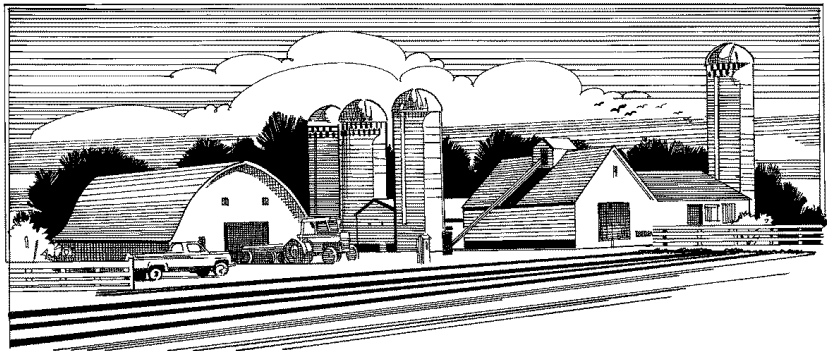


**DAIRY FARM  
BUSINESS SUMMARY**

*AUGUST 2003*

*E.B. 2003-10*

***CENTRAL VALLEYS  
REGION  
2002***



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**2002 DAIRY FARM BUSINESS SUMMARY**  
**CENTRAL VALLEYS REGION**  
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## 2002 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 2002.

#### **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 2002 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. A DFBS Data Check-in Form can be used by non-DFBS participants to summarize their businesses.

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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\*The Central Valleys Region includes Chenango, Herkimer, Madison, Montgomery, Oneida, Onondaga, Oswego, Otsego, and Schoharie Counties. This publication includes the following numbers of farms by county: Schoharie 7, Oneida 7, Herkimer 3, Montgomery 3, Otsego 4, Chenango 2, Madison 2, and Onondaga 3. This summary was prepared by Eddy L. LaDue, Department of Applied Economics and Management, College of Agriculture and Life Sciences, Cornell University. The farm business data were collected by Jacqueline Hilts, Cooperative Extension Educator, Oneida County; A. Edward Staehr, Cooperative Extension Educator, Onondaga County; Zaid Kurdieh, Cooperative Extension Educator, Chenango, Herkimer, Otsego, Fulton and Montgomery Counties; and Charles Z. Radick, Consultant. Jason Karszes assisted with the data collection process. Analysis and data management assistance were provided by Linda D. Putnam.

## 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 31 Central Valleys Region Dairy Farms, 2002

Type of Farm	Number	Milking System	Number
Dairy	29	Bucket & carry	0
Part-time dairy	0	Dumping station	1
Dairy cash-crop	2	Pipeline	14
Certified organic milk producer	0	Herringbone conventional exit	7
Rotational grazing farm	5	Herringbone rapid exit	1
		Parallel	5
		Parabone	0
		Rotary	1
		Other	2
Type of Ownership	Number	Production Records	Number
Owner	31	Testing Service	21
Renter	0	On Farm System	2
		Other	0
		None	8
Type of Business	Number	bST Usage	Number
Sole Proprietorship	16	Used on <25% of herd	2
Partnership	11	Used on 25-75% of herd	9
Limited Liability Corporation	4	Used on >75% of herd	3
Subchapter S Corporation	0	Stopped using in 2002	0
Subchapter C Corporation	0	Not used in 2002	17
Type of Barn	Number	Business Record System	Number
Stanchion or Tie-Stall	14	Account Book	3
Freestall	13	Accounting Service	12
Combination	4	On-farm computer	13
		Other	3
Milking Frequency	Number		
2 times per day	22		
3 times per day	8		
Other	1		

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 2002.

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**  
31 Central Valleys Region Dairy Farms, 2002

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired Labor</u>	\$105,271		\$ -529	<<	\$ 182		\$ 105,982
<u>Feed</u>							
Dairy grain & concentrate	172,829		-22,014		1,785		196,628
Dairy roughage	6,281		-391		0		6,672
Nondairy	21		0		0		21
<u>Machinery</u>							
Machinery hire, rent & lease	17,138		0	<<	60		17,198
Machinery repairs & farm vehicle exp.	36,137		-134		346		36,617
Fuel, oil & grease	14,848		-510		38		15,395
<u>Livestock</u>							
Replacement livestock	20,780		0	<<	0		20,780
Breeding	9,834		-357		0		10,191
Veterinary & medicine	24,739		-243		194		25,175
Milk marketing	39,142		0	<<	534		39,677
Bedding	7,404		-104		151		7,658
Milking supplies	23,947		1,054		187		23,080
Cattle lease & rent	86		0	<<	0		86
Custom boarding	20,327		0	<<	111		20,438
bST	12,162		178		0		11,984
Other livestock expense	4,921		-168		0		5,089
<u>Crops</u>							
Fertilizer & lime	14,456		881		1,273		14,849
Seeds & plants	14,881		-1,404		-316		15,969
Spray, other crop expense	8,122		-1,448		0		9,571
<u>Real Estate</u>							
Land, building & fence repair	9,643		-48		-84		9,608
Taxes	13,861		-31	<<	286		14,177
Rent & lease	15,244		-91	<<	0		15,335
<u>Other</u>							
Insurance	6,590		-1,561	<<	0		8,151
Utilities (farm share)	18,595		0	<<	0		18,595
Interest paid	33,925		0	<<	0		33,925
Miscellaneous	9,011		-368		129		9,508
Total Operating	<u>\$660,194</u>		<u>\$ -27,288</u>		<u>\$ 4,875</u>		<u>\$692,358</u>
Expansion livestock	6,930		0	<<	0		6,930
Machinery depreciation							48,521
Building depreciation							<u>43,043</u>
<b>TOTAL ACCRUAL EXPENSES</b>							<u><b>\$790,852</b></u>

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

Change in accounts payable: An increase in accounts payable from beginning to end of year is added when calculating accrual expenses because these expenses were incurred (resources used) in 2002 but not paid for. A decrease is subtracted because it represents payment for resources used before 2002.

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**  
31 Central Valleys Region Dairy Farms, 2002

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$ 701,787				\$ -7,100		\$ 694,687
Dairy cattle	22,793		\$ 36,651		0		59,444
Dairy calves	7,198				0		7,198
Other livestock	0		386		26		412
Crops	7,382		10,833		366		18,582
Government receipts	38,935		-419 *		2,566		41,081
Custom machine work	4,514				728		5,242
Gas tax refund	807				0		807
Other	<u>14,822</u>				<u>40</u>		14,863
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$ 798,238		\$ 47,451		\$ -3,374		\$ 842,316

\*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 2002 for the 2003 crop year in excess of funds earned for 2002. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2002 but received in 2001.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 2003 for milk produced in December 2002 compared to January 2002 payments for milk produced in 2001 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.

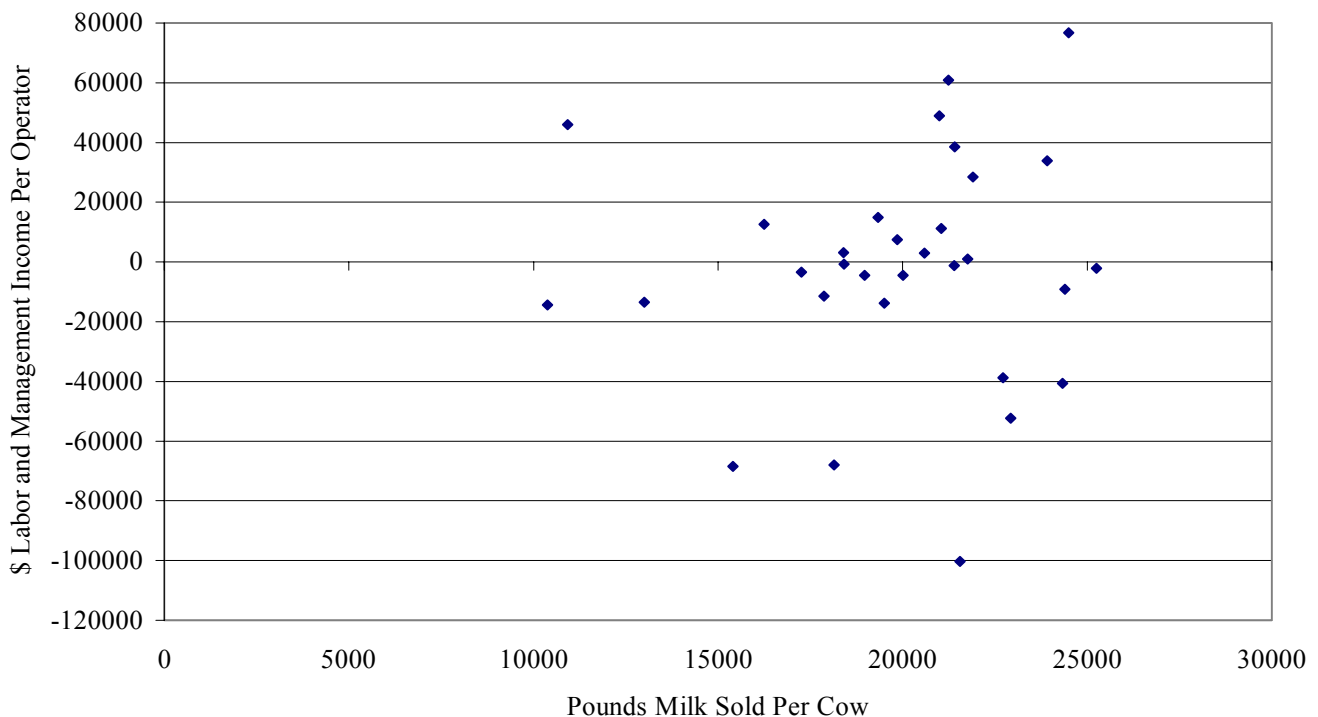
**NET FARM INCOME**  
31 Central Valleys Region Dairy Farms, 2002

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$ 842,316		\$ _____	
Appreciation: Livestock	-21,888		_____	
Machinery	14,968		_____	
Real Estate	40,644		_____	
Other Stock & Certificates	1,812		_____	
Total Including Appreciation	\$ 877,852		\$ _____	
Total accrual expenses	- 790,852		- _____	
Net Farm Income (with appreciation)	\$ 87,000	\$ 348	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 51,464	\$ 206	\$ _____	\$ _____

The chart below shows the relationship between labor and management income per operator and pounds of milk sold per cow. Generally, farms with a higher production per cow have higher profitability per cow.

