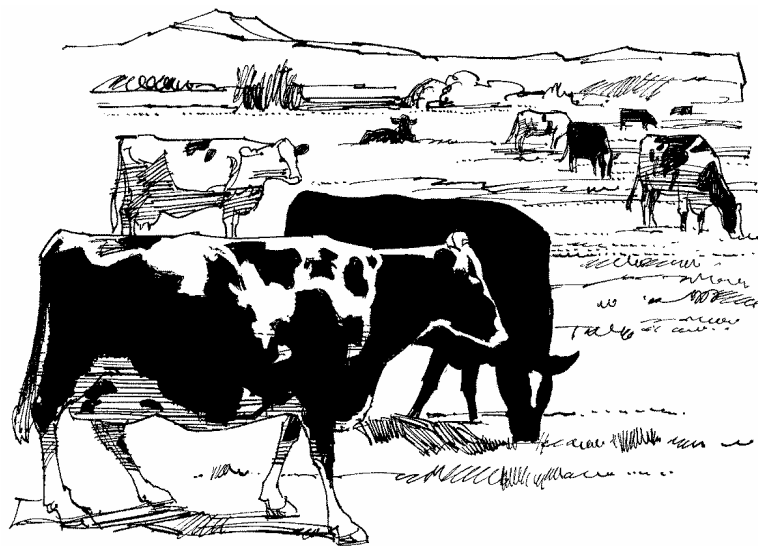


SEPTEMBER 2005

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# ***DAIRY FARM BUSINESS SUMMARY***

## ***WESTERN AND CENTRAL PLATEAU REGION 2004***



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**2004 DAIRY FARM BUSINESS SUMMARY**  
**WESTERN AND CENTRAL PLATEAU REGION**  
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## 2004 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 2004.

#### **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 2004 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 summary 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, Jim Grace, David Munsee and Jacob Schuelke; and Jason Karszes, Senior Extension Associate, PRO-DAIRY. The Western and Central Plateau Region of New York State, with the number of participating farms in parentheses, is comprised of Allegany (3), Cattaraugus (2), Chautauqua (6), Chemung (2), Cortland (2), Schuyler (3), Steuben (7), Tioga (3), and Tompkins (5) Counties. Linda Putnam was in charge of data analysis.

## 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**  
33 Western and Central Plateau Region Dairy Farms, 2004

Type of Farm	Number	Milking System	Number
Dairy	33	Bucket & carry	0
Part-time dairy	0	Dumping station	0
Dairy cash-crop	0	Pipeline	15
Certified organic milk producer	0	Herringbone conventional exit	8
Rotational grazing farm	13	Herringbone rapid exit	0
		Parallel	8
		Parabone	1
		Rotary	0
		Other	1
Type of Ownership	Number	Production Records	Number
Owner	31	Testing Service	25
Renter	2	On Farm System	4
		Other	0
Type of Business	Number	None	4
Sole Proprietorship	18	bST Usage	Number
Partnership	12	Used consistently	3
Limited Liability Corporation	3	Used inconsistently	5
Subchapter S Corporation	0	Started using in 2004	0
Subchapter C Corporation	0	Stopped using in 2004	0
		Not used in 2004	25
Type of Barn	Number	Average percent usage, if used	56%
Stanchion or Tie-Stall	17	Business Record System	Number
Freestall	15	Account Book	7
Combination	1	Accounting Service	4
		On-farm computer	21
Milking Frequency	Number	Other	1
2 times per day	26		
3 times per day	7		
Other	0		
Breed of Herd	Percent		
Holstein	90		
Jersey	6		
Other	4		

The averages used in this report were compiled using data from all the participating dairy farms in this region unless noted otherwise. There are full-time dairy farms, part-time farms, dairy cash-crop farms, farms with confined herds, farms with grazing herds, farm renters, partnerships, and corporations included in the average. Average data for these specific types of farms are presented in the State Business Summary.

### **Income Statement**

In order for an income statement to accurately measure farm income, it must include cash transactions and accrual adjustments (changes in accounts payable, accounts receivable, inventories, and prepaid expenses).

Cash paid is the actual cash outlay during the year and does not necessarily represent the cost of goods and services actually used in 2004.

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**  
 33 Western and Central Plateau Region Dairy Farms, 2004

Expense Item	Cash Paid	-	Change in Inven- tory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired labor</u>	\$ 82,338		\$ 410	<<	\$ 121		\$ 82,049
<u>Feed</u>							
Dairy grain & concentrate	176,681		553		-4,229		171,899
Dairy roughage	6,625		1,032		354		5,947
Nondairy	3		0		0		3
Professional nutritional services	235		0		0		235
<u>Machinery</u>							
Machinery hire, rent & lease	19,415		0	<<	-481		18,934
Mach. repairs & farm vehicle exp.	34,949		-286		-216		35,019
Fuel, oil & grease	18,824		928		28		17,924
<u>Livestock</u>							
Replacement livestock	7,499		0	<<	0		7,499
Breeding	7,965		407		10		7,568
Veterinary & medicine	20,961		106		-158		20,697
Milk marketing	26,988		0	<<	-56		26,932
Bedding	7,793		-23		95		7,911
Milking supplies	11,340		28		75		11,387
Cattle lease & rent	1,257		0	<<	-17		1,240
Custom boarding	4,921		0	<<	39		4,960
bST	4,062		40		46		4,068
Livestock professional fees	2,037		0		33		2,070
Other livestock expense	5,071		170		-337		4,564
<u>Crops</u>							
Fertilizer & lime	13,732		2,022		104		11,814
Seeds & plants	9,503		2,421		2		7,084
Spray, other crop expense	6,953		410		-179		6,364
Crop professional fees	1,106		50		140		1,196
<u>Real estate</u>							
Land, building & fence repair	11,861		68		-115		11,678
Taxes	10,269		0	<<	-12		10,257
Rent & lease	7,570		0	<<	-231		7,339
<u>Other</u>							
Insurance	6,130		209	<<	-71		5,850
Utilities (farm share)	15,711		0	<<	-267		15,444
Interest paid	24,281		0	<<	-35		24,247
Other professional fees	3,794		99		-62		3,634
Miscellaneous	3,563		14		15		3,564
Total operating	\$ 553,433		\$ 8,655		\$ -5,403		\$ 539,375
Expansion livestock	14,209		0	<<	0		14,209
Extraordinary expense	1,438		0	<<	0		1,438
Machinery depreciation							34,539
Building depreciation							20,115
Total Accrual Expenses							\$ 609,676

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 2004 but not paid for. A decrease is subtracted because it represents payment for resources used before 2004.

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**  
33 Western and Central Plateau Region Dairy Farms, 2004

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$ 612,525				\$ 10,316		\$ 622,841
Dairy cattle	25,992		\$ 18,976		0		44,968
Dairy calves	7,209		783		0		7,992
Other livestock	455		514		0		968
Crops	6,005		6,390		-377		12,018
Government receipts	15,288		0 *		88		15,376
Custom machine work	2,262				26		2,288
Gas tax refund	462				0		462
Other	<u>6,533</u>				<u>-12</u>		6,521
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$ 676,731		\$ 26,663		\$ 10,041		\$ 713,435

\*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 2004 for the 2005 crop year in excess of funds earned for 2004. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2004 but received in 2003.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 2005 for milk produced in December 2004 compared to January 2004 payments for milk produced in 2003 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.

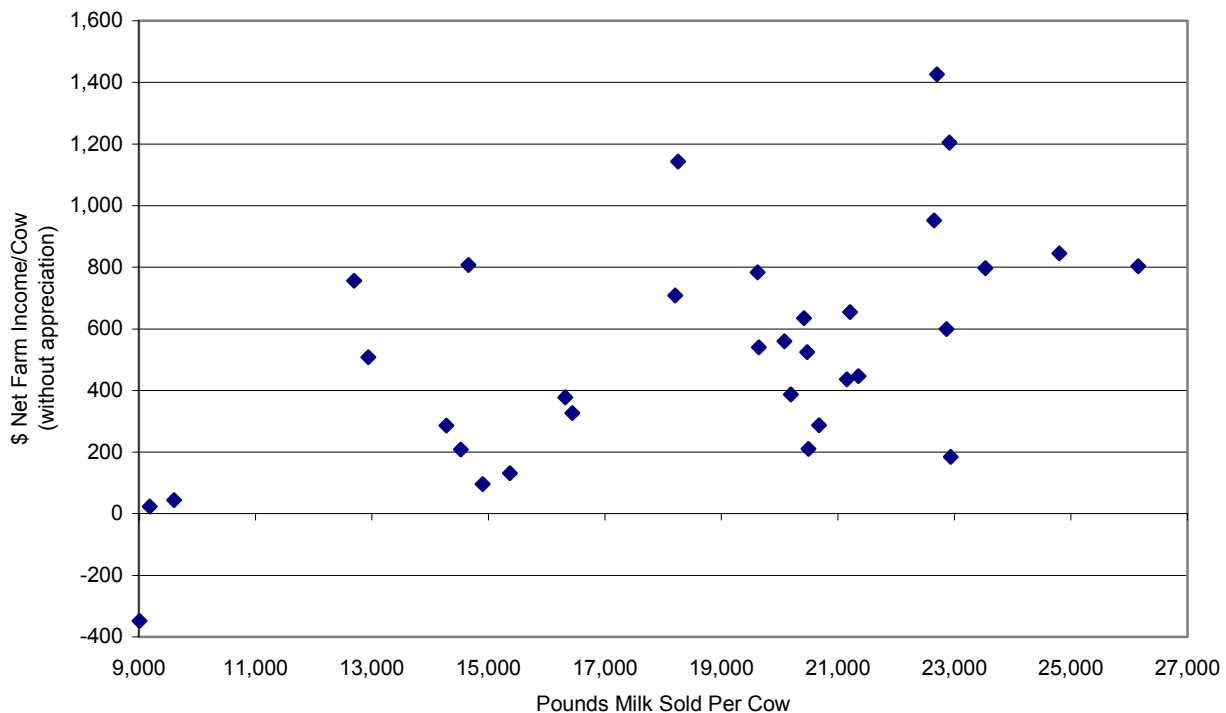
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit stock required for loan borrowings). Appreciation is a major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

