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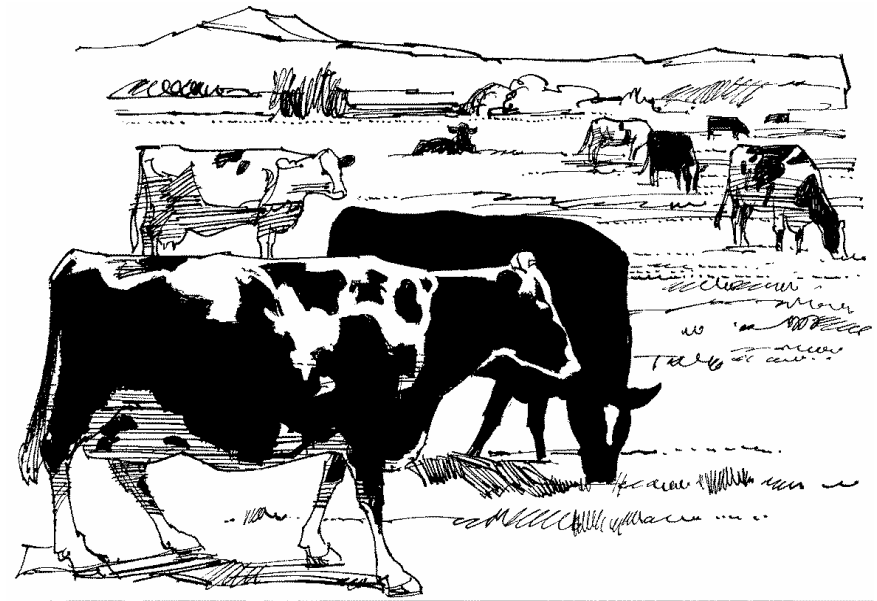
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***CENTRAL VALLEYS  
REGION  
2004***



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***DAIRY FARM  
BUSINESS SUMMARY***

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**2004 DAIRY FARM BUSINESS SUMMARY**  
**CENTRAL VALLEYS REGION**  
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## 2004 DAIRY FARM BUSINESS SUMMARY CENTRAL VALLEYS REGION\*

### INTRODUCTION

Dairy farm managers throughout New York State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Managers of each participating farm business receive a comprehensive summary and analysis of their farm business. The information in this report represents averages of the data submitted from dairy farms in the Central Valleys Region for 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 Jason Karszes, Senior Extension Associate, PRO-DAIRY; Charles Z. Radick, Consultant; and Cooperative Extension Educator Dan Welch. The Central Valleys Region of New York State, with the number of participating farms in parentheses, is comprised of Chenango (2), Herkimer (1), Madison (4), Montgomery (3), Oneida (2), Onondaga (2), Otsego (6), and Schoharie (7) 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 27 Central Valleys Region Dairy Farms, 2004

<u>Type of Farm</u>		<u>Milking System</u>	
	Number		Number
Dairy	26	Bucket & carry	0
Part-time dairy	0	Dumping station	1
Dairy cash-crop	1	Pipeline	9
Certified organic milk producer	0	Herringbone conventional exit	8
Rotational grazing farm	2	Herringbone rapid exit	0
		Parallel	4
		Parabone	2
<u>Type of Ownership</u>	Number	Rotary	1
Owner	25	Other	2
Renter	2		
		<u>Production Records</u>	Number
<u>Type of Business</u>	Number	Testing Service	17
Sole Proprietorship	12	On Farm System	2
Partnership	10	Other	0
Limited Liability Corporation	4	None	8
Subchapter S Corporation	1		
Subchapter C Corporation	0	<u>bST Usage</u>	Number
		Used consistently	10
<u>Type of Barn</u>	Number	Used inconsistently	4
Stanchion or Tie-Stall	10	Started using in 2004	0
Freestall	14	Stopped using in 2004	0
Combination	3	Not used in 2004	13
		Average percent usage, if used	46%
<u>Milking Frequency</u>	Number		
2 times per day	19	<u>Business Record System</u>	Number
3 times per day	7	Account Book	1
Other	1	Accounting Service	10
		On-farm computer	16
<u>Breed of Herd</u>	Percent	Other	0
Holstein	88		
Jersey	5		
Other	7		

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

### Income Statement

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

Cash paid is the actual cash outlay during the year and does not necessarily represent the cost of goods and services actually used in 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**  
27 Central Valleys 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>	\$ 143,040		\$ -459	<<	\$ -532		\$ 142,967
<u>Feed</u>							
Dairy grain & concentrate	255,138		11,912		744		243,970
Dairy roughage	7,715		-61		935		8,712
Nondairy	26		-15		0		41
Professional nutritional services	631		0		0		631
<u>Machinery</u>							
Machinery hire, rent & lease	22,412		0	<<	612		23,024
Mach. repairs & farm vehicle exp.	50,398		1,111		-8		49,279
Fuel, oil & grease	27,037		1,479		74		25,632
<u>Livestock</u>							
Replacement livestock	7,493		0	<<	-207		7,286
Breeding	14,575		587		264		14,252
Veterinary & medicine	31,628		729		72		30,971
Milk marketing	47,477		0	<<	241		47,718
Bedding	9,752		-340		-111		9,981
Milking supplies	21,626		-346		-21		21,950
Cattle lease & rent	30		0	<<	0		30
Custom boarding	27,748		0	<<	0		27,748
bST	8,373		-286		0		8,659
Livestock professional fees	1,652		-244		0		1,896
Other livestock expense	4,453		111		0		4,342
<u>Crops</u>							
Fertilizer & lime	17,612		1,928		-143		15,541
Seeds & plants	30,453		3,712		639		27,381
Spray, other crop expense	8,066		7		0		8,059
Crop professional fees	937		0		-111		827
<u>Real estate</u>							
Land, building & fence repair	13,576		0		-296		13,280
Taxes	17,604		0	<<	-390		17,213
Rent & lease	16,671		0	<<	-56		16,615
<u>Other</u>							
Insurance	9,182		0	<<	-1		9,180
Utilities (farm share)	23,269		185	<<	-89		22,995
Interest paid	31,303		0	<<	-361		30,942
Other professional fees	5,991		93		0		5,898
Miscellaneous	5,380		143		0		5,237
Total operating	\$ 861,249		\$ 20,246		\$ 1,255		\$ 842,258
Expansion livestock	2,727		0	<<	0		2,727
Extraordinary expense	2,512		0	<<	878		3,390
Machinery depreciation							56,209
Building depreciation							45,190
Total Accrual Expenses							\$ 949,774