**LABOR AND MANAGEMENT INCOME PER OPERATOR AND MILK PER COW**

31 Central Valleys Region Dairy Farms, 2002





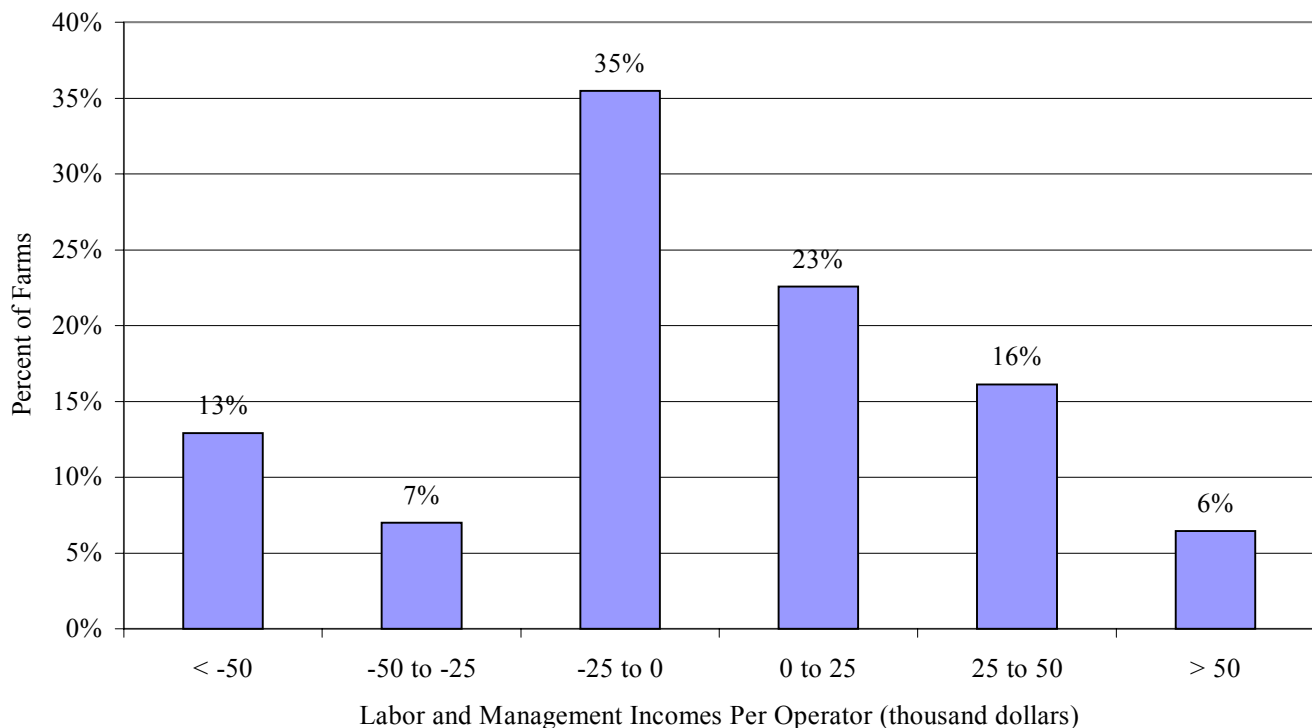
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and 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**  
31 Central Valleys Dairy Farms, 2002

Item	Average	My Farm
Net farm income without appreciation	\$ 51,464	\$ _____
Family labor unpaid @ \$2,100 per month	- 3,360	- _____
Interest on \$1,009,362 average equity capital @ 5% real rate	- 50,468	- _____
Labor & Management Income per farm (1.99 Operators/farm)	\$ -2,364	\$ _____
Labor & Management Income per Operator/Manager	\$ -1,188	\$ _____

Labor and management income per operator averaged \$-1,188 on these 31 farms in 2002. The range in labor and management income per operator was from about \$-100,000 to more than \$76,000. Returns to labor and management were negative on 55 percent of the farms. Labor and management incomes per operator were between \$0 and \$50,000 on 39 percent of the farms while 6 percent showed labor and management incomes of \$50,000 or more per operator.

**DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR**  
31 Central Valleys Region Dairy Farms, 2002



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**  
31 Central Valleys Region Dairy Farms, 2002

Item	Average	My Farm
Net farm income with appreciation	\$ 87,000	\$ _____
Family labor unpaid @\$2,100 per month	- 3,360	- _____
Value of operators' labor & management	<u>- 67,403</u>	- _____
Return on equity capital with appreciation	\$ 16,237	\$ _____
Interest paid	<u>+ 33,925</u>	+ _____
Return on total capital with appreciation	\$ 50,162	\$ _____
Return on equity capital without appreciation	\$ -19,299	\$ _____
Return on total capital without appreciation	\$ 14,626	\$ _____
Rate of return on average equity capital:		
with appreciation	1.6%	_____ %
without appreciation	-1.9%	_____ %
Rate of return on average total capital:		
with appreciation	2.9%	_____ %
without appreciation	0.8%	_____ %
Net Farm Income from Operations Ratio	0.06	_____

**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 2002, 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 2002 that are for participation in the 2003 program are the end year balance and payments received in 2001 for participation in the 2002 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.

**2002 FARM BUSINESS & NONFARM MARKET VALUE BALANCE SHEET**  
31 Central Valleys Region Dairy Farms, 2002

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 14,006	\$ 12,388	Accounts payable	\$ 6,329	\$ 11,204
Accounts receivable	54,300	50,926	Operating debt	48,180	44,619
Prepaid expenses	2,676	465	Short Term	2,731	1,155
Feed & supplies	195,399	181,155	Advanced govt. receipts	0	419
			Current Portion:		
			Intermediate	52,077	69,212
			Long Term	31,263	33,659
Total Current	\$ 266,381	\$ 244,934	Total Current	\$ 140,581	\$ 160,268
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 303,278	\$ 304,352	1-10 years	\$ 207,174	\$ 264,113
leased	0	0	Financial lease		
Heifers	145,860	159,573	(cattle/machinery)	4,274	11,123
Bulls & other livestock	959	1,322	Farm Credit stock	2,393	3,333
Mach. & equip. owned	302,873	323,513	Total Intermediate	\$ 213,841	\$ 278,569
Mach. & equip. leased	4,274	11,123			
Farm Credit stock	2,393	3,333			
Other stock/certificate	11,792	20,459			
Total Intermediate	\$ 771,429	\$ 823,675			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 647,598	\$ 717,283	>10 years	\$ 326,673	\$ 332,645
leased	3,183	2,199	Financial lease		
Total Long Term	\$ 650,781	\$ 719,482	(structures)	3,183	2,199
			Total Long Term	\$ 329,856	\$ 334,844
Total Farm Assets	\$1,688,591	\$1,788,091	Total Farm Liabilities	\$ 684,278	\$ 773,681
			FARM NET WORTH	\$1,004,313	\$1,014,410

Nonfarm Assets, Liabilities & Net Worth (Average of 17 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	\$ 7,271	\$ 4,275	Nonfarm Liabilities	\$ 6,403	\$ 6,723
Cash value life insurance	18,244	20,560			
Nonfarm real estate	23,176	23,206			
Auto (personal share)	7,482	7,050			
Stocks & bonds	23,172	21,357			
Household furnishings	9,235	9,235			
All other nonfarm assets	3,078	2,842			
Total Nonfarm Assets	\$ 91,658	\$ 88,525	NONFARM NET WORTH	\$ 85,255	\$ 81,802

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

	Jan. 1	Dec. 31
Total Assets	\$1,780,249	\$1,876,616
Total Liabilities	690,681	780,404
TOTAL FARM & NONFARM NET WORTH	\$1,089,568	\$1,096,212

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

The following condensed balance sheet, including deferred taxes, contains average data from only those farmers who elected to provide the additional information required to compute deferred taxes. Deferred taxes represent an estimate of the taxes that would be paid if the farm were sold at year end fair market values on the date of the balance sheet. Accuracy is dependent on the accuracy of the market values and the tax basis data provided. Any tax liability for assets other than livestock, machinery, land, buildings and nonfarm assets is excluded. It is assumed that all gain on purchased livestock and machinery is ordinary gain and that listed market values are net of selling costs. The effects of investment tax credit carryover and recapture, carryover of operating losses, alternative minimum taxes and other than average exemptions and deductions are excluded because they have only minor influence on the taxes of most farms. The dramatic impact of including deferred taxes is clear. Total farm liabilities were increased 57 percent on these 72 farms by including deferred taxes.