**NET FARM INCOME**  
33 Western and Central Plateau Region Dairy Farms, 2004

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$ 713,435		\$ _____	
Appreciation: livestock	7,452		_____	
machinery	7,010		_____	
real estate	41,760		_____	
other stock & certificates	-292		_____	
Total including appreciation	\$ 769,365		\$ _____	
Total accrual expenses	- 609,676		- _____	
Net Farm Income (with appreciation)	\$ 159,689	\$ 907	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 103,759	\$ 590	\$ _____	\$ _____

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**  
33 Western and Central Plateau Region Dairy Farms, 2004





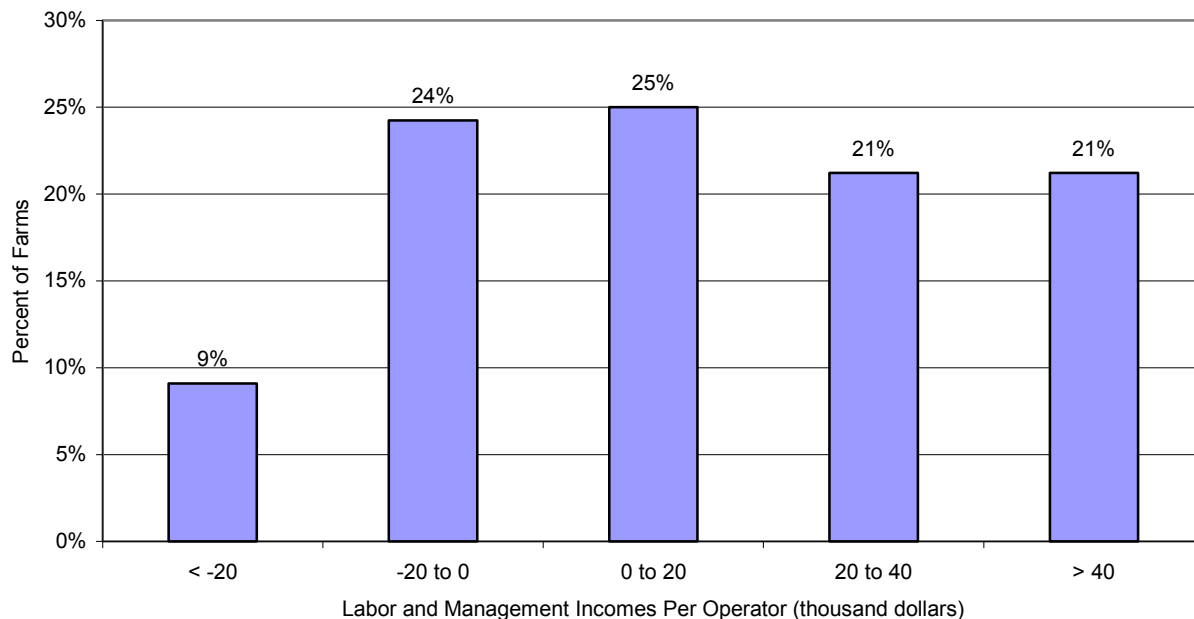
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and 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**  
33 Western and Central Plateau Region Dairy Farms, 2004

Item	Average	My Farm
Net farm income without appreciation	\$ 103,759	\$ _____
Family labor unpaid @ \$2,200 per month	- 5,053	- _____
Interest on \$854,263 average equity capital @ 5% real rate	- 42,867	- _____
Labor & Management Income per Farm (1.68 operators/farm)	\$ 55,839	\$ _____
Labor & Management Income per Operator/Manager	\$ 33,238	\$ _____

Labor and management income per operator averaged \$33,238 on these 33 farms in 2004. The range in labor and management income per operator was from about \$-58,000 to more than \$340,000. Returns to labor and management were negative on 33 percent of the farms. Labor and management incomes per operator were between \$0 and \$40,000 on 46 percent of the farms while 21 percent showed labor and management incomes of \$40,000 or more per operator.

**DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR**  
33 Western and Central Plateau Region Dairy Farms, 2004



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**  
33 Western and Central Plateau Region Dairy Farms, 2004

Item	Average	My Farm
Net farm income with appreciation	\$ 159,689	\$ _____
Family labor unpaid @\$2,200 per month	- 5,053	- _____
Value of operators' labor & management	- 50,515	- _____
Return on Equity Capital with Appreciation	\$ 104,121	\$ _____
Interest paid	+ 24,247	+ _____
Return on Total Capital with Appreciation	\$ 128,368	\$ _____
Return on Equity Capital without Appreciation	\$ 48,191	\$ _____
Return on Total Capital without Appreciation	\$ 72,438	\$ _____
Rate of Return on Average Equity Capital:		
with appreciation	12.2%	_____ %
without appreciation	5.6%	_____ %
Rate of Return on Average Total Capital:		
with appreciation	9.5%	_____ %
without appreciation	5.4%	_____ %
Net farm income from operations ratio	0.15	_____

**Farm and Family Financial Status**

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

Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business. For 2004, lease payments were discounted by 5.75 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 2004 that are for participation in the 2005 program are the end year balance and payments received in 2003 for participation in the 2004 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.

# 2004 FARM BUSINESS & NONFARM MARKET VALUE BALANCE SHEET

33 Western and Central Plateau Region Dairy Farms, 2004

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 14,199	\$ 12,003	Accounts payable	\$ 22,040	\$ 16,636
Accounts receivable	28,883	38,924	Operating debt	29,225	23,072
Prepaid expenses	0	767	Short Term	2,231	1,840
Feed & supplies	94,858	109,136	Advanced govt. receipts	0	0
			Current Portion:		
			Intermediate	38,842	43,700
			Long Term	11,885	14,904
Total Current	\$ 137,940	\$ 160,830	Total Current	\$ 104,223	\$ 100,152
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 210,466	\$ 233,971	1-10 years	\$ 220,504	\$ 178,533
leased	2,288	1,181	Financial lease		
Heifers	106,928	110,581	(cattle/machinery)	3,185	3,265
Bulls & other livestock	739	1,306	Farm Credit stock	2,860	3,143
Mach. & equip. owned	233,264	256,494	Total Intermediate	\$ 226,549	\$ 184,941
Mach. & equip. leased	897	2,084			
Farm Credit stock	2,860	3,143			
Other stock/certificate	12,951	13,035			
Total Intermediate	\$ 570,393	\$ 621,795			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 575,671	\$ 624,287	>10 years	\$ 163,775	\$ 202,751
leased	0	229	Financial lease		
Total Long Term	\$ 575,671	\$ 624,516	(structures)	0	229
			Total Long Term	\$ 163,775	\$ 202,980
Total Farm Assets	\$1,284,004	\$1,407,141	Total Farm Liabilities	\$ 494,547	\$ 488,073
			FARM NET WORTH	\$ 789,457	\$ 919,068

## 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	\$ 5,089	\$ 4,161	Nonfarm Liabilities	\$ 6,774	\$ 2,845
Cash value life insurance	13,509	14,303			
Nonfarm real estate	8,539	24,329			
Auto (personal share)	6,347	8,542			
Stocks & bonds	32,740	35,943			
Household furnishings	10,511	9,879			
All other nonfarm assets	19,132	25,708			
Total Nonfarm Assets	\$ 95,867	\$ 122,865	NONFARM NET WORTH	\$ 89,093	\$ 120,020

Farm & Nonfarm Assets, Liabilities, and Net Worth*	Jan. 1	Dec. 31
Total Assets	\$1,379,871	\$1,530,006
Total Liabilities	501,321	490,918
TOTAL FARM & NONFARM NET WORTH	\$ 878,550	\$1,039,088

