360	697	1.66	2.14	12	2,241	21	2.97
410	619	1.38	1.73	14	2,521	17	2.36
459	558	1.23	1.44	17	2,864	13	1.81
518	500	1.06	1.20	19	3,189	9	1.49
571	408	0.91	0.92	21	3,444	4	1.18
678	294	0.67	0.58	25	3,932	-1	0.92
833	-236	-0.79	-0.84	38	5,052	-15	0.45
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	98%	0.02	0.00	0.58	0.00	0.02	
0.13	90	0.09	0.00	0.66	0.01	0.04	
0.22	83	0.15	0.01	0.70	0.02	0.05	
0.34	76	0.24	0.11	0.72	0.03	0.06	
0.44	71	0.29	0.22	0.74	0.03	0.06	
0.56	65	0.34	0.31	0.76	0.04	0.07	
0.69	60	0.39	0.40	0.78	0.04	0.08	
0.85	55	0.47	0.51	0.80	0.05	0.09	
1.06	49	0.57	0.67	0.84	0.06	0.11	
2.14	35	0.76	0.94	0.92	0.08	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:		
(14)	(14)	(14)	(14)	(8)	Equity	Investment***	
.85	\$1,399	\$598	\$5,171	\$1,005,552	35%	19%	
.71	2,081	878	6,188	429,195	22	15	
.64	2,402	1,076	6,785	269,436	18	13	
.60	2,700	1,278	7,210	173,811	14	11	
.55	3,009	1,438	7,749	107,874	11	9	
.52	3,452	1,619	8,318	63,949	8	7	
.47	3,940	1,798	9,171	40,317	6	6	
.41	4,536	2,039	10,012	23,884	2	3	
.35	5,506	2,432	11,077	9,786	-1	1	
.25	9,560	3,667	15,969	-54,455	-10	-4	

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

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

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

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

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

The table on page 31 includes the average values for the resulting five groups of dairy farms. The average size of farms in the five groups ranges from 44 cows on the small conventional farms to 712 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 2005 State Summary\*. As herd size increases, the net farm income profitability increases (page 48)\*. Net farm income without appreciation averaged \$23,042 per farm for the less than 50 cow farms and \$566,457 per farm for those with more than 600 cows. Return to all capital without appreciation and labor and management income per operator generally increased as herd size increased.

Assets, liabilities and financial measures are presented on pages 55-58\*. All herd size categories saw an increase in net worth during 2005. The largest herd size category experienced an increase in net worth of over \$715,000. However, percent equity went down as assets increased. The largest herds had the lowest percent equity; while the smaller herds averaged 78 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 35 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 18,663 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 384,002 pounds at the lowest herd size category up to 1,135,991 pounds at the largest size category.

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\*Wayne A. Knoblauch, Linda D. Putnam, and Jason Karszes, Dairy Farm Management Business Summary, New York, 2005, Department of Applied Economics and Management, Cornell University, R.B. 2006-06, October 2006.