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**  
27 Central Valleys Region Dairy Farms, 2004

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$ 977,921				\$ 8,985		\$ 986,905
Dairy cattle	33,501		\$ 10,718		444		44,664
Dairy calves	7,666		643		0		8,309
Other livestock	0		-85		0		-85
Crops	15,216		9,119		-1,517		22,818
Government receipts	22,932		0 *		279		23,211
Custom machine work	8,907				1,676		7,231
Gas tax refund	375				0		375
Other	<u>15,828</u>				<u>0</u>		15,828
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$1,082,346		\$ 20,394		\$ 6,516		\$ 1,109,255

\*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.

\* 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.

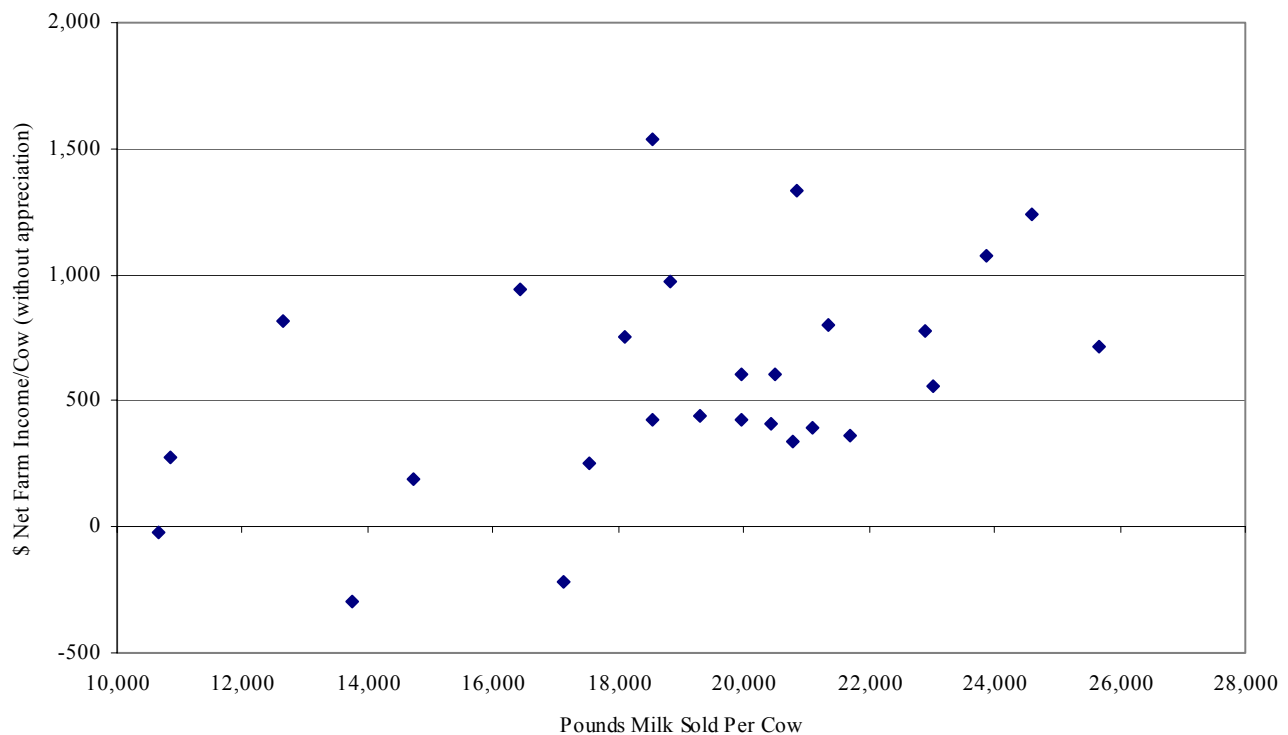
**NET FARM INCOME**  
27 Central Valleys Region Dairy Farms, 2004

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$ 1,109,255		\$ _____	
Appreciation: livestock	28,170		_____	
machinery	28,650		_____	
real estate	41,342		_____	
other stock & certificates	2,386		_____	
Total including appreciation	\$ 1,209,804		\$ _____	
Total accrual expenses	- 949,774		- _____	
Net Farm Income (with appreciation)	\$ 260,029	\$ 920	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 159,481	\$ 564	\$ _____	\$ _____