\*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

33 Western and Central Plateau Region Dairy Farms, 2004

Item			Average	My Farm	
<u>Financial Ratios - Farm:</u>					
Percent equity			65%	_____	%
Debt/asset ratio: total			.35	_____	
long-term			.33	_____	
intermediate/current			.36	_____	
Leverage ratio:			.53	_____	
Current ratio:			1.61		
Working capital	\$60,678	As % of total expenses:	10%		
<u>Farm Debt Analysis:</u>					
Accounts payable as % of total debt			3%	_____	%
Long-term liabilities as a % of total debt			42%	_____	%
Current & intermediate liabilities as a % of total debt			58%	_____	%
Cost of term debt (weighted average)			5.2%	_____	%
<u>Farm Debt Levels:</u>					
		Per Cow	Per Tillable		Per Tillable
		<u>Acre Owned</u>	<u>Per Cow</u>		<u>Acre Owned</u>
Total farm debt	\$	2,624	\$	1,892	\$ _____
Long-term debt		1,091		787	_____
Intermediate & long term		2,086		1,504	_____
Intermediate & current debt		1,533		1,105	_____

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

33 Western and Central Plateau Region Dairy Farms, 2004

Item	Average of Region's Farms			
	<u>Real Estate</u>		<u>Machinery &amp; Equipment</u>	
Value beginning of year	\$	575,671	\$	233,264
Purchases	\$	35,923*	\$	49,211
Gift & inheritance	+	0	+	2,467
Lost capital	-	5,224		
Sales	-	3,727	-	919
Depreciation	-	20,115	-	34,539
Net investment	=	6,857	=	16,220
Appreciation	+	41,759	+	7,010
Value end of year	\$	624,287	\$	256,494

\*\$15,053 land and \$20,870 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)

33 Western and Central Plateau Region Dairy Farms, 2004

Item	Average	My Farm
Beginning of year farm net worth	\$789,457	\$ _____
Net farm income without appreciation	\$ 103,759	\$ _____
+Nonfarm cash income	+ 6,691	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	- 46,063	- _____
RETAINED EARNINGS	+ \$ 64,387	+\$ _____
Nonfarm noncash transfers to farm	\$ 2,467	\$ _____
+Cash used in business from nonfarm capital	+ 12,055	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	- 606	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 13,916	+\$ _____
Appreciation	\$ 55,930	\$ _____
-Lost capital	- 5,224	- _____
CHANGE IN VALUATION EQUITY	+ \$ 50,706	+\$ _____
IMBALANCE/ERROR	- -602	- \$ _____
End of year net worth*	= \$919,068	=\$ _____
<u>Change in Net Worth</u>		
Without appreciation	\$ 73,681	\$ _____
With appreciation	\$ 129,611	\$ _____

\*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 33 Western and Central Plateau Region Dairy Farms, 2004

Item		Average	
<u>Cash Flow from Operating Activities</u>			
Cash farm receipts	\$ 676,731		
- Cash farm expenses	553,433		
	<u>1,438</u>		
= Net cash farm income		\$ 121,860	
Personal withdrawals & family expenses including nonfarm debt payments	\$ 46,063		
- Nonfarm income	<u>6,691</u>		
- Net cash withdrawals from the farm		\$ 39,372	
= Net Provided by Operating Activities			\$ 82,488
<u>Cash Flow From Investing Activities</u>			
Sale of assets: machinery	\$ 919		
+ real estate	3,727		
+ other stock & cert.	<u>1,055</u>		
= Total asset sales		\$ 5,701	
Capital purchases: expansion livestock	\$ 14,209		
+ machinery	49,211		
+ real estate	35,923		
+ other stock & cert.	<u>1,431</u>		
- Total invested in farm assets		\$ 100,774	
= Net Provided by Investment Activities			\$ -95,073
<u>Cash Flow From Financing Activities</u>			
Money borrowed (intermediate & long term)	\$ 68,795		
+ Money borrowed (short term)	659		
+ Increase in operating debt	0		
+ Cash from nonfarm capital used in business	12,055		
+ Money borrowed - nonfarm	<u>0</u>		
= Cash inflow from financing		\$ 81,509	
Principal payments (intermediate & long term)	\$ 64,519		
+ Principal payments (short term)	1,050		
+ Decrease in operating debt	<u>6,153</u>		
- Cash outflow for financing		\$ 71,722	
= Net Provided by Financing Activities			\$ 9,787
<u>Cash Flow From Reserves</u>			
Beginning farm cash, checking & savings		\$ 14,199	
- Ending farm cash, checking & savings		<u>12,003</u>	
= Net Provided from Reserves			\$ 2,196
Imbalance (error)			\$ -602

## 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 2005. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2005 debt payments shown below.

### FARM DEBT PAYMENTS PLANNED

Same 21 Western and Central Plateau Region Dairy Farms, 2003 & 2004

Debt Payments	Average			My Farm		
	2004 Payments		Planned 2005	2004 Payments		Planned 2005
	Planned	Made		Planned	Made	
Long term	\$ 18,207	\$ 18,625	\$ 21,209	\$ _____	\$ _____	\$ _____
Intermediate term	46,472	57,654	47,845	_____	_____	_____
Short term	381	1,683	0	_____	_____	_____
Operating (net reduction)	5,451	5,365	2,090	_____	_____	_____
Accounts payable (net reduction)	<u>5,128</u>	<u>7,030</u>	<u>7,426</u>	_____	_____	_____
Total	\$ 75,639	\$ 90,357	\$ 78,570	\$ _____	\$ _____	\$ _____
Per cow	\$ 501	\$ 598		\$ _____	\$ _____	
Per cwt. 2004 milk	\$ 2.29	\$ 2.73		\$ _____	\$ _____	
Percent of total 2004 farm receipts	12%	14%		_____	_____	
Percent of 2004 milk receipts	14%	16%		_____	_____	

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 2004 (as of December 31, 2003) that could have been made with the amount available for debt service in 2004. Farmers who did not participate in DFBS in 2003 have their 2004 ratios based on planned debt payments for 2005.

### COVERAGE RATIOS

Same 21 Western and Central Plateau Region Dairy Farms, 2003 & 2004

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$602,513	Net farm income (w/o appreciation)	\$94,536
- Cash farm expenses	493,939	+ Depreciation	46,052
+ Interest paid (cash)	15,851	+ Interest paid (accrual)	15,796
- Net personal withdrawals from farm*	<u>34,591</u>	- Net personal withdrawals from farm*	<u>34,591</u>
(A) = Amount available for debt service	\$89,834	(A') = Repayment capacity	\$121,793
(B) = Debt payments planned for 2004 (as of December 31, 2003)	\$75,639	(B) = Debt payments planned for 2004 (as of December 31, 2003)	\$75,639
(A/B) = Cash Flow Coverage Ratio for 2004	1.19	(A'/B) = Debt Coverage Ratio for 2004	1.61

\*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	33 Western & Central Plateau Region Dairy Farms, 2004		My Farm	Expected Change	2005 Projection
	Per Cow	Per Cwt.	Per Cow/ Per Cwt.		
Average number of cows	176				
Total cwt. of milk sold		37,029			
<u>Accrual Operating Receipts</u>					
Milk	\$ 3,539	\$ 16.82	\$ _____	_____	\$ _____
Dairy cattle	256	1.21	_____	_____	_____
Dairy calves	45	.22	_____	_____	_____
Other livestock	6	.03	_____	_____	_____
Crops	68	.32	_____	_____	_____
Miscellaneous Receipts	140	.67	_____	_____	_____
Total	\$ 4,054	\$ 19.27	\$ _____	_____	\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$ 466	\$ 2.21	\$ _____	_____	\$ _____
Dairy grain & concentrate	977	4.64	_____	_____	_____
Dairy roughage	34	.16	_____	_____	_____
Nondairy feed	0	.00	_____	_____	_____
Professional nutritional services	1	.01	_____	_____	_____
Machinery hire, rent & lease	108	.51	_____	_____	_____
Machinery repair & vehicle expense	199	.95	_____	_____	_____
Fuel, oil & grease	102	.48	_____	_____	_____
Replacement livestock	43	.20	_____	_____	_____
Breeding	43	.20	_____	_____	_____
Veterinary & medicine	118	.56	_____	_____	_____
Milk marketing	153	.73	_____	_____	_____
Bedding	45	.21	_____	_____	_____
Milking supplies	65	.31	_____	_____	_____
Cattle lease	7	.03	_____	_____	_____
Custom boarding	28	.13	_____	_____	_____
bST	23	.11	_____	_____	_____
Livestock professional fees	12	.06	_____	_____	_____
Other livestock expense	26	.12	_____	_____	_____
Fertilizer & lime	67	.32	_____	_____	_____
Seeds & plants	40	.19	_____	_____	_____
Spray & other crop expense	36	.17	_____	_____	_____
Crop professional fees	7	.03	_____	_____	_____
Land, building & fence repair	66	.32	_____	_____	_____
Taxes	58	.28	_____	_____	_____
Real estate rent & lease	42	.20	_____	_____	_____
Insurance	33	.16	_____	_____	_____
Utilities	88	.42	_____	_____	_____
Miscellaneous	41	.20	_____	_____	_____
Total Less Interest Paid	\$ 2,926	\$ 13.92	\$ _____	_____	\$ _____
<u>Net Accrual Operating Income</u>	<u>Total</u>				
(without interest paid)	\$ 198,307		\$ _____		\$ _____
- Change in livestock /crop inventory*	26,663		_____	_____	_____
- Change in accounts receivable	10,041		_____	_____	_____
- Change in feed & supply inventory**	8,655		_____	_____	_____
+ Change in accounts payable***	-5,368		_____	_____	_____
NET CASH FLOW	\$ 147,580		\$ _____		\$ _____
- Net family withdrawals	\$ 39,371		_____	_____	_____
Available for Farm	\$ 108,209		\$ _____		_____
- Farm debt payments	105,679		_____	_____	_____
Available for Farm Investment	\$ 2,530		\$ _____		\$ _____
- Capital purchases	100,774		_____	_____	_____
Additional Capital Needed	\$ 98,244		\$ _____		\$ _____