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

212 New York Dairy Farms, 2005

Item	Farms with:	Conventional		Freestall		
		<= 60 Cows	>60 Cows	<=150 Cows	151-300 Cows	≥300 Cows
Number of farms		31	31	38	28	84
<u>Cropping Program Analysis</u>						
Total Tillable acres		154	318	299	570	1,373
Tillable acres rented*		57	133	123	290	713
Hay crop acres *		102	217	181	289	631
Corn silage acres *		15	49	75	172	527
Hay crop, tons DM/acre		1.9	2.2	2.3	2.9	3.6
Corn silage, tons/acre		15.8	16.8	17.3	18.5	19.0
Oats, bushels/acre		40	44	65	54	60
Forage DM per cow, tons		7.1	8.7	8.2	8.9	8.2
Tillable acres/cow		3.8	3.7	2.8	2.6	2.0
Fertilizer & lime expense/tillable acre		\$22.09	\$25.63	\$34.03	\$32.66	\$40.00
Total machinery costs		\$30,193	\$64,228	\$73,459	\$162,980	\$432,988
Machinery cost/tillable acre		\$184	\$202	\$233	\$280	\$308
<u>Dairy Analysis</u>						
Number of cows		44	87	110	225	712
Number of heifers		33	71	89	170	566
Milk sold, lbs.		809,313	1,578,164	2,093,965	4,946,138	16,964,544
Milk sold/cow, lbs.		18,448	18,119	19,078	21,979	23,840
Operating cost of producing milk/cwt.		\$10.62	\$11.41	\$12.37	\$12.05	\$12.33
Total cost of producing milk/cwt.		\$18.51	\$18.09	\$18.24	\$15.93	\$15.06
Price/cwt. milk sold		\$15.77	\$15.93	\$16.25	\$15.99	\$15.96
Purchased dairy feed/cow		\$896	\$744	\$912	\$970	\$1,038
Purchased dairy feed/cwt. milk		\$4.86	\$4.10	\$4.78	\$4.41	\$4.35
Purchased grain & concentrate as % of milk receipts		28%	26%	28%	26%	26%
Purchased feed & crop expense/cwt milk		\$5.49	\$5.08	\$5.78	\$5.22	\$5.08
<u>Capital Efficiency</u>						
Farm capital/worker		\$232,663	\$314,528	\$328,364	\$328,280	\$313,237
Farm capital/cow		\$9,705	\$10,219	\$10,052	\$7,965	\$7,096
Farm capital/tillable acre owned		\$4,398	\$4,816	\$6,264	\$6,415	\$7,643
Real estate/cow		\$4,773	\$4,721	\$4,818	\$3,316	\$2,663
Machinery investment/cow		\$1,931	\$2,243	\$1,980	\$1,414	\$1,184
Asset turnover ratio		0.39	0.37	0.39	0.56	0.66
<u>Labor Efficiency</u>						
Worker equivalent		1.83	2.83	3.36	5.46	16.12
Operator/manager equivalent		1.22	1.37	1.35	1.68	1.91
Milk sold/worker, lbs.		442,852	557,820	623,668	906,024	1,052,609
Cows/worker		24	31	33	41	44
Labor cost/cow		\$1,031	\$804	\$830	\$703	\$759
Labor cost/tillable acre		\$294	\$220	\$305	\$277	\$394
<u>Profitability &amp; Balance Sheet Analysis</u>						
Net farm income (without appreciation)		\$30,415	\$44,400	\$50,620	\$125,390	\$395,349
Labor & management income/operator		\$6,747	\$1,248	\$-587	\$37,627	\$128,918
Rate return on all capital with appreciation		2.8%	5.0%	4.8%	9.6%	12.2%
Farm debt/cow		\$2,483	\$1,948	\$2,112	\$2,691	\$2,935
Percent equity		75%	81%	79%	67%	60%

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

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

31 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 2005

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
2.86	57	1,189,123	23,541	5.0	30	41	825,592
2.32	53	1,047,638	22,342	3.1	22	35	649,589
2.13	52	973,127	21,443	2.8	20	32	575,736
2.00	50	953,644	20,147	2.5	20	27	519,129
1.95	47	904,447	19,124	2.2	19	25	481,939
-----							
1.69	44	816,332	18,076	2.0	18	24	452,263
1.55	42	742,056	16,569	1.8	16	22	385,997
1.51	38	657,436	15,809	1.5	14	19	314,544
1.40	33	529,320	14,672	1.4	12	19	289,541
1.11	28	412,331	13,233	0.8	8	16	253,934

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)
\$408	15%	\$274	\$1,132	\$601	\$3.55	\$3.55
617	22	402	1,337	770	4.16	4.16
670	24	482	1,442	854	4.62	4.62
722	25	584	1,562	885	4.91	4.91
803	26	638	1,674	981	5.10	5.10
-----						
850	28	688	1,757	1,028	5.49	5.49
879	29	753	1,832	1,067	5.96	5.96
916	30	838	1,966	1,176	6.54	6.54
949	37	949	2,156	1,299	7.39	7.39
1,145	45	1,049	2,580	1,499	8.52	8.52

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)
\$3,825	\$7.42	\$14.10	\$70,780	\$1,506	\$47,558	\$78,381
3,526	8.23	15.63	58,315	1,313	26,450	54,391
3,323	8.68	17.08	50,743	1,131	21,256	38,532
3,152	9.49	17.76	43,324	987	14,808	30,394
2,983	10.68	18.50	33,447	790	9,422	23,040
-----						
2,853	11.09	19.40	28,470	646	5,535	18,524
2,705	11.57	20.30	21,432	531	605	15,749
2,439	12.06	21.10	15,970	371	-5,416	14,107
2,326	13.62	21.60	6,936	182	-10,121	7,061
1,969	15.42	25.63	-10,045	-240	-26,286	-6,421