Deferred taxes on these farms totaled an average of \$308,606, roughly one-third of the pretax net worth. Percent equity for the farm decreased from 66 percent to 45 percent when deferred taxes are included on these farms. When examining net worth, especially as a source of cash for retirement or other purposes, deferred taxes become an important consideration. Deferred taxes in this calculation specify that all assets were sold during one tax year. Therefore, tax management strategies such as making sales in more than one year or installment sales warrant careful consideration to reduce income tax liabilities.

**CONDENSED BALANCE SHEET INCLUDING DEFERRED TAXES**

December 31, 2002

72 New York Dairy Farms, 2002

Assets		Liabilities & Net Worth	
		Current debts & payables	\$ 123,947
		Current deferred taxes	<u>53,203</u>
Total Current Assets	\$ 187,984	Total Current Liabilities	\$ 177,150
		Intermediate debts & leases	\$ 210,000
		Intermediate deferred taxes	<u>160,834</u>
Total Intermediate Assets	\$ 690,977	Total Intermediate Liabilities	\$ 370,834
		Long term debts & leases	\$ 173,315
		Long term deferred taxes	<u>94,569</u>
Total Long Term Assets	<u>\$ 591,305</u>	Total Long Term Liabilities	\$ 267,884
TOTAL FARM ASSETS	\$ 1,470,267	TOTAL FARM LIABILITIES	\$ 815,868
		Farm Net Worth	\$ 654,399
		Percent Equity (Farm)	45%
		Nonfarm debts	\$ 2,640
		Nonfarm deferred taxes	<u>10,223</u>
Total Nonfarm Assets	\$ 68,817	Total Nonfarm Liabilities	\$ 12,863
TOTAL ASSETS	\$ 1,539,084	TOTAL LIABILITIES	\$ 828,731
		Total Net Worth	\$ 710,353
		Percent Equity (Total)	46%

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**  
31 Central Valleys Region Dairy Farms, 2002

Item	Average		My Farm	
<u>Financial Ratios - Farm:</u>				
Percent equity		57%	_____	%
Debt/asset ratio: total		.43	_____	
long-term		.47	_____	
intermediate/current		.41	_____	
Leverage Ratio:		.76	_____	
Current Ratio:		1.53	_____	
Working capital	\$84,666	As % of total expenses:	11%	
<u>Farm Debt Analysis:</u>				
Accounts payable as % of total debt		1%	_____	%
Long-term liabilities as a % of total debt		43%	_____	%
Current & inter. liabilities as a % of total debt		57%	_____	%
Cost of term debt (weighted average)		4.9%	_____	%
<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	\$ 2,999	\$ 2,734	\$ _____	\$ _____
Long-term debt	1,298	1,183	_____	_____
Intermediate & long term	2,378	2,168	_____	_____
Intermediate & current debt	1,701	1,551	_____	_____

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**  
31 Central Valleys Region Dairy Farms, 2002

Item	Average of Region's Farms			
	Real Estate		Machinery & Equipment	
Value beginning of year		\$ 647,598		\$ 302,873
Purchases	\$ 94,395*		\$ 57,638	
Gift & inheritance	+ 522		+ 0	
Lost capital	- 21,220			
Sales	- 1,613		- 3,444	
Depreciation	- 43,043		- 48,521	
Net investment		= 29,041		= 5,672
Appreciation		+ 40,644		+ 14,968
Value end of year		\$ 717,283		\$ 323,513

\*\$27,567 land and \$66,828 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)

31 Central Valleys Region Dairy Farms, 2002

Item	Average	My Farm
Beginning of year farm net worth	\$1,004,313	\$ _____
Net farm income without appreciation	\$ 51,464	\$ _____
+Nonfarm cash income	+ 2,178	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 66,073</u>	- _____
RETAINED EARNINGS	+ \$ -12,431	+\$ _____
Nonfarm noncash transfers to farm	\$ 522	\$ _____
+Cash used in business from nonfarm capital	+ 8,194	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	<u>- 0</u>	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 8,716	+\$ _____
Appreciation	\$ 35,536	\$ _____
-Lost capital	<u>- 21,220</u>	- _____
CHANGE IN VALUATION EQUITY	+ \$ 14,316	+\$ _____
IMBALANCE/ERROR	<u>- 504</u>	- \$ _____
End of year net worth*	=\$1,014,410	=\$ _____
<hr/>		
<u>Change in Net Worth</u>		
Without appreciation	\$-25,439	\$ _____
With appreciation	\$ 10,097	\$ _____

\*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**  
31 Central Valleys Region Dairy Farms, 2002

Item	Average	
<b><u>Cash Flow from Operating Activities</u></b>		
Cash farm receipts	\$ 798,238	
- Cash farm expenses	<u>660,194</u>	
= Net cash farm income		\$ 138,044
Personal withdrawals & family expenses including nonfarm debt payments	\$ 66,558	
- Nonfarm income	<u>2,178</u>	
- Net cash withdrawals from the farm		<u>\$ 64,380</u>
= Net Provided by Operating Activities		\$ 73,664
<b><u>Cash Flow From Investing Activities</u></b>		
Sale of assets: machinery	\$ 3,444	
+ real estate	1,613	
+ other stock & cert.	<u>390</u>	
= Total asset sales		\$ 5,447
Capital purchases: expansion livestock	\$ 6,930	
+ machinery	57,638	
+ real estate	94,395	
+ other stock & cert.	<u>7,245</u>	
- Total invested in farm assets		<u>\$ 166,208</u>
= Net Provided by Investment Activities		\$ -160,761
<b><u>Cash Flow From Financing Activities</u></b>		
Money borrowed (intermediate & long term)	\$ 206,107	
+ Money borrowed (short term)	186	
+ Increase in operating debt	0	
+ Cash from nonfarm capital used in business	8,194	
+ Money borrowed - nonfarm	<u>484</u>	
= Cash inflow from financing		\$ 214,971
Principal payments (intermediate & long term)	\$ 123,664	
+ Principal payments (short term)	1,762	
+ Decrease in operating debt	<u>3,561</u>	
- Cash outflow for financing		<u>\$ 128,987</u>
= Net Provided by Financing Activities		\$ 85,984
<b><u>Cash Flow From Reserves</u></b>		
Beginning farm cash, checking & savings		\$ 14,006
- Ending farm cash, checking & savings		<u>12,388</u>
= Net Provided from Reserves		\$ 1,618
Imbalance (error)		<u>\$ 505</u>

## ANNUAL CASH FLOW STATEMENT

Item	My Farm	
<u>Cash Flow from Operating Activities</u>		
Cash farm receipts	\$ _____	
- Cash farm expenses	_____	
= 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 2003. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2003 debt payments shown below.

### FARM DEBT PAYMENTS PLANNED

Same 23 Central Valleys Region Dairy Farms, 2001 & 2002

Debt Payments	Average			My Farm		
	2002 Payments		Planned 2003	2002 Payments		Planned 2003
	Planned	Made		Planned	Made	
Long term	\$ 54,431	\$ 56,692	\$ 55,903	\$ _____	\$ _____	\$ _____
Intermediate term	69,789	93,798	85,375	_____	_____	_____
Short term	2,359	1,385	975	_____	_____	_____
Operating (net reduction)	6,786	0	6,429	_____	_____	_____
Accounts payable (net reduction)	0	0	30	_____	_____	_____
Total	\$ 133,365	\$ 151,875	\$ 148,712	\$ _____	\$ _____	\$ _____
Per cow	\$ 527	\$ 600		\$ _____	\$ _____	
Per cwt. 2002 milk	\$ 2.48	\$ 2.82		\$ _____	\$ _____	
Percent of total 2002 farm receipts	15%	17%		_____	_____	
Percent of 2002 milk receipts	19%	21%		_____	_____	

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 2002 (as of December 31, 2001) that could have been made with the amount available for debt service in 2002. Farmers who did not participate in DFBS in 2001 have their 2002 ratios based on planned debt payments for 2003.