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**

27 Central Valleys Region Dairy Farms, 2004



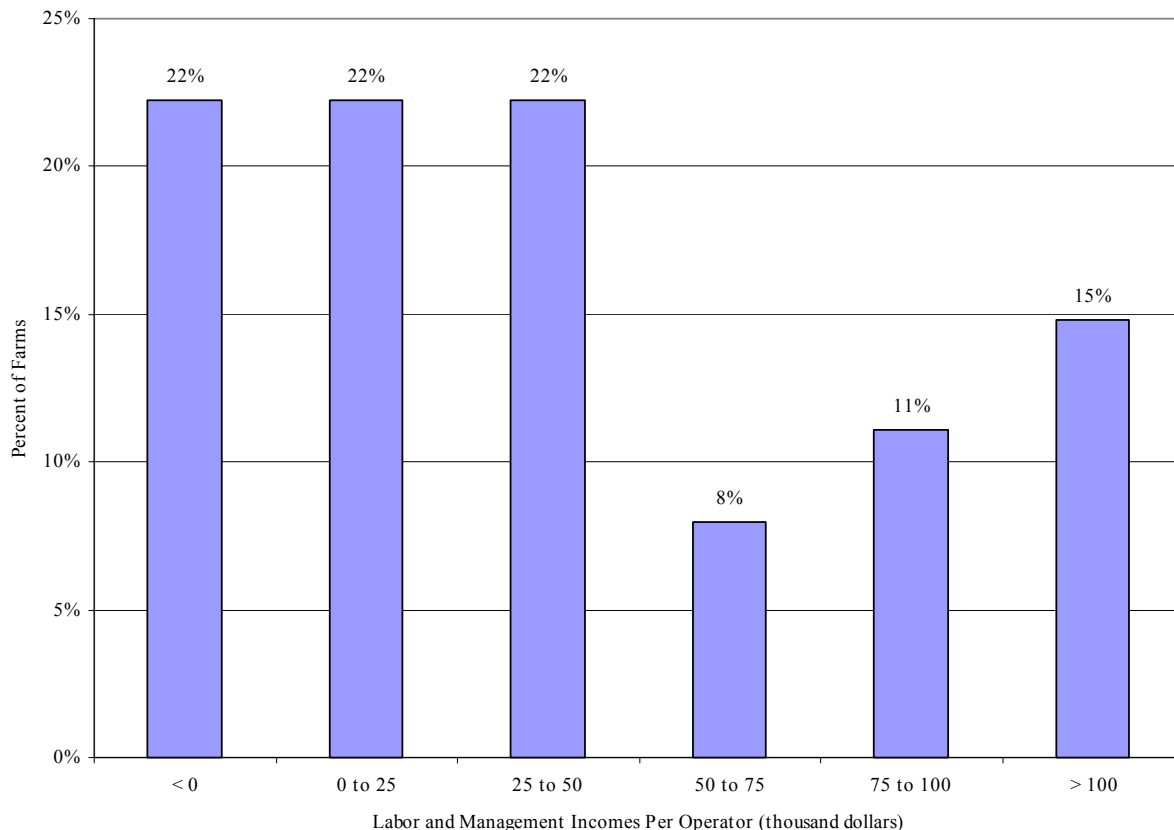
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and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

Item	Average	My Farm
Net farm income without appreciation	\$ 159,481	\$ _____
Family labor unpaid @ \$2,200 per month	- 3,219	- _____
Interest on \$1,256,900 average equity capital @ 5% real rate	- 62,845	- _____
Labor & Management Income per Farm (1.75 operators/farm)	\$ 93,418	\$ _____
Labor & Management Income per Operator/Manager	\$ 53,382	\$ _____

Labor and management income per operator averaged \$53,382 on these 27 farms in 2004. The range in labor and management income per operator was from about \$-112,000 to more than \$225,000. Returns to labor and management were negative on 22 percent of the farms. Labor and management incomes per operator were between \$0 and \$50,000 on 44 percent of the farms while 34 percent showed labor and management incomes of \$50,000 or more per operator.

**DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR**  
27 Central Valleys 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**  
27 Central Valleys Region Dairy Farms, 2004

Item	Average	My Farm
Net farm income with appreciation	\$ 260,029	\$ _____
Family labor unpaid @\$2,200 per month	- 3,219	- _____
Value of operators' labor & management	<u>- 65,074</u>	- _____
Return on Equity Capital with Appreciation	\$ 191,737	\$ _____
Interest paid	<u>+ 30,972</u>	+ _____
Return on Total Capital with Appreciation	\$ 222,678	\$ _____
Return on Equity Capital without Appreciation	\$ 91,188	\$ _____
Return on Total Capital without Appreciation	\$ 122,130	\$ _____
Rate of Return on Average Equity Capital:		
with appreciation	15.32%	_____ %
without appreciation	7.3%	_____ %
Rate of Return on Average Total Capital:		
with appreciation	10.9%	_____ %
without appreciation	6.0%	_____ %
Net farm income from operations ratio	0.14	_____

**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**  
27 Central Valleys 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	\$ 20,342	\$ 10,937	Accounts payable	\$ 12,939	\$ 15,072
Accounts receivable	65,376	71,891	Operating debt	63,851	62,646
Prepaid expenses	815	389	Short Term	1,446	3,660
Feed & supplies	193,856	223,646	Advanced govt. receipts	0	0
			Current Portion:		
			Intermediate	39,733	47,183
			Long Term	36,074	39,302
Total Current	\$ 280,389	\$ 306,863	Total Current	\$ 154,043	\$ 167,863
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 342,355	\$ 369,133	1-10 years	\$ 230,479	\$ 226,059
leased	0	0	Financial lease		
Heifers	174,077	186,747	(cattle/machinery)	1,455	1,647
Bulls & other livestock	1,330	1,328	Farm Credit stock	3,443	3,416
Mach. & equip. owned	341,997	384,008	Total Intermediate	\$ 235,377	\$ 231,122
Mach. & equip. leased	1,455	1,647			
Farm Credit stock	3,443	3,416			
Other stock/certificate	28,180	34,980			
Total Intermediate	\$ 892,837	\$ 981,259			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 787,722	\$ 849,909	>10 years	\$ 400,402	\$ 397,887
leased	0	0	Financial lease		
Total Long Term	\$ 787,722	\$ 849,909	(structures)	0	0
			Total Long Term	\$ 400,402	\$ 397,887
Total Farm Assets	\$1,960,949	\$2,138,032	Total Farm Liabilities	\$ 789,822	\$ 796,872
			FARM NET WORTH	\$1,171,127	\$ 1,341,160

Nonfarm Assets, Liabilities & Net Worth (Average of 15 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	\$ 3,402	\$ 4,745	Nonfarm Liabilities	\$ 1,335	\$ 2,520
Cash value life insurance	26,722	31,206			
Nonfarm real estate	29,933	30,561			
Auto (personal share)	8,833	12,503			
Stocks & bonds	33,974	43,419			
Household furnishings	11,800	8,533			
All other nonfarm assets	7,055	6,888			
Total Nonfarm Assets	\$ 121,720	\$ 137,856	NONFARM NET WORTH	\$ 120,386	\$ 135,336

Farm & Nonfarm Assets, Liabilities, and Net Worth*	Jan. 1	Dec. 31
Total Assets	\$2,082,669	\$2,275,888
Total Liabilities	791,157	799,392
TOTAL FARM & NONFARM NET WORTH	\$1,291,512	\$1,476,496

\*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**  
27 Central Valleys Region Dairy Farms, 2004