\*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** 33 Western and Central Plateau Region Dairy Farms, 2004

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	258	167	425	_____	_____	_____
Nontillable	44	11	55	_____	_____	_____
Other nontillable	<u>125</u>	<u>5</u>	<u>130</u>	_____	_____	_____
Total	427	183	610	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Production/Acre</u>	<u>Acres</u>	<u>Production/Acre</u>	
Hay crop	32	223	2.90 tons DM	_____	_____	tons DM
Corn silage	23	192	17.01 ton	_____	_____	tons
			5.57 tons DM	_____	_____	tons DM
Other forage	0	0	0.00 tons DM	_____	_____	tons DM
Total forage	32	362	4.01 tons DM	_____	_____	tons DM
Corn grain	8	75	144 bushels	_____	_____	bushels
Oats	5	29	46 bushels	_____	_____	bushels
Wheat	0	0	0 bushels	_____	_____	bushels
Other crops	4	71		_____		
Tillable pasture	17	58		_____		
Idle	14	34		_____		
Total Tillable Acres	33	425		_____		

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 216, corn silage 134, corn grain 18, oats 4, tillable pasture 30, and idle 14.

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. Farms that do not harvest forages are excluded.

#### **CROP/DAIRY RATIOS** 32 Western and Central Plateau Region Dairy Farms, 2004

Item	Average*	My Farm
Total tillable acres per cow	2.45	_____
Total forage acres per cow	2.02	_____
Harvested forage dry matter, tons per cow	8.10	_____

\*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 13 farms in the region.

**CROP RELATED ACCRUAL EXPENSES**

Western and Central Plateau Region Dairy Farms Reporting, 2004

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	32*	4			5		2	
Ave. number of acres	438	137			178		25	124
Fert. & lime	\$ 27.82	\$ 111.03	\$ 28.62	\$ 0.00	\$ 18.44	\$ 6.56	\$ 63.18	\$ 19.77
Seeds & plants	16.68	48.48	9.37	0.00	3.00	1.00	0.80	0.27
Spray & other crop expense	14.98	38.54	9.48	0.00	9.31	3.00	3.09	1.14
TOTAL	\$ 59.48	\$ 198.05	\$ 47.47	\$ 0.00	\$ 30.75	\$ 10.56	\$ 67.07	\$ 21.18

**My Farm**

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

\*Excludes farms that do not harvest forages.

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

**ACCRUAL MACHINERY EXPENSES**

32 Western and Central Plateau Region Dairy Farms, 2004\*

Machinery Expense	Average		My Farm	
	Total Expenses	Per Tillable Acre	Total Expenses	Per Tillable Acre
Fuel, oil & grease	\$ 18,438	\$ 42.10	\$ _____	\$ _____
Mach. repair & vehicle expense	35,952	82.08	_____	_____
Machine hire, rent & lease	19,521	44.57	_____	_____
Interest (5%)	12,633	28.84	_____	_____
Depreciation	35,471	80.98	_____	_____
Total	\$ 122,015	\$ 278.57	\$ _____	\$ _____

\*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**  
33 Western and Central Plateau Region Dairy Farms, 2004

Item	Dairy Cows		Bred		Heifer Open		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	168	\$ 210,466	51	\$ 59,014	44	\$ 32,225	38	\$ 15,689
+ Change w/o apprec.		19,173		-1,783		1,587		783
+ Appreciation		<u>4,332</u>		<u>1,553</u>		<u>907</u>		<u>607</u>
End year (owned)	183	\$ 233,971	49	\$ 58,784	45	\$ 34,719	39	\$ 17,079
End including leased	186							
Average number	176		130	(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**  
33 Western and Central Plateau Region Dairy Farms, 2004

Item	Average	My Farm
Total milk sold, lbs.	3,702,919	_____
Milk sold per cow, lbs.	20,985	_____
Average milk plant test, percent butterfat	3.65%	_____

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**  
33 Western and Central Plateau Region Dairy Farms, 2004

Item	Average		My Farm	
	Number	Percent*	Number	Percent*
Cows sold for beef	40	22.7	_____	_____
Cows sold for dairy	2	1.1	_____	_____
Cows died	14	8.0	_____	_____
Culling rate**		30.7		_____

\*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**

33 Western and Central Plateau Region Dairy Farms, 2004

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Cost of Producing Milk</u>						
Operating costs	\$ 462,992	\$ 2,631	\$ 12.50	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$ 519,084	\$ 2,949	\$ 14.02	\$ _____	\$ _____	\$ _____
Total costs	\$ 617,520	\$ 3,509	\$ 16.68	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts From Milk</u>						
Net milk receipts	\$ 622,841	\$ 3,539	\$ 16.82	\$ _____	\$ _____	\$ _____
Net milk receipts	\$ 595,909	\$ 3,386	\$ 16.09	\$ _____	\$ _____	\$ _____
Net Farm Income without Apprec.	\$ 103,759	\$ 590	\$ 2.80	\$ _____	\$ _____	\$ _____
Net Farm Income with Appreciation	\$ 159,689	\$ 907	\$ 4.31	\$ _____	\$ _____	\$ _____

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**

33 Western and Central Plateau Region Dairy Farms, 2004

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 977	\$ 4.64	\$ _____	\$ _____
Purchased dairy roughage	34	.16	_____	_____
Total Purchased Dairy Feed	\$ 1,011	\$ 4.80	\$ _____	\$ _____
Purchased grain & concentrate as % of milk receipts		28%	_____	%
Purchased feed & crop expense	\$ 1,161	\$ 5.52	\$ _____	\$ _____
Purchased feed & crop expense as % of milk receipts		33%	_____	%
Breeding	\$ 43	\$ .20	\$ _____	\$ _____
Veterinary & medicine	118	.56	_____	_____
Milk marketing	153	.73	_____	_____
Bedding	45	.21	_____	_____
Milking supplies	65	.31	_____	_____
Cattle lease	7	.03	_____	_____
Custom boarding	28	.13	_____	_____
bST	23	.11	_____	_____
Livestock professional fees	12	.06	_____	_____
Other livestock expense	26	.12	_____	_____

### 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** 33 Western and Central Plateau Region Dairy Farms, 2004

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$302,376	\$7,645	\$3,166	\$5,215
Real estate		3,410		2,326
Machinery & equipment	55,364	1,400	580	

#### Ratios

Asset turnover	Operating expense	Interest expense	Depreciation expense
.57	.74	.03	.08

#### My Farm

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

#### Ratios

Asset turnover	Operating expense	Interest expense	Depreciation expense
_____	_____	_____	_____

#### **LABOR FORCE INVENTORY** 33 Western and Central Plateau Region Dairy Farms, 2004

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	14.1	45	14	\$35,061
Operator number 2	5.1	46	13	13,061
Operator number 3	1.0	49	13	2,394
Family paid	2.4			
Family unpaid	2.3			
Hired	<u>28.6</u>			
Total	53.5	/ 12 = 4.45 Worker Equivalent		
		1.68 Operator/Manager Equivalent		

<u>My Farm:</u> Total	_____	/ 12 = _____	Worker Equivalent
Operator's	_____	/ 12 = _____	Operator/Manager Equivalent

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

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

### LABOR EFFICIENCY

33 Western and Central Plateau Region Dairy Farms, 2004

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	176	40	_____	_____
Milk sold, pounds	3,702,919	832,117	_____	_____
Tillable acres	425	96	_____	_____