\*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, 2005

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)
4.41	136	2,390,973	24,287	4.6	22	49	866,514
2.62	116	2,123,063	22,502	3.6	20	40	760,803
3.20	100	1,928,511	20,509	3.2	20	36	709,057
3.07	90	1,687,204	19,980	2.6	19	35	632,081
2.82	82	1,572,642	18,616	2.1	18	33	608,502
-----							
2.65	78	1,421,559	17,917	2.1	17	30	589,163
2.50	74	1,353,972	17,261	1.9	16	29	527,105
2.33	71	1,242,032	16,133	1.5	15	27	461,767
2.24	67	1,171,181	14,654	1.4	14	24	408,359
1.79	64	1,062,421	13,193	1.0	11	21	331,299

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)	
\$378	13%	\$422	\$1,043	\$554	\$3.42	
572	19	519	1,205	743	3.96	
637	21	550	1,329	809	4.23	
682	24	583	1,441	890	4.44	
721	25	622	1,489	943	4.73	
-----						
785	27	663	1,505	967	5.21	
829	28	718	1,661	1,001	5.59	
885	30	777	1,776	1,091	6.42	
926	34	966	1,948	1,157	7.03	
1,090	39	1,480	2,229	1,317	7.48	

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
			Total	Per Cow		
(12)	(12)	(12)	(4)	(12)	(4)	(8)
\$3,634	\$7.01	\$14.46	\$114,410	\$1,251	\$44,313	\$225,399
3,453	9.61	15.68	84,829	987	30,595	85,675
3,280	10.27	16.41	70,801	839	26,317	66,579
3,218	10.89	17.13	55,882	700	12,374	56,433
2,998	11.50	17.67	48,356	582	4,634	47,074
-----						
2,905	12.23	18.44	37,967	435	-2,666	31,419
2,763	12.90	18.86	25,112	295	-7,127	24,657
2,597	13.38	20.46	22,232	222	-14,810	13,014
2,357	14.07	21.65	15,161	181	-23,356	-1,256
2,187	16.16	25.18	-11,962	-175	-57,765	-26,428

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

**FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS**  
38 Freestall Barn Dairy Farms with 150 or Less Cows, New York, 2005

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)
4.99	148	3,218,784	23,231	4.8	25	55	915,575
4.61	143	2,912,681	22,322	3.8	22	43	844,734
4.25	137	2,744,959	21,874	3.5	21	39	750,618
4.02	131	2,487,384	20,421	3.1	20	35	701,876
3.69	121	2,274,861	19,645	2.7	20	34	670,136
3.16	111	2,169,733	19,059	2.3	18	32	603,698
2.87	101	1,889,125	18,321	2.0	17	31	555,069
2.59	86	1,515,347	17,755	1.7	15	30	526,547
2.26	80	1,286,965	15,437	1.5	13	28	484,138
1.85	58	925,696	12,531	1.1	11	21	370,640

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)
\$459	17%	\$341	\$881	\$622	\$3.66	\$3.66
644	22	428	1,241	845	4.60	4.60
735	25	495	1,281	913	4.99	4.99
800	26	541	1,337	999	5.41	5.41
822	27	592	1,408	1,109	5.80	5.80
867	29	658	1,477	1,189	6.15	6.15
969	31	738	1,627	1,228	6.47	6.47
1,049	33	817	1,808	1,295	6.82	6.82
1,110	36	953	1,980	1,327	7.22	7.22
1,201	38	1,120	2,299	1,498	7.63	7.63

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
			Total	Per Cow		
(12)	(12)	(12)	(4)	(12)	(4)	(8)
\$3,716	\$7.99	\$14.38	\$162,851	\$1,249	\$50,475	\$271,925
3,573	10.01	15.50	89,832	931	33,588	117,660
3,495	11.36	16.84	76,800	721	22,607	83,820
3,350	11.75	17.38	66,156	609	14,453	61,204
3,225	12.26	17.64	58,368	507	9,314	49,843
3,094	12.77	18.04	44,409	438	3,942	39,642
2,936	13.49	19.03	38,622	403	-4,105	35,853
2,780	14.12	21.13	28,392	223	-13,484	25,027
2,473	14.95	23.34	2,690	53	-39,197	17,207
2,162	17.08	27.47	-24,063	-199	-106,723	-6,368

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

### FARM BUSINESS CHART FOR MEDIUM FREESTALL DAIRY FARMS

28 Freestall Barn Dairy Farms with 151-300 Cows, New York, 2005

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
7.04	296	6,813,634	25,180	6.4	28	57	1,296,070
6.95	292	6,568,786	24,341	4.4	25	52	1,136,361
6.66	280	6,188,089	23,836	3.9	23	50	1,087,434
6.30	259	5,659,883	23,354	3.7	23	47	1,013,032
6.03	234	5,327,820	22,744	3.5	20	42	994,149
-----							
5.74	214	4,882,803	22,204	3.0	18	42	941,052
4.83	199	4,484,966	21,761	2.5	17	41	877,311
4.52	189	3,890,557	20,569	2.0	16	37	778,070
3.95	175	3,673,181	19,341	1.8	14	34	703,457
3.59	158	3,135,039	17,574	1.4	10	28	594,609