Item	Average	My Farm		
<u>Financial Ratios - Farm:</u>				
Percent equity	63%	_____ %		
Debt/asset ratio: total	.37	_____		
long-term	.47	_____		
intermediate/current	.31	_____		
Leverage ratio:	.59	_____		
Current ratio:	1.83	_____		
Working capital           \$139,000	As % of total expenses:	15%		
<u>Farm Debt Analysis:</u>				
Accounts payable as % of total debt	2%	_____ %		
Long-term liabilities as a % of total debt	50%	_____ %		
Current & intermediate liabilities as a % of total debt	50%	_____ %		
Cost of term debt (weighted average)	4.6%	_____ %		
<u>Farm Debt Levels:</u>				
	<u>Per Cow</u>	<u>Per Tillable Acre Owned</u>	<u>Per Cow</u>	<u>Per Tillable Acre Owned</u>
Total farm debt	\$ 2,776	\$ 2,529	\$ _____	\$ _____
Long-term debt	1,386	1,263	_____	_____
Intermediate & long term	2,191	1,997	_____	_____
Intermediate & current debt	1,390	1,266	_____	_____

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**  
27 Central Valleys Region Dairy Farms, 2004

Item	Average of Region's Farms	
	Real Estate	Machinery & Equipment
Value beginning of year	\$ 787,722	\$ 341,997
Purchases	\$ 96,996*	\$ 73,646
Gift & inheritance	+ 0	+ 0
Lost capital	- 25,811	-
Sales	- 5,150	- 4,075
Depreciation	- 45,190	- 56,210
Net investment	= 20,845	= 13,361
Appreciation	+ 41,342	+ 28,650
Value end of year	\$ 849,909	\$ 384,008

\*\$18,033 land and \$78,963 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)

27 Central Valleys Region Dairy Farms, 2004

Item	Average	My Farm
Beginning of year farm net worth	\$1,171,127	\$ _____
Net farm income without appreciation	\$ 159,481	\$ _____
+Nonfarm cash income	+ 6,842	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 75,856</u>	- _____
RETAINED EARNINGS	+ \$ 90,467	+\$ _____
Nonfarm noncash transfers to farm	\$ 0	\$ _____
+Cash used in business from nonfarm capital	+ 4,475	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	<u>- 2,335</u>	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 2,140	+\$ _____
Appreciation	\$ 100,548	\$ _____
-Lost capital	<u>- 25,811</u>	- _____
CHANGE IN VALUATION EQUITY	+ \$ 74,737	+\$ _____
IMBALANCE/ERROR	<u>- -2,689</u>	- \$ _____
End of year net worth*	=\$1,341,160	=\$ _____
<hr/>		
<u>Change in Net Worth</u>		
Without appreciation	\$ 69,485	\$ _____
With appreciation	\$ 170,033	\$ _____

\*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**  
27 Central Valleys Region Dairy Farms, 2004

Item	Average	
<b><u>Cash Flow from Operating Activities</u></b>		
Cash farm receipts	\$1,082,346	
- Cash farm expenses	861,249	
- Extraordinary expense	<u>2,512</u>	
= Net cash farm income		\$ 218,585
Personal withdrawals & family expenses including nonfarm debt payments	\$ 76,720	
- Nonfarm income	<u>6,842</u>	
- Net cash withdrawals from the farm		<u>\$ 69,877</u>
= Net Provided by Operating Activities		\$ 148,707
<b><u>Cash Flow From Investing Activities</u></b>		
Sale of assets: machinery	\$ 4,075	
+ real estate	2,815	
+ other stock & cert.	<u>1,343</u>	
= Total asset sales		\$ 8,233
Capital purchases: expansion livestock	\$ 2,727	
+ machinery	73,646	
+ real estate	96,996	
+ other stock & cert.	<u>5,757</u>	
- Total invested in farm assets		<u>\$ 179,127</u>
= Net Provided by Investment Activities		\$ -170,894
<b><u>Cash Flow From Financing Activities</u></b>		
Money borrowed (intermediate & long term)	\$ 127,319	
+ Money borrowed (short term)	2,504	
+ Increase in operating debt	0	
+ Cash from nonfarm capital used in business	4,475	
+ Money borrowed - nonfarm	<u>864</u>	
= Cash inflow from financing		\$ 135,162
Principal payments (intermediate & long term)	\$ 123,575	
+ Principal payments (short term)	289	
+ Decrease in operating debt	<u>1,205</u>	
- Cash outflow for financing		<u>\$ 125,069</u>
= Net Provided by Financing Activities		\$ 10,093
<b><u>Cash Flow From Reserves</u></b>		
Beginning farm cash, checking & savings		\$ 20,342
- Ending farm cash, checking & savings		<u>10,937</u>
= Net Provided from Reserves		\$ 9,405
Imbalance (error)		<u>\$ -2,689</u>

## ANNUAL CASH FLOW STATEMENT

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



## Repayment Analysis

A valuable use of cash flow analysis is to compare the debt payments planned for the last year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business. However, the critical question to many farmers and lenders is whether planned payments can be made in 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 26 Central Valleys Region Dairy Farms, 2003 & 2004

Debt Payments	Average			My Farm		
	2004 Payments		Planned 2005	2004 Payments		Planned 2005
	Planned	Made		Planned	Made	
Long term	\$ 58,576	\$ 65,155	\$ 61,232	\$ _____	\$ _____	\$ _____
Intermediate term	68,061	91,149	61,740	_____	_____	_____
Short term	1,880	300	3,801	_____	_____	_____
Operating (net reduction)	2,500	10,752	650	_____	_____	_____
Accounts payable (net reduction)	0	4,789	0	_____	_____	_____
Total	\$ 131,017	\$ 172,145	\$ 127,423	\$ _____	\$ _____	\$ _____
Per cow	\$ 458	\$ 601		\$ _____	\$ _____	
Per cwt. 2004 milk	\$ 2.23	\$ 2.93		\$ _____	\$ _____	
Percent of total 2004 farm receipts	12%	15%		_____	_____	
Percent of 2004 milk receipts	13%	17%		_____	_____	

The cash flow coverage ratio and debt coverage ratio measure the ability of the farm business to meet its planned debt payment schedule. The ratios show the percentage of payments planned for 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 26 Central Valleys Region Dairy Farms, 2003 & 2004