### LABOR AND MACHINERY COSTS

33 Western and Central Plateau Region Dairy Farms, 2004

Labor Costs	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Value of operator(s)						
labor (\$2,200/month)	\$ 44,353	\$ 252	\$ 1.20	\$ _____	\$ _____	\$ _____
Family unpaid (\$2,200/month)	5,053	29	0.14	_____	_____	_____
Hired	<u>82,049</u>	<u>466</u>	<u>2.22</u>	_____	_____	_____
Total Labor	\$ 131,455	\$ 747	\$ 3.55	\$ _____	\$ _____	\$ _____
Machinery Cost	<u>\$ 118,734</u>	<u>\$ 675</u>	<u>\$ 3.21</u>	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$ 250,189	\$ 1,422	\$ 6.76	\$ _____	\$ _____	\$ _____
Hired labor expense per hired worker equivalent			\$31,761	\$ _____		
Hired labor expense as % of milk sales			13.2%	_____ %		

## 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 21 Western and Central Plateau Region Dairy Farms, 2003 & 2004

Selected Factors	Average of 21 Farms*		My Farm		
	2003	2004	2003	2004	Goal
<u>Size of Business</u>					
Average number of cows	151	151	_____	_____	_____
Average number of heifers	120	115	_____	_____	_____
Milk sold, pounds	3,318,120	3,306,657	_____	_____	_____
Worker equivalent	4.15	4.24	_____	_____	_____
Total tillable acres	374	388	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, pounds	21,988	21,843	_____	_____	_____
Hay DM per acre, tons	2.6	2.8	_____	_____	_____
Corn silage per acre, tons	18.1	16.3	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	36	36	_____	_____	_____
Milk sold/worker, pounds	799,547	779,872	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	33%	29%	_____ %	_____ %	_____ %
Dairy feed & crop expense per cwt. milk	\$ 5.20	\$ 5.68	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,350	\$ 1,514	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 11.45	\$ 12.55	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$ 6,987	\$ 7,606	\$ _____	\$ _____	\$ _____
Mach. & equipment per cow	\$ 1,335	\$ 1,438	\$ _____	\$ _____	\$ _____
Asset turnover ratio	.49	.58	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$ 25,224	\$ 94,536	\$ _____	\$ _____	\$ _____
Net farm income w/apprec.	\$ 39,439	\$ 133,524	\$ _____	\$ _____	\$ _____
Labor & management income per operator/manager	\$ -11,856	\$ 38,623	\$ _____	\$ _____	\$ _____
Rate of return on equity capital w/appreciation	-1.1%	10.8%	_____ %	_____ %	_____ %
Rate of return on all capital w/appreciation	0.8%	8.7%	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$ 693,300	\$ 828,107	\$ _____	\$ _____	\$ _____
Debt to asset ratio	.35	.31	_____	_____	_____
Farm debt per cow	\$ 2,512	\$ 2,366	\$ _____	\$ _____	\$ _____

\*Farms participating both years.

\*\*Average for the year.



**RECEIPTS AND EXPENSES PER COW AND PER CWT.**  
Same 21 Western and Central Plateau Region Dairy Farms, 2003 & 2004

Item	2003		2004	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average number of cows	151		151	
Cwt. of milk sold		33,181		33,067
<b><u>ACCRUAL OPERATING RECEIPTS</u></b>				
Milk	\$2,952	\$13.43	\$3,694	\$16.87
Dairy cattle	117	0.53	201	0.92
Dairy calves	35	0.16	43	0.19
Other livestock	-4	-0.02	7	0.03
Crops	55	0.25	78	0.36
Miscellaneous receipts	<u>166</u>	<u>0.76</u>	<u>132</u>	<u>0.60</u>
Total Receipts	\$3,322	\$15.12	\$4,155	\$18.98
<b><u>ACCRUAL OPERATING EXPENSES</u></b>				
Hired labor	\$469	\$2.13	\$503	\$2.30
Dairy grain & concentrate	978	4.45	1,064	4.86
Dairy roughage	40	0.18	34	0.15
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	1	0.00	2	0.01
Machine hire/rent/lease	84	0.38	108	0.49
Mach. repair & vehicle exp.	182	0.83	223	1.02
Fuel, oil & grease	85	0.39	104	0.47
Replacement livestock	5	0.02	28	0.13
Breeding	40	0.18	49	0.23
Veterinary & medicine	109	0.50	120	0.55
Milk marketing	173	0.79	169	0.77
Bedding	44	0.20	41	0.19
Milking supplies	43	0.20	67	0.31
Cattle lease	7	0.03	13	0.06
Custom boarding	29	0.13	30	0.14
bST expense	37	0.17	27	0.12
Livestock professional fees	4	0.02	9	0.04
Other livestock expense	28	0.13	31	0.14
Fertilizer & lime	52	0.24	65	0.30
Seeds & plants	34	0.16	40	0.18
Spray/other crop expense	32	0.15	34	0.16
Crop professional fees	5	0.02	7	0.03
Land, building, fence repair	33	0.15	62	0.28
Taxes	57	0.26	65	0.30
Real estate rent/lease	48	0.22	37	0.17
Insurance	37	0.17	32	0.15
Utilities	84	0.38	94	0.43
Interest paid	103	0.47	105	0.48
Other professional fees	8	0.04	5	0.03
Miscellaneous	<u>28</u>	<u>0.13</u>	<u>23</u>	<u>0.10</u>
Total Operating Expenses	\$2,882	\$13.12	\$3,189	\$14.56
Expansion livestock	4	0.02	21	0.09
Extraordinary expense	3	0.01	15	0.07
Machinery depreciation	152	0.69	184	0.84
Real estate depreciation	<u>113</u>	<u>0.52</u>	<u>121</u>	<u>0.55</u>
Total Expenses	\$3,155	\$14.36	\$3,529	\$16.12
Net Farm Income Without Appreciation	\$167	\$0.76	\$626	\$2.86

### 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**

33 Western and Central Plateau Region Dairy Farms, 2004

Size of Business			Rate 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)
10.87	491	11,489,792	23,866	3.8	22	52	1,128,726
5.69	249	4,787,979	21,624	3.3	18	42	832,409
3.13	103	2,045,537	20,130	2.7	14	35	696,078
2.05	57	953,530	16,308	2.1	10	28	459,198
1.63	38	505,177	11,750	1.5	7	20	277,256

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)
\$525	21%	\$353	\$1,129	\$621	\$4.37
791	25	607	1,355	999	5.24
926	28	675	1,532	1,115	5.84
1,081	34	778	1,708	1,254	6.49
1,211	41	906	2,041	1,482	7.73

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income w/Apprec.	Net Farm Inc. w/o Apprec.	Labor & Mgt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(12)	(12)	(12)	(4)	(4)	(4)	(8)
\$4,063	\$9.94	\$14.68	\$506,324	\$350,992	\$199,894	\$461,750
3,565	11.79	17.38	212,423	121,054	41,124	149,822
3,355	12.59	19.02	88,569	50,970	12,576	60,408
2,757	13.54	21.01	40,977	28,417	-2,437	26,636
2,002	15.56	26.77	7,195	5,142	-23,746	-232

\*Page number of the participant's DFBS 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** 48 New York Dairy Farms, 2004

<u>Animals Entering Herd</u>	Average
Number calving in 2004 for first time	145
Animals purchased, % <sup>1</sup>	11%
Animals raised by farm, % <sup>2</sup>	89%
<u>Current Heifer Inventory</u>	
Raised on dairy, %	70%
Raised by a custom grower, %	30%

<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, 145 animals calved for the first time in 2004. The breakdown on these animals for source was 11 percent purchased and 89 percent raised by the farm. Of the current heifer inventory, 70 percent were raised on the dairy and 30 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, 26 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**  
26 Western and Central Plateau Region Dairy Farms, 2004

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
<b>BASE FARM PRICE</b>					
Butterfat	141,538.40	3.49%	\$2.096	\$296,717.00	\$7.31
Protein	118,761.00	2.93%	\$2.671	\$317,201.90	\$7.81
Solids	212,175.90	5.23%	\$0.083	\$17,583.15	\$0.43
<b>Total Component Contribution</b>					\$15.55
<b>PPD</b>	4,059,180.00			\$19,113.96	\$0.47
<b>Base Farm Price</b>					\$16.02
<b>Premiums</b>					
Quality				\$8,372.92	\$0.21
Volume				\$9,611.62	\$0.24
Market Premiums				\$15,818.65	\$0.39
<b>Total Premiums</b>					\$0.84
<b>BASE FARM PRICE + PREMIUM</b>					\$16.86
<hr style="border-top: 1px dashed black;"/>					
<b>Deductions</b>					
Promotion				\$7,743.65	\$0.19
Hauling + Stop Charges.				\$21,687.12	\$0.53
Market Fees & Coop Dues				\$1,197.15	\$0.03
<b>Total Deductions</b>					\$0.75
<b>BASE FARM PRICE + PREMIUMS - DEDUCTIONS</b>					\$16.11
<b>Marketing Programs</b>					
Futures Contracts, Forward Contracting, Etc.				\$-3,580.31	\$-0.09
<b>Total Marketing Income</b>					\$-0.09
<b>Patronage Dividends</b>				\$2,006.69	\$0.05
<b>NET PRICE RECEIVED ON FARM, ALL SOURCES</b>					\$16.07
<b>PPD - Hauling, \$ per cwt.</b>					\$-0.06
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>					\$0.33
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>					\$0.56