### COVERAGE RATIOS

Same 23 Central Valleys Region Dairy Farms, 2001 & 2002

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$822,580	Net farm income (w/o appreciation)	\$45,328
- Cash farm expenses	677,587	+ Depreciation	103,218
+ Interest paid (cash)	34,925	+ Interest paid (accrual)	34,925
- Net personal withdrawals from farm*	<u>68,848</u>	- Net personal withdrawals from farm*	<u>68,848</u>
(A) = Amount Available for Debt Service	\$111,070	(A') = Repayment Capacity	\$114,623
(B) = Debt Payments Planned for 2002 (as of December 31, 2001)	\$133,365	(B) = Debt Payments Planned for 2002 (as of December 31, 2001)	\$133,365
(A/B) = Cash Flow Coverage Ratio for 2002	0.83	(A'/B) = Debt Coverage Ratio for 2002	0.86

\*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	31 Central Valleys Region Dairy Farms		My Farm	Expected Change	2003 Projection
	Per Cow	Per Cwt.	Per Cow/ Per Cwt.		
Average number of cows	250				
Total cwt. of milk sold		52,372			
<u>Accrual Operating Receipts</u>					
Milk	\$ 2,779	\$ 13.26	\$ _____		\$ _____
Dairy cattle	238	1.14			
Dairy calves	29	.14			
Other livestock	2	.01			
Crops	74	.35			
Miscellaneous Receipts	248	1.18			
Total	\$ 3,369	\$ 16.08	\$ _____		\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$ 424	\$ 2.02	\$ _____		\$ _____
Dairy grain & concentrate	787	3.75			
Dairy roughage	27	.13			
Nondairy feed	0	.00			
Machinery hire, rent & lease	69	.33			
Machinery repair & vehicle expense	146	.70			
Fuel, oil & grease	62	.29			
Replacement livestock	83	.40			
Breeding	41	.19			
Veterinary & medicine	101	.48			
Milk marketing	159	.76			
Bedding	31	.15			
Milking supplies	92	.44			
Cattle lease	0	.00			
Custom boarding	82	.39			
bST	48	.23			
Other livestock expense	20	.10			
Fertilizer & lime	59	.28			
Seeds & plants	64	.30			
Spray & other crop expense	38	.18			
Land, building & fence repair	38	.18			
Taxes	57	.27			
Real estate rent & lease	61	.29			
Insurance	33	.16			
Utilities	74	.36			
Miscellaneous	38	.18			
Total Less Interest Paid	\$ 2,634	\$ 12.57	\$ _____		\$ _____
<u>Net Accrual Operating Income</u>					
	<u>Total</u>				
(without interest paid)	\$ 183,883		\$ _____		\$ _____
- Change in livestock & crop invent.*	47,451				
- Change in accounts receivable	-3,374				
- Change in feed & supply inventory**	-27,288				
+ Change in accounts payable***	4,875				
NET CASH FLOW	\$ 171,969		\$ _____		\$ _____
- Net family withdrawals	\$ 63,896				
Available for Farm	\$ 108,073		\$ _____		
- Farm debt payments	160,984				
Available for Farm Investment	\$ -52,911		\$ _____		\$ _____
- Capital purchases	166,208				
Additional Capital Needed	\$ 219,119		\$ _____		\$ _____

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

\*\*Includes change in prepaid expenses.

\*\*\*Excludes change in in-

**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**

31 Central Valleys Region Dairy Farms, 2002

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	283	324	607	_____	_____	_____
Nontillable	37	9	46	_____	_____	_____
Other nontillable	86	10	96	_____	_____	_____
Total	406	343	749	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Prod/Acre</u>	<u>Acres</u>	<u>Prod/Acre</u>	
Hay crop	31	286	3.03 tn DM	_____	_____	tn DM
Corn silage	30	198	15.88 tn	_____	_____	tn
			5.22 tn DM	_____	_____	tn DM
Other forage	0	0	0 tn DM	_____	_____	tn DM
Total forage	31	478	3.91 tn DM	_____	_____	tn DM
Corn grain	14	192	123 bu	_____	_____	bu
Oats	2	33	58 bu	_____	_____	bu
Wheat	1	50	49 bu	_____	_____	bu
Other crops	5	35		_____		
Tillable pasture	9	104		_____		
Idle	3	31		_____		
Total Tillable Acres	31	607		_____		

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 286, corn silage 191, corn grain 87, oats 2, tillable pasture 30, and idle 3.

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**

31 Central Valleys Region Dairy Farms, 2002

Item	Average	My Farm
Total tillable acres per cow	2.43	_____
Total forage acres per cow	1.91	_____
Harvested forage dry matter, tons per cow	7.47	_____

**Cropping Analysis** (continued)

Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per tillable acre. Additional expense items such as fuels, labor, and machinery repairs are not included. Rotational grazing was used on five farms in the region.

**CROP RELATED ACCRUAL EXPENSES**  
31 Central Valleys Region Dairy Farms, 2002

Item	Average		My Farm	
	Total Per	Per Tillable Acre	Total Per	Per Tillable Acre
Average number of acres		607		_____
Fertilizer & lime	\$24.46		\$	_____
Seeds & plants	26.31			_____
Spray & other crop expense	<u>15.77</u>			_____
TOTAL	\$66.54		\$	_____

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**  
31 Central Valleys Region Dairy Farms, 2002

Machinery Expense	Average		My Farm	
	Total Expenses	Per Till. Acre	Total Expenses	Per Till. Acre
Fuel, oil & grease	\$ 15,395	\$ 25.36	\$ _____	\$ _____
Mach. repair & vehicle exp.	36,617	60.32	_____	_____
Machine hire, rent & lease	17,198	28.33	_____	_____
Interest (5%)	16,045	26.43	_____	_____
Depreciation	<u>48,521</u>	<u>79.94</u>	_____	_____
Total	\$ 133,776	\$ 220.39	\$ _____	\$ _____

**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**  
31 Central Valleys Region Dairy Farms, 2002

Item	Dairy Cows		Bred		Heifer Open		Calves	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	245	\$ 303,278	60	\$ 72,100	77	\$ 57,007	43	\$ 16,753
+ Change w/o apprec.		14,777		23,367		-4,745		3,253
+ Appreciation		<u>-13,703</u>		<u>-3,691</u>		<u>-3,402</u>		<u>-1,070</u>
End year (owned)	257	\$ 304,352	76	\$ 91,776	72	\$ 48,860	49	\$ 18,936
End including leased	258							
Average number	250		189	(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**  
31 Central Valleys Region Dairy Farms, 2002

Item	Average	My Farm
Total milk sold, lbs.	5,237,181	_____
Milk sold per cow, lbs.	20,968	_____
Average milk plant test, percent butterfat	3.73%	_____

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

**ANIMALS LEAVING THE HERD**  
31 Central Valleys Region Dairy Farms, 2002

Item	Average		My Farm	
	Number	Percent*	Number	Percent*
Cows sold for beef	61	24.4	_____	_____
Cows sold for dairy	1	0.4	_____	_____
Cows died	15	6.0	_____	_____
Culling rate**		30.4		_____

\*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**

31 Central Valleys Region Dairy Farms, 2002

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Cost of Producing Milk</u>						
Operating costs	\$551,659	\$ 2,207	\$ 10.53	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$643,223	\$ 2,573	\$ 12.28	\$ _____	\$ _____	\$ _____
Total Costs	\$764,454	\$ 3,058	\$ 14.60	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts</u>						
<u>From Milk</u>	\$694,687	\$ 2,779	\$ 13.26	\$ _____	\$ _____	\$ _____
Net Milk Receipts	\$655,010	\$ 2,620	\$ 12.51	\$ _____	\$ _____	\$ _____
Net Farm Income without Apprec.	\$ 51,464	\$ 206	\$ 0.98	\$ _____	\$ _____	\$ _____
Net Farm Income with Appreciation	\$ 87,000	\$ 348	\$ 1.66	\$ _____	\$ _____	\$ _____

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**

31 Central Valleys Region Dairy Farms, 2002

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 787	\$ 3.75	\$ _____	\$ _____
Purchased dairy roughage	27	.13	_____	_____
Total Purchased Dairy Feed	\$ 813	\$ 3.88	\$ _____	\$ _____
Purchased grain & conc. as % of milk receipts		28%	_____	%
Purchased feed & crop exp.	\$ 975	\$ 4.65	\$ _____	\$ _____
Purchased feed & crop exp. as % of milk receipts		35%	_____	%
Breeding	\$ 41	\$ .19	\$ _____	\$ _____
Veterinary & medicine	101	.48	_____	_____
Milk marketing	159	.76	_____	_____
Bedding	31	.15	_____	_____
Milking supplies	92	.44	_____	_____
Cattle lease	0	.00	_____	_____
Custom boarding	82	.39	_____	_____
bST	48	.23	_____	_____
Other livestock expense	20	.10	_____	_____

**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**  
31 Central Valleys Region Dairy Farms, 2002

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$298,684	\$6,953	\$2,864	\$6,143
Real estate		2,741		2,421
Machinery & equipment	55,136	1,284	529	

Ratios

Asset turnover	Operating Expense	Interest Expense	Depreciation Expense
.50	.79	.04	.11

My Farm

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

Ratios

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

**LABOR FORCE INVENTORY**  
31 Central Valleys Region Dairy Farms, 2002

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	13.3	50	14	\$32,161
Operator number 2	7.3	46	14	19,887
Operator number 3	4.6	41	13	15,355
Family paid	1.5			
Family unpaid	1.6			
Hired	<u>41.5</u>			
Total	69.8	/ 12 = 5.82 Worker Equivalent 1.99 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

31 Central Valleys Region Dairy Farms, 2002

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	250	43	_____	_____
Milk sold, pounds	5,237,181	899,859	_____	_____
Tillable acres	607	104	_____	_____
Work units	2,510	431	_____	_____

### LABOR AND MACHINERY COSTS

31 Central Valleys Region Dairy Farms, 2002

Labor Costs	Total	Average		Total	My Farm	
		Per Cow	Per Cwt.		Per Cow	Per Cwt.
Value of operator(s) labor (\$2,100/mo.)	\$ 52,920	\$ 212	\$ 1.01	\$ _____	\$ _____	\$ _____
Family unpaid (\$2,100/mo.)	3,360	13	.06	_____	_____	_____
Hired	<u>105,982</u>	<u>424</u>	<u>2.02</u>	_____	_____	_____
Total Labor	\$ 162,262	\$ 649	\$ 3.10	\$ _____	\$ _____	\$ _____
Machinery Cost	\$ <u>133,776</u>	\$ <u>535</u>	\$ <u>2.55</u>	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$ 296,038	\$ 1,184	\$ 5.65	\$ _____	\$ _____	\$ _____
Hired labor expense per hired worker equivalent			\$29,576	\$ _____		
Hired labor expense as % of milk sales			15.3%	_____%		



## COMPARATIVE ANALYSIS OF THE FARM BUSINESS

### Progress of the Farm Business

Comparing your business with average data from regional DFBS cooperators that participated in both of the last two years can be helpful to establishing your goals for these parameters. It is equally important for you to determine the progress your business has made over the past two or three years, to compare this progress to your goals, and to set goals for the future.