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$1,089,924	Net farm income (w/o appreciation)	\$157,661
- Cash farm expenses	868,775	+ Depreciation	103,360
+ Interest paid (cash)	31,937	+ Interest paid (accrual)	31,561
- Net personal withdrawals from farm*	69,163	- Net personal withdrawals from farm*	69,163
(A) = Amount available for debt service	\$183,922	(A') = Repayment capacity	\$223,419
(B) = Debt payments planned for 2004 (as of December 31, 2003)	\$131,017	(B) = Debt payments planned for 2004 (as of December 31, 2003)	\$131,017
(A/B) = Cash Flow Coverage Ratio for 2004	1.40	(A'/B) = Debt Coverage Ratio for 2004	1.71

\*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	27 Central Valleys Region Dairy Farms, 2004		My Farm	Expected Change	2005 Projection
	Per Cow	Per Cwt.	Per Cow/ Per Cwt.		
Average number of cows	283				
Total cwt. of milk sold		58,309			
<u>Accrual Operating Receipts</u>					
Milk	\$ 3,490	\$ 16.93	\$ _____	_____	\$ _____
Dairy cattle	158	.77	_____	_____	_____
Dairy calves	29	.14	_____	_____	_____
Other livestock	0	.00	_____	_____	_____
Crops	81	.39	_____	_____	_____
Miscellaneous Receipts	165	.80	_____	_____	_____
Total	\$ 3,923	\$ 19.02	\$ _____	_____	\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$ 506	\$ 2.45	\$ _____	_____	\$ _____
Dairy grain & concentrate	863	4.18	_____	_____	_____
Dairy roughage	31	.15	_____	_____	_____
Nondairy feed	0	.00	_____	_____	_____
Professional nutritional services	2	.01	_____	_____	_____
Machinery hire, rent & lease	81	.39	_____	_____	_____
Machinery repair & vehicle expense	174	.85	_____	_____	_____
Fuel, oil & grease	91	.44	_____	_____	_____
Replacement livestock	26	.12	_____	_____	_____
Breeding	50	.24	_____	_____	_____
Veterinary & medicine	110	.53	_____	_____	_____
Milk marketing	169	.82	_____	_____	_____
Bedding	35	.17	_____	_____	_____
Milking supplies	78	.38	_____	_____	_____
Cattle lease	0	.00	_____	_____	_____
Custom boarding	98	.48	_____	_____	_____
bST	31	.15	_____	_____	_____
Livestock professional fees	7	.03	_____	_____	_____
Other livestock expense	15	.07	_____	_____	_____
Fertilizer & lime	55	.27	_____	_____	_____
Seeds & plants	97	.47	_____	_____	_____
Spray & other crop expense	29	.14	_____	_____	_____
Crop professional fees	3	.01	_____	_____	_____
Land, building & fence repair	47	.23	_____	_____	_____
Taxes	61	.30	_____	_____	_____
Real estate rent & lease	59	.28	_____	_____	_____
Insurance	32	.16	_____	_____	_____
Utilities	81	.39	_____	_____	_____
Miscellaneous	39	.19	_____	_____	_____
Total Less Interest Paid	\$ 2,869	\$ 13.91	\$ _____	_____	\$ _____
<u>Net Accrual Operating Income</u>					
(without interest paid)	\$ 297,939	<u>Total</u>	\$ _____	_____	\$ _____
- Change in livestock /crop inventory*	20,394		_____	_____	_____
- Change in accounts receivable	6,516		_____	_____	_____
- Change in feed & supply inventory**	20,246		_____	_____	_____
+ Change in accounts payable***	1,616		_____	_____	_____
NET CASH FLOW	\$ 252,400		\$ _____	_____	\$ _____
- Net family withdrawals	\$ 69,014		_____	_____	_____
Available for Farm	\$ 183,386		\$ _____	_____	_____
- Farm debt payments	167,931		_____	_____	_____
Available for Farm Investment	\$ 15,455		\$ _____	_____	\$ _____
- Capital purchases	179,127		_____	_____	_____
Additional Capital Needed	\$ 163,672		\$ _____	_____	\$ _____

\*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 27 Central Valleys 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	315	366	681	_____	_____	_____
Nontillable	37	7	44	_____	_____	_____
Other nontillable	90	0	90	_____	_____	_____
Total	442	373	815	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Production/Acre</u>	<u>Acres</u>	<u>Production/Acre</u>	
Hay crop	27	320	3.16 tons DM	_____	_____	tons DM
Corn silage	24	230	17.67 ton	_____	_____	tons
			5.60 tons DM	_____	_____	tons DM
Other forage	0	0	0.00 tons DM	_____	_____	tons DM
Total forage	27	525	4.10 tons DM	_____	_____	tons DM
Corn grain	13	207	137 bushels	_____	_____	bushels
Oats	3	52	55 bushels	_____	_____	bushels
Wheat	2	34	52 bushels	_____	_____	bushels
Other crops	4	46		_____	_____	
Tillable pasture	5	148		_____	_____	
Idle	8	44		_____	_____	
Total Tillable Acres	27	681		_____	_____	

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 320, corn silage 204, corn grain 100, oats 6, tillable pasture 27, and idle 13.

Average crop acres and yields compiled for the region are for the farms reporting each crop. Yields of forage crops have been converted to tons of dry matter using dry matter coefficients reported by the farmers. Grain production has been converted to bushels of dry grain equivalent based on dry matter information provided.

The following crop/dairy ratios indicate the relationship between forage production, forage production resources, and the dairy herd.