**MILK PRICE INFORMATION BY QUINTILE**  
 (Each Category Sorted Independently)  
 26 Western and Central Plateau Region Dairy Farms, 2004

	Lowest Quintile	←—————→			Highest Quintile
Butterfat, %	3.24	3.54	3.65	3.76	3.95
Protein, %	2.76	2.97	3.00	3.03	3.19
Other Solids, %	3.74	5.57	5.64	5.70	5.83
Butterfat, \$ per Cwt.	6.91	7.23	7.34	7.54	8.19
Protein, \$ per Cwt.	7.35	7.71	7.80	7.91	8.28
Other solids, \$ per Cwt.	0.40	0.42	0.43	0.44	0.61
<b>Total Component Value per Cwt.</b>	<b>\$14.81</b>	<b>\$15.33</b>	<b>\$15.56</b>	<b>\$16.06</b>	<b>\$16.82</b>
PPD, \$ per Cwt.	0.05	0.12	0.22	0.43	1.10
<b>Base Farm Price per Cwt.</b>	<b>\$15.13</b>	<b>\$15.65</b>	<b>\$16.06</b>	<b>\$16.54</b>	<b>\$17.27</b>
Quality, \$ per Cwt.	0.03	0.07	0.16	0.24	0.40
Volume, \$ per Cwt.	0.00	0.04	0.17	0.30	0.45
Market premium, \$ per Cwt.	0.00	0.02	0.19	0.40	0.93
Total Premium, \$ per Cwt.	<b>0.21</b>	<b>0.46</b>	<b>0.62</b>	<b>0.91</b>	<b>1.30</b>
<b>Base Farm Price + Premiums per Cwt.</b>	<b>\$15.72</b>	<b>\$16.23</b>	<b>\$16.61</b>	<b>\$17.44</b>	<b>\$18.21</b>
Promotion, \$ per Cwt.	0.14	0.15	0.15	0.20	0.31
Hauling, \$ per Cwt.	0.14	0.39	0.51	0.62	1.10
Market fees & coop dues per Cwt.	0.00	0.00	0.02	0.05	0.11
<b>Total Marketing Expenses per Cwt.</b>	<b>\$0.46</b>	<b>\$0.60</b>	<b>\$0.73</b>	<b>\$0.84</b>	<b>\$1.30</b>
<b>Base + Premiums – Deductions per Cwt.</b>	<b>\$14.96</b>	<b>\$15.62</b>	<b>\$15.92</b>	<b>\$16.46</b>	<b>\$17.24</b>
Futures contract, forward contracting, \$ per Cwt.	-0.15	0.00	0.00	0.00	0.00
<b>Total Marketing Income, \$ per Cwt.</b>	<b>\$-0.15</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Patronage Dividends, \$ per Cwt.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.20</b>
<b>Net Price Received From All Sources, \$ per Cwt.</b>	<b>\$14.97</b>	<b>\$15.58</b>	<b>\$15.93</b>	<b>\$16.50</b>	<b>\$17.31</b>
<b>PPD - Hauling, \$ per cwt.</b>	<b>-0.71</b>	<b>-0.41</b>	<b>-0.22</b>	<b>-0.03</b>	<b>0.45</b>
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>	<b>-0.59</b>	<b>-0.24</b>	<b>0.13</b>	<b>0.35</b>	<b>1.04</b>
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>	<b>-0.45</b>	<b>0.03</b>	<b>0.35</b>	<b>0.61</b>	<b>1.26</b>

### 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 201 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**

201 New York Dairy Farms, 2003

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)
25.0	1,230	29,621,550	25,936	4.8	24	63	1,318,484
13.6	575	13,326,860	23,910	4.0	20	50	1,098,081
9.9	407	8,649,121	23,088	3.7	19	45	977,732
6.8	291	6,294,352	22,320	3.3	18	41	859,182
5.2	187	3,752,374	21,283	3.0	17	37	766,221
-----							
4.1	132	2,520,975	20,323	2.8	16	34	678,657
3.3	98	1,764,687	19,022	2.5	15	30	583,854
2.7	74	1,300,287	17,040	2.3	14	28	521,424
2.0	59	1,066,952	15,419	2.0	13	25	433,011
1.6	43	677,333	12,546	1.3	9	19	290,550

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)
\$383	18%	\$285	\$819	\$550	\$3.42
566	24	385	1,015	737	4.02
654	26	429	1,125	842	4.34
744	28	466	1,224	914	4.54
802	30	501	1,288	998	4.75
-----					
858	31	543	1,379	1,056	5.01
901	32	588	1,461	1,108	5.33
956	34	637	1,544	1,170	5.60
1,028	37	725	1,697	1,244	6.05
1,161	45	1,032	2,273	1,391	7.19

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

**FARM BUSINESS CHART FOR  
FARM MANAGEMENT COOPERATORS**  
201 New York Dairy Farms, 2003

Milk Receipts Per Cow	Milk Receipts Per Cwt.	Oper. Cost Milk Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cow	Total Cost Production Per Cwt.
(12)	(12)	(12)	(12)	(12)	(12)
\$3,463	\$14.52	\$1,091	\$6.98	\$2,080	\$12.50
3,133	13.78	1,576	8.49	2,562	13.25
3,013	13.56	1,775	9.54	2,774	13.71
2,934	13.40	1,920	10.20	2,924	14.20
2,813	13.22	2,078	10.64	3,066	14.70
<hr/>					
2,680	13.08	2,334	11.12	3,193	15.30
2,518	12.96	2,480	11.75	3,348	15.84
2,284	12.82	2,631	12.28	3,470	16.83
2,059	12.66	2,799	12.79	3,638	18.59
1,653	12.28	3,131	14.68	4,189	23.89

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)
\$250,155	\$892	0.27	\$440,526	\$1,286	\$122,035	\$75,039
113,434	617	0.19	204,354	847	42,519	26,487
67,691	446	0.14	123,989	623	20,099	12,896
47,327	337	0.11	83,175	498	4,975	4,430
38,324	228	0.07	61,522	420	-7,327	-4,784
<hr/>						
26,926	147	0.05	46,056	317	-18,178	-11,346
10,601	79	0.02	32,938	235	-36,786	-22,928
-5,999	-30	-0.01	18,882	141	-61,125	-48,264
-34,173	-176	-0.06	-2,852	-21	-111,381	-77,244
-145,107	-498	-0.21	-75,812	-314	-247,974	-178,965

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**  
201 New York Dairy Farms, 2003

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)
\$127	\$764	2.76	3.09	5%	\$322	45%	15.88
235	586	1.34	1.66	8	1,165	27	3.32
319	491	1.10	1.28	12	1,739	20	2.44
383	408	0.97	1.02	15	2,193	15	1.97
452	358	0.85	0.81	17	2,592	12	1.59
492	306	0.68	0.67	18	2,920	7	1.33
536	248	0.52	0.47	20	3,194	3	1.11
598	170	0.39	0.25	23	3,525	-1	0.94
666	29	0.11	-0.02	26	4,097	-7	0.75
834	-281	-0.98	-0.99	36	5,493	-22	0.40
Solvency				Operational Ratios			
Leverage Ratio **	Percent Equity	Debt/Asset Ratio		Operating Expense Ratio	Interest Expense Ratio	Depreciation Expense Ratio	
		Current & Intermediate	Long Term				
(7)	(7)	(7)	(7)	(14)	(14)	(14)	
0.03	97%	0.03	0.00	0.62	0.00	0.02	
0.16	85	0.13	0.00	0.68	0.01	0.04	
0.27	78	0.23	0.03	0.74	0.02	0.05	
0.40	71	0.30	0.15	0.78	0.03	0.06	
0.54	64	0.36	0.26	0.81	0.03	0.07	
0.67	59	0.42	0.36	0.84	0.04	0.08	
0.87	53	0.47	0.45	0.86	0.04	0.09	
1.15	46	0.55	0.60	0.89	0.05	0.10	
1.56	38	0.65	0.73	0.93	0.07	0.12	
3.60	24	0.91	1.07	1.06	0.09	0.18	
Efficiency (Capital)				Profitability			
Asset Turnover (ratio)	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow	Change in Net Worth With Appreciation	Percent Rate of Return with Appreciation on:		
					Equity	Investment ***	
(14)	(14)	(14)	(14)	(8)	(4)	(4)	
.76	\$1,401	\$532	\$4,654	\$325,104	36%	12%	
.61	1,963	838	5,604	126,563	10	8	
.57	2,200	1,024	6,163	64,780	6	5	
.52	2,439	1,170	6,562	41,577	4	4	
.48	2,743	1,341	6,936	24,558	1	2	
.45	3,033	1,528	7,479	12,738	0	1	
.41	3,576	1,731	8,244	2,783	-2	0	
.36	4,081	1,899	8,989	-9,267	-5	-2	
.31	4,716	2,256	9,979	-33,514	-11	-4	
.22	8,048	3,371	13,770	-162,076	-43	-10	

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

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

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



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

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

The table on page 31 includes the average values for the resulting five groups of dairy farms. The average size of farms in the five groups ranges from 46 cows on the small conventional farms to 705 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. However, labor and management income per operator was the lowest for the large freestall farms.