### PROGRESS OF THE FARM BUSINESS Same 23 Central Valleys Region Dairy Farms, 2001 & 2002

Selected Factors	Average of 23 Farms*		My Farm		Goal
	2001	2002	2001	2002	
<u>Size of Business</u>					
Average number of cows	237	253	_____	_____	_____
Average number of heifers	174	195	_____	_____	_____
Milk sold, lbs.	5,023,388	5,377,127	_____	_____	_____
Worker equivalent	5.48	5.78	_____	_____	_____
Total tillable acres	572	604	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, lbs.	21,188	21,261	_____	_____	_____
Hay DM per acre, tons	3.1	3.0	_____	_____	_____
Corn silage per acre, tons	16.3	16.3	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	43	44	_____	_____	_____
Milk sold/worker, lbs.	916,677	930,299	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	22%	27%	_____ %	_____ %	_____ %
Dairy feed & crop exp. per cwt. milk	\$ 4.66	\$ 4.58	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,256	\$ 1,210	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 11.37	\$ 10.54	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$ 6,933	\$ 7,125	\$ _____	\$ _____	\$ _____
Mach. & equip. per cow	\$ 1,255	\$ 1,264	\$ _____	\$ _____	\$ _____
Asset turnover ratio	.65	.51	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$ 175,205	\$ 45,328	\$ _____	\$ _____	\$ _____
Net farm income w/apprec.	\$ 263,539	\$ 81,357	\$ _____	\$ _____	\$ _____
Labor & mgt. income per operator/manager	\$ 63,128	\$ -5,111	\$ _____	\$ _____	\$ _____
Rate of return on equity capital w/appreciation	20.8%	1.1%	_____ %	_____ %	_____ %
Rate of return on all capital w/appreciation	14.7%	2.6%	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$1,038,962	\$ 1,034,082	\$ _____	\$ _____	\$ _____
Debt to asset ratio	.40	.44	_____	_____	_____
Farm debt per cow	\$ 2,834	\$ 3,144	\$ _____	\$ _____	\$ _____

\*Farms participating both years.

\*\*Average for the year.

**RECEIPTS AND EXPENSES PER COW AND PER CWT.**  
Same 23 Central Valleys Region Dairy Farms, 2001 & 2002

Item	2001		2002	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	237		253	
Cwt. Of Milk Sold		50,234		53,771
<b><u>ACCRUAL OPERATING RECEIPTS</u></b>				
Milk	\$3,504	\$16.53	\$2,827	\$13.30
Dairy cattle	262	1.24	253	1.19
Dairy calves	30	0.14	28	0.13
Other livestock	1	0.00	1	0.00
Crops	160	0.76	86	0.40
Miscellaneous receipts	<u>159</u>	<u>0.75</u>	<u>264</u>	<u>1.24</u>
Total Receipts	\$4,115	\$19.42	\$3,459	\$16.27
<b><u>ACCRUAL OPERATING EXPENSES</u></b>				
Hired labor	\$442	\$2.09	\$446	\$2.10
Dairy grain & concentrate	769	3.63	766	3.60
Dairy roughage	48	0.22	36	0.17
Nondairy feed	1	0.00	0	0.00
Machine hire/rent/lease	76	0.36	63	0.29
Mach. repair & vehicle exp.	169	0.80	142	0.67
Fuel, oil & grease	66	0.31	60	0.28
Replacement livestock	75	0.36	94	0.44
Breeding	44	0.21	47	0.22
Veterinary & medicine	106	0.50	113	0.53
Milk marketing	148	0.70	157	0.74
Bedding	30	0.14	32	0.15
Milking supplies	79	0.37	102	0.48
Cattle lease	2	0.01	0	0.00
Custom boarding	99	0.47	105	0.49
bST expense	52	0.25	57	0.27
Other livestock expense	30	0.14	17	0.08
Fertilizer & lime	105	0.50	57	0.27
Seeds & plants	30	0.14	74	0.35
Spray/other crop expense	36	0.17	41	0.19
Land, building, fence repair	66	0.31	33	0.16
Taxes	57	0.27	58	0.27
Real estate rent/lease	74	0.35	58	0.27
Insurance	26	0.12	31	0.15
Utilities	70	0.33	73	0.34
Interest paid	192	0.91	138	0.65
Miscellaneous	<u>48</u>	<u>0.22</u>	<u>40</u>	<u>0.19</u>
		<u>3,091</u>		<u>3,091</u>
Total Operating Expenses	\$2,937	\$13.86	\$2,840	\$13.36
Expansion Livestock	86	0.41	32	0.15
Machinery Depreciation	223	1.05	217	1.02
Real Estate Depreciation	<u>130</u>	<u>0.61</u>	<u>190</u>	<u>0.90</u>
		<u>3,091</u>		<u>3,091</u>
Total Expenses	\$3,376	\$15.93	\$3,280	\$15.43
Net Farm Income Without Appreciation	\$739	\$3.49	\$179	\$0.84

### 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 31 Central Valleys Region Dairy Farms, 2002

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
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
14.25	715	15,730,697	24,222	4.2	18	58	1,114,603
6.23	257	5,336,675	21,789	3.2	16	41	858,679
4.41	159	3,110,288	20,623	2.9	15	38	768,052
2.94	92	1,692,472	18,795	2.5	14	31	607,698
1.93	58	1,018,831	14,440	1.8	11	23	407,626

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	
(10)	(10)	(11)	(11)	(10)	(10)	
\$446	20%	\$351	\$911	\$629	\$3.49	
624	25	482	1,207	780	4.18	
750	27	561	1,297	938	4.71	
877	33	627	1,385	1,057	5.08	
1,119	40	1,120	1,945	1,268	6.19	

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income w/Apprec.	Net Farm Inc. w/o Apprec.	Labor & Mgt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	(3)	(3)	(3)	(6)
\$3,254	\$7.77	\$12.43	\$289,972	\$180,676	\$50,823	\$133,605
2,858	8.90	14.07	105,238	69,669	12,984	39,093
2,680	10.16	14.76	44,257	34,856	-579	1,529
2,430	11.36	15.74	23,105	16,778	-9,464	-16,135
1,902	13.32	19.22	-11,196	-30,925	-54,700	-90,798

\*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. Two areas that were examined this year were the source of dairy replacements and the breakdown of the milk income and marketing expenses. Following is a summary of this information.

#### **SOURCE OF DAIRY REPLACEMENTS** 51 New York Dairy Farms, 2002

<u>Animals Entering Herd</u>	Average
Number calving in 2002 for first time	144
Animals purchased, % <sup>1</sup>	14%
Animals raised by farm, % <sup>2</sup>	86%
 <u>Current Heifer Inventory</u>	
Raised on dairy, %	78%
Raised by a custom grower, %	22%

<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, 144 animals calved for the first time in 2002. The breakdown on these animals for source was 14 percent purchased and 86 percent raised by the farm. Of the current heifer inventory, 78 percent were raised on the dairy and 22 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, 122 New York farms filled out a detailed form 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 10 of your farm's DFBS report.

The table on page 26 reports the averages for these different areas. The table on page 27 contains the range for each of the individual lines of the report. This table is in farm business chart format with each item sorted independently and ranked by fifths. Numbers for the different areas will not add to the totals for that quintile or to the net price received because the highest farms for each item were averaged, not the same farms throughout the six areas. This table shows the range of income and expenses received by farms for all the different areas.

For your individual farm, compare your accrual numbers following this same format to look at how you compare to other farms in your region and to identify possible areas to generate additional revenue.