#### CROP/DAIRY RATIOS 27 Central Valleys Region Dairy Farms, 2004

Item	Average	My Farm
Total tillable acres per cow	2.41	_____
Total forage acres per cow	1.86	_____
Harvested forage dry matter, tons per cow	7.62	_____

**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 2 farms in the region.

**CROP RELATED ACCRUAL EXPENSES**  
Central Valleys 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	27	4			4		0	
Ave. number of acres	681	245			289		0	0
Fert. & lime	\$ 22.82	\$ 40.14	\$ 7.11	\$ 0.19	\$ 23.45	\$ 7.39	\$ 0.00	\$ 0.00
Seeds & plants	40.21	47.97	8.46	0.19	9.50	3.10	0.00	0.00
Spray & other crop expense	<u>11.83</u>	<u>35.54</u>	<u>6.41</u>	<u>0.11</u>	<u>20.33</u>	<u>5.92</u>	<u>0.00</u>	<u>0.00</u>
TOTAL	\$ 74.86	\$ 123.65	\$ 21.98	\$ 0.49	\$ 53.28	\$ 16.41	\$ 0.00	\$ 0.00
<b>My Farm</b>								
Fert. & lime	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
Seeds & plants	_____	_____	_____	_____	_____	_____	_____	_____
Spray & other crop expense	_____	_____	_____	_____	_____	_____	_____	_____
TOTAL	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____

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

**ACCRUAL MACHINERY EXPENSES**  
27 Central Valleys Region Dairy Farms, 2004

Machinery Expense	Average		My Farm	
	Total Expenses	Per Tillable Acre	Total Expenses	Per Tillable Acre
Fuel, oil & grease	\$ 25,632	\$ 37.66	\$ _____	\$ _____
Mach. repair & vehicle expense	49,279	72.41	_____	_____
Machine hire, rent & lease	23,024	33.83	_____	_____
Interest (5%)	18,228	26.78	_____	_____
Depreciation	<u>56,210</u>	<u>82.59</u>	_____	_____
Total	\$ 172,373	\$ 253.27	\$ _____	\$ _____

**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**  
27 Central Valleys Region Dairy Farms, 2004

Item	Dairy Cows		Bred		Heifer Open		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	279	\$ 342,356	75	\$ 91,353	79	\$ 57,030	60	\$ 25,694
+ Change w/o apprec.		8,485		51		2,183		643
+ Appreciation		<u>18,293</u>		<u>6,434</u>		<u>1,746</u>		<u>1,615</u>
End year (owned)	286	\$ 369,133	75	\$ 97,838	81	\$ 60,959	62	\$ 27,951
End including leased	287							
Average number	283		218	(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**  
27 Central Valleys Region Dairy Farms, 2004

Item	Average	My Farm
Total milk sold, lbs.	5,830,935	_____
Milk sold per cow, lbs.	20,620	_____
Average milk plant test, percent butterfat	3.50%	_____

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**  
27 Central Valleys Region Dairy Farms, 2004

Item	Average		My Farm	
	Number	Percent*	Number	Percent*
Cows sold for beef	72	25.5	_____	_____
Cows sold for dairy	1	0.3	_____	_____
Cows died	16	5.7	_____	_____
Culling rate**		31.2		_____

\*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**

27 Central Valleys 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	\$ 722,635	\$ 2,555	\$ 12.39	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$ 827,424	\$ 2,926	\$ 14.19	\$ _____	\$ _____	\$ _____
Total costs	\$ 958,562	\$ 3,390	\$ 16.44	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts From Milk</u>						
Net milk receipts	\$ 986,905	\$ 3,490	\$ 16.93	\$ _____	\$ _____	\$ _____
Net Farm Income without Apprec.	\$ 939,187	\$ 3,098	\$ 16.11	\$ _____	\$ _____	\$ _____
Net Farm Income with Appreciation	\$ 159,481	\$ 564	\$ 2.74	\$ _____	\$ _____	\$ _____
	\$ 260,029	\$ 920	\$ 4.46	\$ _____	\$ _____	\$ _____

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**

27 Central Valleys Region Dairy Farms, 2004

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 863	\$ 4.18	\$ _____	\$ _____
Purchased dairy roughage	31	.15	_____	_____
Total Purchased Dairy Feed	\$ 894	\$ 4.33	\$ _____	\$ _____
Purchased grain & concentrate as % of milk receipts		25%	_____	%
Purchased feed & crop expense	\$ 1,077	\$ 5.22	\$ _____	\$ _____
Purchased feed & crop expense as % of milk receipts		31%	_____	%
Breeding	\$ 50	\$ .24	\$ _____	\$ _____
Veterinary & medicine	110	.53	_____	_____
Milk marketing	169	.82	_____	_____
Bedding	35	.17	_____	_____
Milking supplies	78	.38	_____	_____
Cattle lease	0	.00	_____	_____
Custom boarding	98	.48	_____	_____
bST	31	.15	_____	_____
Livestock professional fees	7	.03	_____	_____
Other livestock expense	15	.07	_____	_____

**Capital and Labor Efficiency Analysis**

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

**CAPITAL EFFICIENCY**  
27 Central Valleys Region Dairy Farms, 2004

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$313,578	\$7,248	\$3,011	\$6,505
Real estate		2,896		2,599
Machinery & equipment	55,778	1,289	536	

Ratios

Asset turnover	Operating expense	Interest expense	Depreciation expense
.59	.74	.03	.09

My Farm

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

Ratios

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

**LABOR FORCE INVENTORY**  
27 Central Valleys Region Dairy Farms, 2004

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	13.5	51	14	\$35,500
Operator number 2	7.4	46	14	20,093
Operator number 3	3.1	45	13	9,481
Family paid	3.7			
Family unpaid	1.5			
Hired	<u>49.3</u>			
Total	78.5	/ 12 = 6.54	Worker Equivalent	
		1.75	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

27 Central Valleys Region Dairy Farms, 2004

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	283	43	_____	_____
Milk sold, pounds	5,830,935	892,149	_____	_____
Tillable acres	681	104	_____	_____

### LABOR AND MACHINERY COSTS

27 Central Valleys 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)	\$ 52,727	\$ 186	\$ 0.90	\$ _____	\$ _____	\$ _____
Family unpaid						
(\$2,200/month)	3,218	11	0.06	_____	_____	_____
Hired	<u>142,967</u>	<u>506</u>	<u>2.45</u>	_____	_____	_____
Total Labor	\$ 198,912	\$ 703	\$ 3.41	\$ _____	\$ _____	\$ _____
Machinery Cost	\$ <u>172,372</u>	\$ <u>610</u>	\$ <u>2.96</u>	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$ 371,284	\$ 1,313	\$ 6.37	\$ _____	\$ _____	\$ _____
Hired labor expense per hired worker equivalent			\$32,370	\$ _____		
Hired labor expense as % of milk sales			14.5%	_____%		