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 48-54 of the 2003 State Summary\*. As herd size increases, the net farm income profitability generally increases (page 48)\*. Net farm income without appreciation averaged \$25,514 per farm for the less than 50 cow farms and \$71,328 per farm for those with more than 600 cows. However, net farm income per cow decreases as herd size increases. No significant relationship to herd size exists with the other more comprehensive measures of profitability.

Assets, liabilities and financial measures are presented on pages 55-58\*. All herd size categories saw an increase in net worth during 2003. The largest herd size category experienced an increase in net worth of over \$101,000. 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 33 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 18,237 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 369,404 pounds at the lowest herd size category up to 1,181,288 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, 2003, Department of Applied Economics and Management, Cornell University, R.B. 2004-13, December 2004.

# SELECTED BUSINESS FACTORS BY TYPE OF BARN AND HERD SIZE

188 New York Dairy Farms, 2003

Item	Farms with:	Conventional		Freestall		
		<= 60 Cows	>60 Cows	<=150 Cows	151-300 Cows	>=300 Cows
Number of farms		26	39	27	30	66
<u>Cropping Program Analysis</u>						
Total Tillable acres		170	277	325	570	1,257
Tillable acres rented*		61	127	163	285	632
Hay crop acres*		110	169	186	288	561
Corn silage acres*		27	49	80	161	538
Hay crop, tons DM/acre		2.3	2.4	2.5	3.1	3.3
Corn silage, tons/acre		11.8	12.5	13.1	16.6	16.3
Oats, bushels/acre		48	59	0	27	62
Forage DM per cow, tons		8.4	7.7	8.1	8.5	7.3
Tillable acres/cow		3.7	3.3	3.1	2.6	1.8
Fertilizer & lime expense/tillable acre		\$12.89	\$24.61	\$20.68	\$29.93	\$30.61
Total machinery costs		\$26,855	\$56,825	\$64,268	\$121,857	\$324,672
Machinery cost/tillable acre		\$158	\$205	\$198	\$214	\$258
<u>Dairy Analysis</u>						
Number of cows		46	84	104	218	705
Number of heifers		35	65	83	172	536
Milk sold, lbs.		810,510	1,543,699	1,884,952	4,754,403	16,385,330
Milk sold/cow, lbs.		17,694	18,456	18,131	21,763	23,243
Operating cost of producing milk/cwt.		\$9.04	\$10.25	\$10.87	\$11.40	\$11.62
Total cost of producing milk/cwt.		\$18.00	\$16.28	\$16.62	\$15.01	\$14.08
Price/cwt. milk sold		\$13.11	\$13.05	\$13.48	\$13.24	\$13.21
Purchased dairy feed/cow		\$722	\$800	\$817	\$924	\$993
Purchased dairy feed/cwt. milk		\$4.10	\$4.36	\$4.51	\$4.24	\$4.27
Purchased grain & concentrate as % of milk receipts		30%	31%	32%	30%	30%
Purchased feed & crop expense/cwt milk		\$4.70	\$5.19	\$5.31	\$5.03	\$4.89
<u>Capital Efficiency</u>						
Farm capital/worker		\$218,878	\$260,889	\$281,215	\$283,223	\$290,369
Farm capital/cow		\$10,325	\$8,510	\$8,707	\$7,665	\$6,256
Farm capital/tillable acre owned		\$4,398	\$4,734	\$5,590	\$5,863	\$7,057
Real estate/cow		\$5,428	\$3,665	\$4,071	\$3,135	\$2,429
Machinery investment/cow		\$2,165	\$1,953	\$1,799	\$1,531	\$1,035
Asset turnover ratio		0.31	0.38	0.37	0.47	0.59
<u>Labor Efficiency</u>						
Worker equivalent		2.17	2.74	3.22	5.90	15.19
Operator/manager equivalent		1.41	1.47	1.75	1.96	2.24
Milk sold/worker, lbs.		373,507	563,394	585,389	805,831	1,078,692
Cows/worker		21	31	32	37	46
Labor cost/cow		\$1,199	\$803	\$836	\$751	\$714
Labor cost/tillable acre		\$325	\$243	\$268	\$287	\$401
<u>Profitability &amp; Balance Sheet Analysis</u>						
Net farm income (without appreciation)		\$22,587	\$20,158	\$22,586	\$30,303	\$63,716
Labor & management income/operator		\$ -6,937	\$-11,161	\$-10,318	\$-13,207	\$-22,822
Rate return on all capital with appreciation		-0.8%	0.1%	0.4%	0.7%	4.1%
Farm debt/cow		\$2,169	\$2,187	\$2,707	\$2,897	\$3,195
Percent equity		79%	74%	69%	63%	50%

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

# FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS

26 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 2003

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)
3.67	56	1,109,882	23,136	3.7	24	33	667,243
2.86	53	1,043,120	22,206	3.0	20	27	560,048
2.30	51	978,532	20,794	2.8	17	26	508,185
2.02	49	915,550	19,922	2.5	14	25	442,702
1.96	47	824,668	18,211	2.3	12	23	357,871
1.87	43	734,172	15,399	2.1	11	20	325,700
1.83	41	668,343	14,083	1.9	9	19	302,022
1.71	38	573,247	13,178	1.8	7	18	268,606
1.45	35	496,154	12,767	1.3	7	17	255,769
1.17	32	390,003	10,395	0.9	6	12	160,271
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)		
\$273	16%	\$325	\$1,115	\$397	\$3.18		
391	22	360	1,410	485	3.66		
490	24	391	1,458	569	3.74		
560	25	433	1,507	705	3.92		
618	26	488	1,593	801	4.17		
699	27	596	1,731	856	4.32		
755	29	617	1,792	901	4.67		
780	33	716	1,891	959	5.08		
894	35	753	2,211	1,045	6.15		
1,061	52	900	2,834	1,188	7.10		
Value and Cost of Producing Milk			Profitability				
Milk Receipts Per Cow	Operating Cost Production 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)	
\$3,037	\$5.97	\$13.15	\$46,599	\$1,177	\$25,697	\$55,379	
2,910	6.96	13.37	42,440	905	13,350	45,719	
2,752	7.45	13.83	37,848	778	8,739	27,900	
2,655	7.98	14.25	32,302	722	3,426	14,234	
2,393	8.16	15.62	26,349	602	-2,976	5,441	
2,030	8.54	17.61	14,136	337	-10,582	2,376	
1,846	8.81	18.96	8,029	188	-15,409	358	
1,740	10.01	22.12	3,027	57	-30,697	-2,605	
1,576	11.36	23.03	-5,656	-139	-58,431	-17,431	
1,342	13.01	28.23	-11,279	-226	-75,237	-22,077	

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

# FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS

39 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 2003

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)
4.33	128	2,480,488	24,587	3.8	22	46	913,187
4.02	113	2,064,677	22,223	3.3	17	42	767,520
3.26	95	1,792,182	20,781	3.0	16	37	716,061
3.03	84	1,592,234	19,762	2.8	16	34	649,028
2.80	77	1,495,290	18,590	2.6	15	32	572,800
2.33	75	1,342,008	17,444	2.2	15	30	543,307
2.19	71	1,247,751	16,558	2.1	14	29	504,377
2.02	67	1,183,972	16,090	1.8	13	27	459,061
1.72	61	1,121,068	14,621	1.4	12	24	408,766
1.39	60	975,197	13,998	1.1	9	19	353,789
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)		
\$337	15%	\$187	\$725	\$601	\$3.46		
534	24	397	1,048	706	4.01		
616	27	438	1,183	809	4.32		
689	30	491	1,280	859	4.59		
753	31	529	1,366	941	4.98		
797	31	560	1,421	1,013	5.37		
851	33	619	1,490	1,054	5.74		
897	35	751	1,584	1,102	5.94		
957	42	877	1,870	1,144	6.28		
1,118	49	1,601	2,602	1,362	7.74		
Value and Cost of Producing Milk			Profitability				
Milk Receipts Per Cow	Operating Cost Production Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Apprec.	
			Total	Per Cow			
(12)	(12)	(12)	(4)	(12)	(4)	(8)	
\$3,154	\$6.25	\$12.12	\$84,474	\$895	\$36,504	\$104,513	
2,909	7.93	13.07	50,631	686	16,000	52,381	
2,731	8.70	13.89	40,089	541	7,151	33,627	
2,566	9.43	14.69	33,048	365	1,357	26,091	
2,406	9.86	16.07	22,734	236	-4,643	14,081	
2,306	10.36	16.54	13,722	174	-11,036	7,149	
2,205	10.95	17.51	7,341	91	-19,119	1,584	
2,116	12.32	18.57	-2,702	-30	-33,528	-4,119	
1,932	13.16	19.60	-19,704	-263	-54,936	-16,837	
1,768	15.23	22.56	-44,131	-681	-110,876	-47,078	