**AVERAGE\* MILK INCOME AND MARKETING REPORT**  
122 New York Dairy Farms, 2002

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
<b>BASE FARM PRICE</b>					
Butterfat	273,825.89	3.73%	\$1.186	\$325,347.65	\$4.43
Protein	220,163.24	3.02%	\$1.950	\$432,700.56	\$5.85
Solids	425,772.20	5.60%	\$0.074	\$25,554.62	\$0.34
<b>Total Component Contribution</b>					\$10.63
<b>PPD</b>	7,485,415.91		\$1.5133	\$103,945.03	\$1.51
<b>Base Farm Price</b>					\$12.14
<b>Premiums</b>					
Quality				\$13,370.19	\$0.15
Volume				\$23,390.19	\$0.21
Market Premiums				\$26,023.65	\$0.23
<b>Total Premiums</b>					\$0.59
<b>BASE FARM PRICE + PREMIUM</b>					\$12.73
<hr style="border-top: 1px dashed black;"/>					
<b>Deductions</b>					
Promo				\$11,229.83	\$0.15
Hauling + Stop Charges.				\$33,153.41	\$0.59
Market Fees & Coop Dues				\$3,716.20	\$0.05
Futures/Contract Fees				\$0.00	\$0.00
<b>Total Deductions</b>					\$0.79
<b>BASE FARM PRICE + PREMIUMS - DEDUCTIONS</b>					\$11.94
<b>Marketing Programs</b>					
Compact				\$121.75	\$0.01
Futures Contracts, Forward Contracting, Etc.				\$14,732.44	\$0.07
<b>Total Marketing Income</b>					\$0.08
<b>Patronage Dividends</b>				\$7,486.69	\$0.12
<b>NET PRICE RECEIVED ON FARM, ALL SOURCES</b>					\$12.14
<b>PPD - Hauling, per cwt.</b>					\$0.92
<b>PPD - Hauling + Market Premiums, per cwt.</b>					\$1.15

\*Each calculation of an average is independent of all others. Therefore, math operations on the detail will not result in the totals. However, detail in the "\$/Cwt of Milk" column will result in the totals.

**MILK PRICE INFORMATION BY QUINTILE\***(Each Category Sorted Independently)  
122 New York Dairy Farms, 2002

	Lowest Quintile	←—————→			Highest Quintile
Butterfat, %	3.51	3.64	3.70	3.80	4.04
Protein, %	2.87	2.93	2.98	3.03	3.29
Other Solids, %	5.06	5.67	5.72	5.75	5.85
Butterfat, \$ per Cwt.	4.13	4.32	4.39	4.51	4.81
Protein, \$ per Cwt.	5.55	5.75	5.84	5.93	6.21
Other solids, \$ per Cwt.	0.30	0.33	0.34	0.35	0.41
<b>Total Component Value per Cwt.</b>	<b>\$10.11</b>	<b>\$10.43</b>	<b>\$10.56</b>	<b>\$10.76</b>	<b>\$11.31</b>
PPD, \$ per Cwt.	1.19	1.27	1.44	1.69	1.99
<b>Base Farm Price per Cwt.</b>	<b>\$11.46</b>	<b>\$11.77</b>	<b>\$12.05</b>	<b>\$12.40</b>	<b>\$13.06</b>
Quality, \$ per Cwt.	0.00	0.06	0.14	0.22	0.33
Volume, \$ per Cwt.	0.00	0.03	0.19	0.30	0.57
Market premium, \$ per Cwt.	0.00	0.06	0.14	0.29	0.68
<b>Total Premium, \$ per Cwt.</b>	<b>0.16</b>	<b>0.36</b>	<b>0.53</b>	<b>0.77</b>	<b>1.15</b>
<b>Base Farm Price + Premiums per Cwt.</b>	<b>\$11.95</b>	<b>\$12.44</b>	<b>\$12.70</b>	<b>\$12.96</b>	<b>\$13.65</b>
Promotion, \$ per Cwt.	0.12	0.15	0.15	0.15	0.19
Hauling, \$ per Cwt.	0.30	0.42	0.51	0.69	1.05
Market fees & coop dues per Cwt.	0.00	0.01	0.05	0.07	0.12
Futures/contract fees, \$ per Cwt.	0.00	0.00	0.00	0.00	0.00
<b>Total Marketing Expenses per Cwt.</b>	<b>\$0.49</b>	<b>\$0.61</b>	<b>\$0.72</b>	<b>\$0.89</b>	<b>\$1.26</b>
<b>Base + Premiums – Deductions per Cwt.</b>	<b>\$11.19</b>	<b>\$11.63</b>	<b>\$11.96</b>	<b>\$12.21</b>	<b>\$12.75</b>
Compact, \$ per Cwt.	0.00	0.00	0.00	0.00	0.05
Futures contract, forward contracting, \$ per Cwt.	0.00	0.00	0.00	0.00	0.37
<b>Total Marketing Income, \$ per Cwt.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.42</b>
<b>Patronage Dividends, \$ per Cwt.</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.05</b>	<b>\$0.55</b>
<b>Net Price Received From All Sources, \$ per Cwt.</b>	<b>\$11.42</b>	<b>\$11.84</b>	<b>\$12.09</b>	<b>\$12.38</b>	<b>\$13.02</b>
<b>PPD - Hauling, \$ per cwt.</b>	<b>0.69</b>	<b>0.83</b>	<b>0.90</b>	<b>1.01</b>	<b>1.20</b>
<b>PPD - Hauling + Market Premiums, \$ per cwt.</b>	<b>0.76</b>	<b>0.95</b>	<b>1.10</b>	<b>1.26</b>	<b>1.71</b>

\*Data for each category are calculated independently of all others. Therefore, summation of individual categories will not equal total categories.

### New York State Farm Business Charts

The Farm Business Chart is a tool which can be used in analyzing a business by drawing a line through the figure in each column which represents the current level of management performance. The figure at the top of each column is the average of the top 10 percent of the 228 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

228 New York Dairy Farms, 2001

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
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
22.2	1,102	25,438,687	25,729	5.2	23	62	1,283,348
12.3	541	12,563,997	24,026	3.9	19	50	1,083,667
9.0	359	7,834,392	23,041	3.4	18	45	962,132
6.5	256	5,274,683	22,088	3.0	18	40	833,763
4.7	171	3,340,082	21,175	2.7	17	37	753,431
-----							
3.9	125	2,344,530	20,106	2.3	16	33	672,647
3.2	92	1,719,337	18,467	2.0	15	31	555,322
2.7	74	1,301,430	16,707	1.8	13	26	474,968
2.1	58	1,003,069	15,187	1.5	12	23	398,143
1.5	40	597,458	12,002	1.0	9	19	296,530

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	
(10)	(10)	(11)	(11)	(10)	(10)	
\$379	14%	\$308	\$848	\$513	\$3.18	
547	20	415	1,061	741	4.22	
647	22	465	1,151	865	4.55	
716	23	511	1,242	943	4.76	
787	24	564	1,311	1,003	4.90	
-----						
833	25	603	1,379	1,043	5.08	
875	27	643	1,461	1,103	5.40	
941	28	698	1,580	1,165	5.74	
1,012	31	766	1,676	1,246	6.09	
1,155	36	1,026	2,051	1,445	7.28	

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

**FARM BUSINESS CHART FOR  
FARM MANAGEMENT COOPERATORS**  
228 New York Dairy Farms, 2001

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.
(10)	(10)	(10)	(10)	(10)	(10)
\$4,157	\$18.09	\$1,252	\$8.04	\$2,161	\$13.06
3,791	16.78	1,736	9.81	2,747	14.22
3,632	16.49	1,970	10.63	2,940	14.92
3,512	16.24	2,182	11.11	3,110	15.48
3,362	16.03	2,320	11.58	3,251	15.99
-----					
3,193	15.90	2,462	12.22	3,392	16.53
3,005	15.77	2,608	12.85	3,517	17.32
2,755	15.61	2,800	13.37	3,676	18.27
2,470	15.36	3,012	14.16	3,872	19.95
1,953	14.77	3,314	16.33	4,261	24.40

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
(3)	(10)	(3)	(3)	(10)	(3)	(3)
\$693,355	\$1,291	0.34	\$1,097,490	\$1,848	\$534,835	\$317,764
298,284	955	0.25	456,774	1,386	203,177	117,915
192,627	796	0.22	301,923	1,190	127,620	65,914
118,119	694	0.18	200,348	1,021	68,113	42,908
84,504	595	0.16	142,381	895	38,822	29,023
-----						
61,836	507	0.14	97,721	785	25,205	18,332
43,582	397	0.11	70,737	662	12,709	8,845
31,429	274	0.08	49,884	558	-2,066	-1,574
13,639	135	0.04	35,789	394	-23,226	-19,328
-16,775	-150	-0.07	5,443	48	-77,610	-67,313

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 33-37.

**Financial Analysis Chart**

The farm financial analysis chart on page 30 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, 10, 14 and 20 of this publication. References to DFBS output page numbers for participating dairy farmers are provided in the table headings.