## 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 26 Central Valleys Region Dairy Farms, 2003 & 2004

Selected Factors	Average of 26 Farms*		My Farm		Goal
	2003	2004	2003	2004	
<u>Size of Business</u>					
Average number of cows	275	286	_____	_____	_____
Average number of heifers	212	220	_____	_____	_____
Milk sold, pounds	5,741,480	5,879,036	_____	_____	_____
Worker equivalent	6.11	6.58	_____	_____	_____
Total tillable acres	645	681	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, pounds	20,916	20,537	_____	_____	_____
Hay DM per acre, tons	3.3	3.2	_____	_____	_____
Corn silage per acre, tons	16.4	17.7	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	45	44	_____	_____	_____
Milk sold/worker, pounds	939,686	893,471	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	26%	25%	_____ %	_____ %	_____ %
Dairy feed & crop expense per cwt. milk	\$ 4.28	\$ 5.22	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,237	\$ 1,303	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 10.63	\$ 12.42	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$ 7,073	\$ 7,255	\$ _____	\$ _____	\$ _____
Mach. & equipment per cow	\$ 1,261	\$ 1,284	\$ _____	\$ _____	\$ _____
Asset turnover ratio	.51	.59	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$ 69,728	\$ 157,661	\$ _____	\$ _____	\$ _____
Net farm income w/apprec.	\$ 141,138	\$ 260,534	\$ _____	\$ _____	\$ _____
Labor & management income per operator/manager	\$ 5,988	\$ 55,261	\$ _____	\$ _____	\$ _____
Rate of return on equity capital w/appreciation	6.5%	15.28%	_____ %	_____ %	_____ %
Rate of return on all capital w/appreciation	5.4%	10.7%	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$1,169,039	\$ 1,347,360	\$ _____	\$ _____	\$ _____
Debt to asset ratio	.41	.38	_____	_____	_____
Farm debt per cow	\$ 2,870	\$ 2,822	\$ _____	\$ _____	\$ _____

\*Farms participating both years.

\*\*Average for the year.

**RECEIPTS AND EXPENSES PER COW AND PER CWT.**  
Same 26 Central Valleys Region Dairy Farms, 2003 & 2004

Item	2003		2004	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average number of cows	275		286	
Cwt. of milk sold		57,415		58,790
<b><u>ACCRUAL OPERATING RECEIPTS</u></b>				
Milk	\$2,828	\$13.52	\$3,475	\$16.92
Dairy cattle	147	0.70	156	0.76
Dairy calves	46	0.22	30	0.14
Other livestock	0	0.00	0	0.00
Crops	128	0.61	80	0.39
Miscellaneous receipts	187	0.90	161	0.79
Total Receipts	\$3,336	\$15.95	\$3,902	\$19.00
<b><u>ACCRUAL OPERATING EXPENSES</u></b>				
Hired labor	\$455	\$2.18	\$496	\$2.42
Dairy grain & concentrate	731	3.49	861	4.19
Dairy roughage	19	0.09	32	0.15
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	1	0.01	2	0.01
Machine hire/rent/lease	61	0.29	81	0.39
Mach. repair & vehicle exp.	175	0.84	173	0.84
Fuel, oil & grease	77	0.37	91	0.44
Replacement livestock	22	0.11	26	0.13
Breeding	43	0.21	50	0.25
Veterinary & medicine	111	0.53	110	0.54
Milk marketing	173	0.83	170	0.83
Bedding	35	0.17	35	0.17
Milking supplies	80	0.38	79	0.38
Cattle lease	2	0.01	0	0.00
Custom boarding	94	0.45	100	0.49
bST expense	44	0.21	30	0.15
Livestock professional fees	5	0.02	6	0.03
Other livestock expense	17	0.08	16	0.08
Fertilizer & lime	49	0.23	53	0.26
Seeds & plants	61	0.29	97	0.47
Spray/other crop expense	29	0.14	26	0.13
Crop professional fees	6	0.03	3	0.01
Land, building, fence repair	24	0.12	47	0.23
Taxes	60	0.29	61	0.30
Real estate rent/lease	58	0.28	59	0.29
Insurance	29	0.14	32	0.16
Utilities	73	0.35	81	0.39
Interest paid	117	0.56	110	0.54
Other professional fees	24	0.12	21	0.10
Miscellaneous	15	0.07	18	0.09
Total Operating Expenses	\$2,690	\$12.89	\$2,966	\$14.46
Expansion livestock	43	0.20	10	0.05
Extraordinary expense	0	0.00	12	0.06
Machinery depreciation	199	0.95	199	0.97
Real estate depreciation	151	0.72	163	0.79
Total Expenses	\$3,083	\$14.76	\$3,350	\$16.33
Net Farm Income Without Appreciation	\$253	\$1.19	\$552	\$2.67

### Regional Farm Business Chart

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

#### FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS

27 Central Valleys Region Dairy Farms, 2004

Size of Business			Rate of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
18.21	862	19,036,772	24,006	4.4	24	63	1,147,429
6.47	282	5,396,592	21,155	3.5	18	44	914,628
4.79	187	3,712,132	20,032	3.2	17	36	724,741
3.12	106	1,894,836	18,114	2.7	15	33	630,383
1.74	57	889,791	13,175	1.7	12	26	396,378

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)	
\$430	15%	\$387	\$967	\$578	\$3.57	
696	23	593	1,368	884	4.98	
837	26	747	1,550	1,066	5.61	
1,015	30	838	1,716	1,232	6.13	
1,244	35	1,261	2,070	1,403	6.69	

Value and Cost of Milk Production			Profitability			
Milk Receipts Per Cow	Operating Cost Production Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income with Appreciation	Net Farm Income without Appreciation	Labor & Management Income Per Operator	Change in Net Worth With Appreciation
(12)	(12)	(12)	(4)	(4)	(4)	(8)
\$4,154	\$9.52	\$14.42	\$832,324	\$534,159	\$150,346	\$631,452
3,641	11.51	16.09	255,312	168,867	67,981	187,980
3,362	12.95	17.90	199,336	93,431	29,799	104,247
3,180	13.89	19.83	90,414	58,918	10,437	31,596
2,287	15.25	23.18	7,242	-4,967	-40,532	-42,981