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

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

27 Freestall Barn Dairy Farms with 150 or Less Cows, New York, 2003

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)
4.73	145	3,110,143	23,536	4.8	24	54	895,796
4.14	133	2,671,575	21,628	3.5	19	39	797,982
4.02	127	2,368,929	20,373	3.0	17	36	709,995
3.72	120	2,249,915	18,492	2.7	17	35	618,377
3.23	109	1,895,226	17,509	2.5	16	32	586,826
2.94	96	1,499,022	16,690	2.3	15	30	545,695
2.56	79	1,311,013	15,422	2.0	14	29	490,715
2.16	76	1,155,130	14,195	1.9	13	28	436,366
1.92	66	1,081,992	13,336	1.7	13	25	396,636
1.45	50	551,000	10,404	0.9	10	21	218,126
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)		
\$361	19%	\$322	\$902	\$465	\$3.21		
420	23	350	989	542	3.67		
489	25	436	1,231	674	3.99		
567	26	472	1,284	706	4.43		
641	29	499	1,360	871	4.82		
816	30	525	1,459	1,015	5.39		
861	33	606	1,517	1,087	5.57		
902	35	680	1,547	1,161	6.01		
980	38	760	1,656	1,221	6.88		
1,110	45	1,057	2,118	1,288	8.17		
Value and Cost of Producing Milk			Profitability				
Milk Receipts Per Cow	Operating Cost Production Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Apprec.	
			Total	Per Cow			
(12)	(12)	(12)	(4)	(12)	(4)	(8)	
\$3,177	\$6.02	\$12.86	\$76,318	\$738	\$36,962	\$103,998	
2,914	7.94	13.29	58,309	615	16,124	63,980	
2,701	8.43	14.28	50,960	483	6,362	38,808	
2,480	8.92	14.67	42,603	415	2,334	23,216	
2,334	10.15	15.23	35,178	385	-2,419	14,387	
2,218	10.67	15.79	26,487	293	-6,943	4,265	
2,056	11.24	16.47	8,296	80	-15,163	-7,359	
2,011	12.02	17.95	-8,263	-82	-42,352	-28,375	
1,853	12.80	21.37	-50,018	-519	-102,907	-29,024	
1,396	17.40	28.93	-84,038	-828	-139,277	-56,975	

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

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

30 Freestall Barn Dairy Farms with 151-300 Cows, New York, 2003

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)
8.99	293	7,180,933	25,924	4.8	24	54	1,177,351
7.25	281	6,102,208	23,808	4.5	21	46	995,532
6.54	265	5,895,258	23,241	4.0	19	43	944,900
6.11	251	5,743,313	22,686	3.8	18	41	902,975
6.00	236	5,434,222	22,071	3.4	17	40	857,952
5.63	218	4,158,601	21,635	2.9	17	40	829,656
5.35	172	3,746,069	21,023	2.5	16	35	747,407
5.05	163	3,431,341	19,855	2.3	14	31	637,721
4.21	157	3,219,276	18,690	2.1	13	28	547,672
3.86	150	2,632,809	16,255	1.4	11	25	513,789
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)		
\$574	19%	\$358	\$922	\$793	\$3.64		
699	25	422	1,030	880	4.16		
771	28	462	1,134	930	4.42		
809	29	507	1,205	975	4.58		
826	30	556	1,266	1,030	4.74		
879	31	578	1,285	1,090	5.15		
908	33	603	1,355	1,149	5.53		
961	36	624	1,473	1,223	5.73		
1,072	37	703	1,655	1,304	6.05		
1,189	42	864	1,902	1,437	6.65		
Value and Cost of Producing Milk			Profitability				
Milk Receipts Per Cow	Operating Cost Production Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Apprec.	
			Total	Per Cow			
(12)	(12)	(12)	(4)	(12)	(4)	(8)	
\$3,386	\$8.08	\$11.91	\$175,042	\$857	\$73,658	\$312,856	
3,111	9.86	13.22	100,535	460	31,961	125,906	
3,052	10.29	13.87	76,142	334	14,850	60,892	
2,987	10.86	13.99	55,487	247	5,455	28,321	
2,937	11.26	14.68	40,322	156	-5,366	23,835	
2,921	11.58	15.33	25,071	106	-22,585	12,905	
2,782	12.09	15.58	1,516	7	-42,634	1,447	
2,667	12.22	16.35	-20,509	-111	-65,518	-21,899	
2,494	12.91	18.25	-53,100	-267	-82,302	-64,426	
2,167	15.53	19.28	-97,478	-544	-123,972	-143,748	

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

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

66 Freestall Barn Dairy Farms with 300 or More Cows, New York, 2003

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)
33.75	1,828	44,093,850	26,691	5.0	23	69	1,464,712
22.65	1,053	25,109,680	25,390	4.3	20	55	1,276,723
18.53	809	19,661,130	24,473	4.1	19	52	1,189,686
14.73	641	15,086,950	23,711	3.8	18	50	1,127,441
12.89	545	12,921,890	23,260	3.4	18	47	1,071,720
11.81	497	10,805,160	22,849	3.1	17	43	1,000,171
10.56	433	8,912,230	22,116	2.9	16	41	951,196
9.11	386	8,323,082	21,118	2.7	15	37	850,497
7.99	351	7,596,224	20,099	2.3	14	35	725,394
6.05	316	6,448,700	16,604	1.7	12	28	649,540
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)		
\$503	19%	\$257	\$781	\$767	\$3.59		
718	26	368	946	885	4.32		
785	27	390	1,022	991	4.49		
838	28	424	1,079	1,031	4.65		
876	30	455	1,123	1,082	4.75		
925	30	488	1,199	1,128	4.90		
971	32	520	1,265	1,180	5.11		
1,013	33	558	1,341	1,243	5.28		
1,094	36	608	1,435	1,294	5.52		
1,189	38	701	1,549	1,451	6.13		
Value and Cost of Producing Milk			Profitability				
Milk Receipts Per Cow	Operating Cost Production Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Apprec.	
			Total	Per Cow			
(12)	(12)	(12)	(4)	(12)	(4)	(8)	
\$3,626	\$9.58	\$12.68	\$347,189	\$492	\$114,393	\$510,949	
3,357	10.30	13.07	218,955	346	44,915	225,029	
3,206	10.52	13.41	171,828	246	25,104	162,642	
3,106	10.82	13.62	114,721	167	-5,500	112,556	
3,024	11.21	13.87	69,326	122	-13,847	51,904	
2,955	11.56	14.23	38,897	70	-28,499	25,247	
2,888	12.08	14.56	-3,410	-4	-50,616	-12,799	
2,758	12.41	14.96	-45,167	-65	-75,580	-44,352	
2,645	12.73	15.35	-120,296	-216	-156,252	-93,968	
2,310	13.30	15.92	-251,318	-362	-271,681	-311,217	

\*Page number of the participant's DFBS 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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## OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2005-08	Dairy Farm Business Summary, Intensive Grazing Farms, New York, 2004	(\$16.00)	Conneman, G., Grace, J., Karszes, J., Schuelke, J., Munsee, D., Benson, A., Putnam, L., Staehr, A. and J. Degni
2005-07	Dairy Farm Business Summary, Northern New York Region, 2004	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Murray, P., Vokey, F., Ames, M. and W. Van Loo
2005-06	Cost of Establishment and Production of Vinifera Grapes in the Finger Lakes Region of New York State - 2004	(\$10.00)	White, G.
2005-05	DFBS New York Large Herd Farms, 300 Cows or Larger 2004		Karszes, J., Knoblauch, W. and L. Putnam
2005-04	Wind Energy Development in New York State: Issues for Landowners		Dorociak, C., Chapman, D., Henehan, B. and J. Barry
2005-03	Dairy Farm Business Summary, Western and Central Plain Region, 2004	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Hanchar, J. and J. Murphy
2005-02	Dairy Farm Business Summary, Northern Hudson Region, 2004	(\$12.00)	Conneman, G., Putnam, L., Wickswat, C., Buxton, S., Smith, R. and J. Karszes
2005-01	Timber Prices: A Guide for Woodlot Owners in New York State		Brian, J. and D. Chapman
2004-22	Dairy Farm Business Summary, New York Dairy Farm Renters, 2003	(\$16.00)	Knoblauch, W. and L. Putnam
2004-21	Dairy Farm Business Summary, New York Small Herd Farms, 80 Cows or Fewer, 2003	(\$16.00)	Knoblauch, W., Putnam, L., Kiraly, M. and J. Karszes
2004-20	New York Economic Handbook 2005	(\$7.00)	Extension Staff

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