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)	
\$599	18%	\$491	\$1,127	\$809	\$3.93	
710	21	574	1,212	882	4.18	
842	23	647	1,275	990	4.55	
860	26	672	1,341	1,069	5.03	
946	27	708	1,370	1,151	5.24	
-----						
1,008	28	772	1,413	1,196	5.40	
1,014	29	818	1,559	1,263	5.58	
1,052	30	884	1,684	1,326	5.94	
1,119	31	993	1,875	1,360	6.10	
1,204	34	1,051	2,003	1,545	7.04	

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
			Total	Per Cow		
(12)	(12)	(12)	(4)	(12)	(4)	(8)
\$3,933	\$9.54	\$12.58	\$274,958	\$1,254	\$221,039	\$305,412
3,857	10.47	14.09	232,699	1,047	186,550	235,896
3,783	11.27	15.04	189,270	726	72,887	220,859
3,716	11.64	15.78	154,484	654	56,724	179,970
3,620	11.91	16.16	123,053	618	38,662	148,534
-----						
3,607	12.32	16.56	110,625	492	29,235	125,600
3,503	12.80	17.32	103,461	413	22,830	96,896
3,334	13.49	17.88	89,762	383	14,243	67,367
3,179	14.15	18.14	67,569	331	2,708	31,944
2,770	16.44	20.92	-6,360	-59	-76,410	-55,414

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

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

84 Freestall Barn Dairy Farms with 300 or More Cows, New York, 2005

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)
36.36	1,804	44,487,471	27,672	6.2	26	63	1,427,011
24.34	1,103	27,109,378	26,077	4.9	23	53	1,237,728
20.35	901	21,889,641	25,371	4.4	21	51	1,165,112
17.07	727	17,415,908	24,623	3.9	20	47	1,106,904
14.44	604	14,927,028	23,948	3.6	19	45	1,080,233
13.48	548	12,737,762	23,516	3.4	18	43	1,037,931
11.63	477	11,045,969	22,928	2.9	18	41	977,179
10.40	421	9,129,451	22,218	2.7	17	37	870,012
9.30	366	8,102,366	21,579	2.5	16	34	775,500
7.06	322	6,887,120	17,809	2.0	14	30	659,263

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)	
\$675	20%	\$401	\$993	\$900	\$4.09	
819	22	495	1,152	1,031	4.49	
864	23	551	1,247	1,078	4.70	
904	24	589	1,330	1,138	4.84	
945	25	620	1,398	1,182	4.98	
972	26	649	1,435	1,224	5.14	
1,017	28	676	1,479	1,259	5.44	
1,074	28	714	1,540	1,318	5.63	
1,120	29	772	1,615	1,408	5.81	
1,241	31	933	1,786	1,534	6.57	

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
(12)	(12)	(12)	Total	Per Cow	(4)	(8)
\$4,553	\$10.23	\$13.29	\$1,232,916	\$1,144	\$478,623	\$1,453,451
4,216	11.01	13.91	655,212	885	303,565	861,305
4,016	11.32	14.24	544,342	771	213,810	584,421
3,906	11.70	14.58	409,888	679	165,416	482,612
3,801	12.04	14.91	352,173	634	128,894	382,219
3,737	12.28	15.31	304,993	555	93,745	307,674
3,635	12.76	15.70	240,293	479	78,121	241,438
3,520	13.19	15.99	191,083	388	53,187	174,808
3,387	13.64	16.45	145,440	265	16,143	110,578
2,997	14.98	18.75	2,422	-8	-94,333	-93,007

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

### IDENTIFY AND SET GOALS

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

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

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

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

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

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

#### Worksheet for Setting Goals

##### I. Mission and Objectives

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Worksheet for Setting Goals (Continued)

II. Goals

What	How	When	Who is Responsible
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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Summarize Your Business Performance

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

Strengths: \_\_\_\_\_  
\_\_\_\_\_  
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Needs improvement: \_\_\_\_\_  
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**GLOSSARY AND LOCATION OF COMMON TERMS**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Other Livestock Expenses** - All other dairy herd and livestock expenses not included in more specific categories. Other livestock expenses include; 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.

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