**FINANCIAL ANALYSIS CHART**  
228 New York Dairy Farms, 2001

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
(8)*	(12)	(8)	(8)	(8)	(5)	(5)	(5)
\$103	\$1,168	9.20	13.72	3%	\$287	47%	27.49
233	819	2.21	2.67	7	963	28	3.78
324	730	1.69	2.21	10	1,551	22	2.80
401	663	1.40	1.79	12	1,889	17	2.14
448	586	1.22	1.53	14	2,255	13	1.72
-----							
510	524	1.09	1.27	16	2,670	10	1.52
572	455	0.92	1.05	17	3,126	7	1.31
610	387	0.77	0.84	19	3,528	2	1.08
680	267	0.51	0.60	23	3,968	-4	0.83
876	-95	-0.81	-0.27	32	5,122	-16	0.39

Solvency				Profitability	
Leverage Ratio*	Percent Equity	Debt/Asset Ratio		Percent Rate of Return with appreciation on:	
		Current & Intermediate	Long Term	Equity	Investment**
(5)	(5)	(5)	(5)	(3)	(3)
0.03	97%	0.03	0.00	43%	23%
0.13	89	0.11	0.00	28	18
0.25	80	0.17	0.05	21	15
0.35	75	0.25	0.16	15	12
0.46	69	0.32	0.27	12	10
-----					
0.62	63	0.38	0.34	9	8
0.81	56	0.43	0.42	6	6
1.01	50	0.50	0.53	3	4
1.30	44	0.59	0.70	-1	1
3.28	30	0.88	1.04	-14	-4

Efficiency (Capital)						
Asset Turnover (ratio)	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow	Change in Net Worth w/Appreciation	Farm Net Worth, End Year	
(11)	(11)	(11)	(11)	(6)	(4)	
.89	\$1,350	\$548	\$4,671	\$819,759	\$4,289,891	
.75	1,960	830	5,616	318,049	2,064,561	
.67	2,261	961	6,105	187,919	1,439,486	
.62	2,486	1,102	6,448	125,567	1,131,698	
.58	2,722	1,288	6,855	95,246	885,892	
-----						
.53	2,985	1,422	7,359	65,194	701,899	
.48	3,552	1,624	8,045	43,718	581,273	
.43	3,057	1,916	8,808	28,624	433,461	
.36	4,748	2,325	9,966	12,411	302,901	
.27	7,714	3,251	13,321	-45,542	153,069	

\*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 32 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 663 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. The small freestall farms showed average profits somewhat lower than the large conventional farm businesses.

Farm business charts have been computed for each of the five housing and herd size categories and are on pages 33-37. 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 48-57 of the 2001 State Summary\*. As herd size increases, the average profitability generally increases (page 48)\*. Net farm income without appreciation averaged \$21,652 per farm for the less than 50 cow farms and \$515,889 per farm for those with more than 600 cows. This relationship generally holds for all measures of profitability including rate of return on capital.

Assets, liabilities and financial measures are presented on pages 52-55\*. All herd size categories saw an increase in net worth during 2001. The largest herd size category experienced an increase in net worth of over \$600,000. However, percent equity went down as herd size increased. The largest herds had 53 percent equity; while the smaller herds averaged 71 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 56-57)\*. The farms with 600 and more cows per farm averaged 39 percent more milk sold per cow than the smallest farms. All of the groups with 150 or more cows averaged above 20,000 pounds of milk sold per cow while the farms smaller than 150 cows averaged 17,940 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 366,333 pounds at the lowest herd size category up to 1,147,193 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, 2001, Department of Applied Economics and Management, Cornell University, R.B. 2002-11, November 2002.

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

212 New York Dairy Farms, 2001

Item	Farms with:	Conventional		Freestall		
		<= 60 Cows	>60 Cows	<=150 Cows	151-300 Cows	≥300 Cows
Number of farms		35	41	36	33	67
<u>Cropping Program Analysis</u>						
Total Tillable acres		161	328	294	623	1,248
Tillable acres rented*		76	143	127	307	598
Hay crop acres*		101	209	158	304	553
Corn silage acres*		20	55	73	190	514
Hay crop, tons DM/acre		2.0	2.1	2.2	2.6	3.2
Corn silage, tons/acre		12.1	14.6	15.8	16.2	16.8
Oats, bushels/acre		48	71	0	61	79
Forage DM per cow, tons		6.2	7.9	7.1	8.1	6.9
Tillable acres/cow		3.5	3.7	2.8	2.8	1.9
Fert. & lime exp./tillable acre		\$15.66	\$24.70	\$26.72	\$34.70	\$35.23
Total machinery costs		\$26,721	\$56,722	\$64,924	\$138,855	\$350,215
Machinery cost/tillable acre		\$166	\$173	\$221	\$223	\$281
<u>Dairy Analysis</u>						
Number of cows		46	88	105	223	663
Number of heifers		30	70	77	168	498
Milk sold, lbs.		772,393	1,596,748	1,937,717	4,782,601	15,044,076
Milk sold/cow, lbs.		16,854	18,100	18,454	21,409	22,697
Operating cost of prod. milk/cwt.		\$10.50	\$11.72	\$12.77	\$11.97	\$12.30
Total cost of prod. milk/cwt.		\$18.60	\$17.44	\$18.12	\$15.75	\$14.96
Price/cwt. milk sold		\$15.81	\$16.21	\$16.40	\$16.01	\$15.94
Purchased dairy feed/cow		\$684	\$769	\$865	\$911	\$963
Purchased dairy feed/cwt. milk		\$4.08	\$4.24	\$4.69	\$4.25	\$4.24
Purchased grain & conc. as % milk rec.		23%	25%	27%	25%	25%
Purchased feed & crop exp./cwt. milk		\$4.74	\$5.17	\$5.52	\$5.18	\$4.98
<u>Capital Efficiency</u>						
Farm capital/worker		\$205,969	\$237,435	\$261,553	\$264,963	\$298,754
Farm capital/cow		\$8,687	\$8,607	\$8,320	\$7,082	\$6,336
Farm capital/tillable acre owned		\$4,701	\$4,094	\$5,263	\$4,997	\$6,462
Real estate/cow		\$4,303	\$3,803	\$3,977	\$2,765	\$2,446
Machinery investment/cow		\$1,803	\$1,769	\$1,642	\$1,454	\$1,074
Asset turnover ratio		0.40	0.44	0.46	0.58	0.70
<u>Labor Efficiency</u>						
Worker equivalent		1.94	3.19	3.34	5.96	14.06
Operator/manager equivalent		1.20	1.60	1.55	1.98	2.31
Milk sold/worker, lbs.		398,141	500,548	580,155	802,450	1,069,991
Cows/worker		24	28	31	37	47
Labor cost/cow		\$966	\$797	\$766	\$702	\$683
Labor cost/tillable acre		\$276	\$214	\$274	\$251	\$363
<u>Profitability &amp; Balance Sheet Analysis</u>						
Net farm income (without appreciation)		\$27,904	\$50,684	\$41,363	\$132,090	\$354,871
Labor & management income/operator		\$3,380	\$9,806	\$2,304	\$37,959	\$103,813
Rate Return on all capital with appreciation		4.4%	6.6%	6.3%	9.7%	14.7%
Farm debt/cow		\$2,253	\$1,980	\$2,476	\$2,343	\$2,939
Percent equity		74%	77%	71%	68%	55%

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

**FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS**  
35 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 2001

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
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
3.03	60	1,245,680	23,789	5.0	22	45	827,791
2.67	56	1,114,154	21,861	3.2	18	36	573,917
2.33	54	1,011,693	20,602	2.9	17	32	502,902
2.17	53	911,947	19,527	2.5	15	26	462,086
2.08	50	807,019	17,338	2.2	14	25	421,719
-----							
2.02	48	752,098	16,216	2.0	13	23	397,822
1.78	43	673,389	15,102	1.8	11	22	359,863
1.54	40	577,962	13,984	1.5	10	21	330,986
1.35	35	533,036	12,852	1.3	8	19	293,167
1.10	31	404,087	10,797	0.9	7	15	207,406
-----							
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		
(10)	(10)	(11)	(11)	(10)	(10)		(10)
\$253	9%	\$235	\$963	\$313	\$2.12		
452	17	374	1,114	538	3.55		
482	20	454	1,342	616	4.18		
528	22	482	1,519	709	4.34		
587	24	559	1,632	821	4.72		
-----							
663	25	639	1,686	892	5.01		
722	27	702	1,719	957	5.60		
770	30	753	1,827	1,018	5.95		
846	33	819	1,986	1,057	6.33		
1,196	41	1,060	2,347	1,463	7.57		
-----							
Value and Cost of Production			Profitability				
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.	
(10)	(10)	(10)	Total	Per Cow	(3)	(6)	
\$3,886	\$6.23	\$13.22	\$65,087	\$1,330	\$40,773	\$68,987	
3,481	8.59	15.56	52,642	1,114	20,880	48,071	
3,161	9.35	15.88	41,747	948	16,972	43,917	
2,987	9.92	17.50	37,922	816	12,592	38,392	
2,801	10.70	18.11	33,433	744	10,095	29,731	
-----							
2,597	11.12	18.87	29,002	671	7,909	24,177	
2,456	11.40	21.38	22,857	522	2,894	18,291	
2,264	11.90	22.75	17,034	393	-9,310	9,076	
1,933	13.52	23.99	10,451	248	-18,177	870	
1,709	15.37	27.08	-8,317	-180	-39,146	-9,674	