\*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, 12 Central Valleys 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 fourths. Numbers for the different areas will not add to the totals for that quartile 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**  
12 Central Valleys Region Dairy Farms, 2004

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
<b>BASE FARM PRICE</b>					
Butterfat	335,734.30	3.50%	\$2.045	\$686,647.00	\$7.16
Protein	287,531.30	3.00%	\$2.604	\$748,704.00	\$7.81
Solids	547,611.80	5.71%	\$0.075	\$41,251.60	\$0.43
<b>Total Component Contribution</b>					\$15.40
<b>PPD</b>	9,586,990.00			\$54,228.75	\$0.57
<b>Base Farm Price</b>					\$15.97
<b>Premiums</b>					
Quality				\$9,219.25	\$0.10
Volume				\$13,748.25	\$0.14
Market Premiums				\$66,299.08	\$0.69
<b>Total Premiums</b>					\$0.93
<b>BASE FARM PRICE + PREMIUM</b>					\$16.90
<b>Deductions</b>					
Promotion				\$15,303.75	\$0.16
Hauling + Stop Charges.				\$45,595.50	\$0.48
Market Fees & Coop Dues				\$3,816.83	\$0.04
<b>Total Deductions</b>					\$0.68
<b>BASE FARM PRICE + PREMIUMS - DEDUCTIONS</b>					\$16.22
<b>Marketing Programs</b>					
Futures Contracts, Forward Contracting, Etc.				\$-27,163.33	\$-0.28
<b>Total Marketing Income</b>					\$-0.28
<b>Patronage Dividends</b>				\$4,290.75	\$0.04
<b>NET PRICE RECEIVED ON FARM, ALL SOURCES</b>					\$15.99
<b>PPD - Hauling, \$ per cwt.</b>					\$0.09
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>					\$0.78
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>					\$0.82

**MILK PRICE INFORMATION BY QUARTILE**  
 (Each Category Sorted Independently)  
 12 Central Valleys Region Dairy Farms, 2004

	Lowest Quartile	←—————→	Highest Quartile	
Butterfat, %	3.38	3.56	3.61	3.82
Protein, %	2.96	3.02	3.06	3.17
Other Solids, %	5.63	5.70	5.72	5.75
Butterfat, \$ per Cwt.	6.95	7.23	7.48	7.85
Protein, \$ per Cwt.	7.68	7.87	8.02	8.31
Other solids, \$ per Cwt.	0.42	0.43	0.43	0.45
<b>Total Component Value per Cwt.</b>	<b>\$15.16</b>	<b>\$15.55</b>	<b>\$15.92</b>	<b>\$16.49</b>
PPD, \$ per Cwt.	0.32	0.38	0.72	1.04
<b>Base Farm Price per Cwt.</b>	<b>\$15.76</b>	<b>\$16.14</b>	<b>\$16.55</b>	<b>\$17.14</b>
Quality, \$ per Cwt.	0.00	0.01	0.19	0.23
Volume, \$ per Cwt.	0.00	0.00	0.29	0.33
Market premium, \$ per Cwt.	0.15	0.35	0.56	0.97
<b>Total Premium, \$ per Cwt.</b>	<b>0.34</b>	<b>0.76</b>	<b>0.94</b>	<b>1.04</b>
<b>Base Farm Price + Premiums per Cwt.</b>	<b>\$16.58</b>	<b>\$16.97</b>	<b>\$17.24</b>	<b>\$17.88</b>
Promotion, \$ per Cwt.	0.15	0.15	0.17	0.20
Hauling, \$ per Cwt.	0.17	0.47	0.62	1.16
Market fees & coop dues per Cwt.	0.00	0.01	0.05	0.10
<b>Total Marketing Expenses per Cwt.</b>	<b>\$0.40</b>	<b>\$0.69</b>	<b>\$0.82</b>	<b>\$1.34</b>
<b>Base + Premiums – Deductions per Cwt.</b>	<b>\$15.88</b>	<b>\$16.15</b>	<b>\$16.40</b>	<b>\$16.99</b>
Futures contract, forward contracting, \$ per Cwt.	-0.53	0.00	0.00	0.01
<b>Total Marketing Income, \$ per Cwt.</b>	<b>\$-0.53</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.01</b>
<b>Patronage Dividends, \$ per Cwt.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.44</b>
<b>Net Price Received From All Sources, \$ per Cwt.</b>	<b>\$15.63</b>	<b>\$16.01</b>	<b>\$16.41</b>	<b>\$17.32</b>
<b>PPD - Hauling, \$ per cwt.</b>	<b>-0.28</b>	<b>-0.12</b>	<b>0.10</b>	<b>0.37</b>
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>	<b>0.14</b>	<b>0.38</b>	<b>0.61</b>	<b>0.96</b>
<b>Net Marketing Value (PPD + Total Premiums - Total Deductions), \$ per cwt.</b>	<b>0.32</b>	<b>0.46</b>	<b>0.61</b>	<b>0.91</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
-----					
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
-----						
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:		
(14)	(14)	(14)	(14)	(8)	Equity	Investment***	
.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 Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
3.67	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	
(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 Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
4.33	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.	
(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 Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
4.73	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.	
(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 Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
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.	
(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 Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
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.	
(12)	(12)	(12)	Total	Per Cow	(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**

<b>EB No</b>	<b>Title</b>	<b>Fee (if applicable)</b>	<b>Author(s)</b>
2005-12	Income Tax Management and Reporting For Small Businesses and Farms: 2005 Reference Manual for Regional Schools	(\$20.00)	Cuykendall, C. and G. Bouchard
2005-11	Using Farm Assets for Retirement	(\$12.00)	Richard, S.
2005-10	Dairy Farm Business Summary, Southeastern New York Region, 2004	(\$12.00)	Knoblauch, W., Putnam, L., Kiraly, M., Walsh, J., Hadcock, S. and L. Hulle
2005-09	Dairy Farm Business Summary, Western and Central Plateau Region, 2004	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Grace, J., Munsee, D., Schuelke, J. and J. Petzen
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
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