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

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

41 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 2001

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
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
5.93	160	3,012,877	23,731	4.2	24	45	808,670
4.11	107	1,960,563	22,373	3.4	20	37	748,856
3.78	96	1,792,785	20,947	2.9	19	33	677,622
3.40	89	1,700,932	19,247	2.5	18	32	603,240
3.15	81	1,576,875	18,410	2.2	16	29	512,111
-----							
2.89	76	1,454,477	17,459	2.0	15	28	485,483
2.61	74	1,297,603	16,522	1.9	14	27	432,325
2.44	71	1,219,837	16,034	1.7	13	25	403,315
2.18	69	1,140,095	15,213	1.3	12	23	364,184
1.76	65	968,499	12,615	0.8	10	19	320,460
-----							
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		
(10)	(10)	(11)	(11)	(10)	(10)		(10)
\$463	16%	\$347	\$1,010	\$616	\$3.53		
579	21	419	1,137	727	4.33		
615	23	474	1,243	810	4.57		
664	24	527	1,314	883	4.73		
724	24	558	1,414	941	4.89		
-----							
773	26	589	1,477	969	5.10		
828	27	660	1,556	1,047	5.52		
860	29	721	1,598	1,086	5.98		
909	31	822	1,685	1,141	6.66		
1,071	38	1,277	2,129	1,214	7.90		
-----							
Value and Cost of Production			Profitability				
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.	
(10)	(10)	(10)	Total (3)	Per Cow (10)	(3)	(6)	
\$3,784	\$8.86	\$14.29	\$153,466	\$1,226	\$59,155	\$190,468	
3,615	9.61	15.08	85,246	1,035	39,571	107,429	
3,350	10.41	15.96	64,686	848	30,194	82,211	
3,117	10.66	16.38	57,634	727	23,697	60,509	
2,970	11.15	16.81	48,402	619	19,165	44,293	
-----							
2,846	12.20	17.50	41,736	537	8,984	36,885	
2,707	12.88	18.95	37,701	466	1,811	31,218	
2,590	13.38	19.68	26,773	264	-8,159	21,903	
2,455	14.27	20.66	11,713	155	-23,515	12,476	
2,091	16.51	23.14	-6,281	-89	-49,622	-11,054	

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

**FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS**  
36 Freestall Barn Dairy Farms with 150 or Less Cows, New York, 2001

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
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
5.71	147	3,125,999	25,923	4.1	22	52	972,992
4.33	138	2,805,027	22,303	3.3	19	47	838,821
4.08	134	2,598,943	21,628	3.1	19	39	750,939
3.85	128	2,378,198	21,061	2.8	18	36	677,019
3.61	121	2,199,576	20,054	2.5	17	34	637,439
-----							
3.39	111	1,922,201	18,868	2.3	17	33	530,462
3.04	96	1,702,079	17,351	1.9	15	30	502,684
2.73	85	1,421,135	15,864	1.8	13	26	487,951
2.24	71	1,216,851	14,431	1.4	11	23	438,031
1.61	51	796,487	11,195	0.9	5	20	345,091
-----							
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		
(10)	(10)	(11)	(11)	(10)	(10)		
\$395	16%	\$373	\$843	\$569	\$3.80		
540	22	451	1,163	748	4.72		
635	24	507	1,279	851	5.00		
685	25	583	1,307	926	5.26		
791	26	610	1,348	1,021	5.53		
-----							
830	27	642	1,431	1,070	5.78		
948	28	697	1,553	1,174	5.95		
1,015	30	740	1,631	1,233	6.29		
1,071	32	832	1,803	1,339	6.56		
1,282	36	1,116	2,259	1,543	7.58		
-----							
Value and Cost of Production			Profitability				
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.	
(10)	(10)	(10)	Total	Per Cow	(3)	(6)	
\$4,090	\$8.58	\$14.01	\$151,837	\$1,325	\$75,610	\$169,291	
3,697	10.10	15.62	95,986	863	45,382	127,063	
3,485	11.57	16.85	81,934	798	31,267	109,818	
3,401	12.08	17.51	67,579	699	22,582	94,812	
3,277	13.03	17.92	56,983	496	11,485	69,980	
-----							
3,072	13.37	18.46	38,071	361	342	55,082	
2,905	14.03	19.78	18,038	237	-11,976	37,412	
2,618	14.92	20.49	6,509	71	-19,996	22,873	
2,364	16.14	21.74	-2,877	-21	-32,505	5,401	
1,903	20.27	31.09	-42,456	-423	-89,582	-103,806	

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

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

33 Freestall Barn Dairy Farms with 151-300 Cows, New York, 2001

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv- alent (11)*	No. of Cows (11)	Pounds Milk Sold (11)	Pounds Milk Sold Per Cow (10)	Tons Hay Crop DM/Acre (9)	Tons Corn Silage Per Acre (9)	Cows Per Worker (11)	Pounds Milk Sold Per Worker (11)
10.22	289	7,255,336	26,610	4.9	22	63	1,166,961
7.65	279	6,558,208	24,402	4.1	19	50	1,002,135
7.24	258	6,068,019	24,010	3.7	18	45	934,842
6.39	244	5,425,361	23,241	3.0	17	42	883,666
6.08	237	4,874,783	22,217	2.7	17	39	828,288
-----							
5.71	229	4,548,429	21,488	2.5	16	38	797,911
5.21	220	4,143,400	20,649	2.4	15	37	782,355
4.86	203	3,806,040	19,634	2.1	14	35	743,254
4.41	168	3,513,009	18,225	1.7	13	32	695,570
3.57	156	2,982,254	15,576	1.4	11	25	565,423

Cost Control						
Grain Bought Per Cow (10)	% Grain is of Milk Receipts (10)	Machinery Costs Per Cow (11)	Labor & Machinery Costs Per Cow (11)	Feed & Crop Expenses Per Cow (10)	Feed & Crop Expenses Per Cwt. Milk (10)	
\$544	16%	\$328	\$800	\$771	\$3.48	
688	18	425	1,021	908	4.16	
764	21	540	1,184	978	4.56	
788	24	605	1,318	1,016	4.87	
819	26	651	1,394	1,051	5.11	
-----						
856	28	693	1,435	1,100	5.65	
922	29	713	1,505	1,153	5.71	
996	31	767	1,582	1,249	5.86	
1,022	31	846	1,641	1,352	6.46	
1,140	34	965	1,769	1,590	7.66	

Value and Cost of Production			Profitability				
Milk Receipts Per Cow (10)	Oper. Cost Milk Per Cwt. (10)	Total Cost Production Per Cwt. (10)	Net Farm Income Without Apprec. Total (3)		Per Cow (10)	Labor & Mgmt. Inc. Per Oper. (3)	Change in Net Worth w/Apprec. (6)
\$4,346	\$8.73	\$12.69	\$325,074	\$1,389	\$133,577	\$218,584	
3,877	10.53	14.32	254,431	1,069	83,691	198,816	
3,746	10.98	15.09	189,385	817	68,669	158,386	
3,666	11.37	15.66	172,176	756	57,389	133,301	
3,571	12.14	15.87	142,906	618	49,017	111,145	
-----							
3,368	12.60	16.45	125,827	533	38,343	101,431	
3,262	13.01	16.66	104,666	459	25,932	93,982	
3,158	13.35	17.06	76,465	388	12,611	70,998	
2,950	14.22	17.77	43,192	206	-243	46,897	
2,554	15.38	19.07	-15,762	-57	-52,845	-10,901	

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

**FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS**  
67 Freestall Barn Dairy Farms with 300 or More Cows, New York, 2001

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
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
31.70	1,710	39,350,324	26,320	6.0	22	70	1,478,169
22.13	1,076	24,363,043	24,767	4.4	20	56	1,251,515
17.60	808	18,881,814	24,192	4.0	19	54	1,185,411
14.61	660	15,605,295	23,822	3.7	18	50	1,125,973
12.93	588	13,741,854	23,199	3.4	17	47	1,097,178
11.99	512	11,901,392	22,697	3.1	17	45	1,058,473
10.57	440	10,081,298	22,150	2.9	16	43	1,000,299
9.38	395	8,489,732	21,429	2.5	15	41	925,209
7.65	353	7,436,917	20,578	2.0	14	37	816,506
6.21	317	5,940,943	16,525	1.5	12	32	658,499
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		
(10)	(10)	(11)	(11)	(10)	(10)		
\$604	19%	\$341	\$850	\$812	\$4.01		
781	22	428	1,034	980	4.59		
830	23	459	1,117	1,025	4.74		
853	24	502	1,157	1,050	4.83		
881	25	559	1,199	1,105	4.91		
916	26	584	1,255	1,144	5.00		
953	26	611	1,303	1,186	5.14		
991	27	633	1,359	1,228	5.30		
1,054	28	678	1,420	1,299	5.54		
1,139	31	748	1,577	1,390	5.86		
Value and Cost of Production			Profitability				
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.	
(10)	(10)	(10)	Total	Per Cow	(3)	(6)	
\$4,272	\$9.77	\$12.78	\$1,165,364	\$1,207	\$569,366	\$1,471,396	
4,045	10.82	13.68	658,291	843	275,764	679,052	
3,845	11.24	14.14	455,885	754	208,088	536,609	
3,706	11.64	14.53	383,865	656	159,542	453,655	
3,600	12.16	14.92	303,367	603	127,864	363,764	
3,561	12.59	15.19	256,914	543	93,391	283,618	
3,495	12.93	15.83	215,483	437	60,322	223,933	
3,373	13.51	16.16	152,016	317	36,580	175,029	
3,238	13.93	16.62	104,375	192	16,373	132,745	
2,838	14.61	18.13	26,708	45	-79,706	-3,491	

\*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 24 and 28-30 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 12)

**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 14)

**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 18)

**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 14)

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

**Debt to Asset Ratios** - (defined on page 10)

**Deferred Taxes** - (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 10)

**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 19)

**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 19)

**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 19)

**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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