

# DAIRY FARM BUSINESS SUMMARY

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## NORTHERN NEW YORK REGION



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## NORTHERN NEW YORK

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1992 DAIRY FARM BUSINESS SUMMARY  
NORTHERN NEW YORK\*

INTRODUCTION

Dairy farmers 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 the farm business. The information in this report represents an average of the data submitted from dairy farms in the Western Plain Region for 1992.

**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 farm data and the application of modern farm business analysis techniques. In short, DFBS identifies business and financial information farmers need and demonstrates how it should be used in identifying and evaluating strengths and weaknesses of the farm business.

**Format Features**

This regional report follows the same general format as in the 1992 DFBS printout received by all 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. 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 cash flow summary including debt repayment ability;
- (4) an analysis of crop acreage, yields, and expenses;
- (5) an analysis of dairy livestock numbers, production, and expenses; and
- (6) a capital and labor efficiency analysis.

Micro DFBS, a computer program which enables Cooperative Extension agents and specialists to calculate and print individual farm business reports in their offices, is now being used by the dairy farm management field staff for nearly 100 percent of the farms cooperating. This innovative approach provides faster processing of farm record data and increased use of the DFBS in farm management programs.

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\*Northern New York, with the number of participating farms in parentheses, is comprised of Franklin (29), Jefferson (21), Lewis (13), and St. Lawrence (14) Counties. This report was written by Stuart F. Smith, Senior Extension Associate, Farm Management. Linda Putnam was in charge of data preparation. Karen Herzog and Beverly Carcelli prepared the publication. Farm business data were collected by Cooperative Extension agents Russell Coombe, George Yarnall, Pat Beyer, and LouAnne King.

## 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  
77 Northern New York Dairy Farms, 1992

<u>Type of Farm</u>	<u>Number</u>	<u>Type of Barn</u>	<u>Number</u>
Dairy	77	Stanchion/Tie-Stall	51
Part-time dairy	0	Freestall	23
Dairy cash-crop	0	Combination	3
Part-time cash-crop dairy	0		
<u>Type of Ownership</u>	<u>Number</u>	<u>Milking System</u>	<u>Number</u>
Owner	72	Bucket & carry	0
Renter	5	Dumping station	4
		Pipeline	49
		Herringbone parlor	20
		Other parlor	4
<u>Type of Business</u>	<u>Number</u>	<u>Milking Frequency</u>	<u>Number</u>
Single proprietorship	65	2x/day	61
Partnership	11	3x/day	14
Corporation	1	Other	2
<u>Business Record System</u>	<u>Number</u>	<u>Production Records</u>	<u>Number</u>
ELFAC II	0	DHIC	60
Account Book	45	Owner-Sampler	9
Agrifax (mail-in only)	3	Other	4
On-Farm Computer	17	None	4
Other	12		

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, 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 1992.

Change in inventory: Increases in inventories of supplies and other purchased inputs are subtracted in computing accrual expenses because they represent an increase in 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**  
 77 Northern New York Dairy Farms, 1992

Expense Item	Cash Paid +	Change in Inventory or Prepaid Expense* +	Change in Accounts Payable =	Accrual Expenses
<u>Hired Labor</u>	\$23,615	\$0 <<	\$-36	\$23,579
<u>Feed</u>				
Dairy grain & conc.	64,742	-65	-41	64,636
Dairy roughage	1,966	-128	-188	1,650
Nondairy	117	3	0	120
<u>Machinery</u>				
Mach. hire, rent/lease	3,252	0 <<	-28	3,224
Machinery repairs/parts	13,651	19	-204	13,466
Auto exp. (farm share)	1,320	0 <<	0	1,320
Fuel, oil & grease	5,243	118	-64	5,297
<u>Livestock</u>				
Replacement livestock	2,906	0 <<	44	2,950
Breeding	2,874	-42	-21	2,811
Vet & medicine	4,963	-23	38	4,978
Milk marketing	6,898	0 <<	0	6,898
Cattle lease/rent	62	0 <<	0	62
Other livestock expense	11,813	-24	-169	11,620
<u>Crops</u>				
Fertilizer & lime	4,837	-24	75	4,888
Seeds & plants	2,859	26	-55	2,830
Spray, other crop exp.	3,395	-193	0	3,202
<u>Real Estate</u>				
Land/bldg./fence repair	4,190	22	5	4,217
Taxes	6,146	-4 <<	177	6,319
Rent & lease	3,511	5 <<	-43	3,473
<u>Other</u>				
Insurance	4,446	0 <<	30	4,476
Telephone (farm share)	638	0 <<	2	640
Electricity (farm share)	6,273	0 <<	38	6,311
Interest paid	15,499	0 <<	0	15,499
Miscellaneous	3,717	17	11	3,745
Total Operating	\$198,933	\$-293	\$-429	\$198,211
Expansion livestock	2,671	0 <<	0	2,671
Machinery depreciation				13,752
Building depreciation				6,443
<b>TOTAL ACCRUAL EXPENSES</b>				<b>\$221,077</b>

Change in prepaid expenses (noted above by <<) is a net change in non-inventory expenses that have been paid in advance of their use, for example, 1993 rent paid in 1992. If 1992 funds used to prepay 1993 rent exceeded the amount of 1992 rent prepaid in 1991, the amount of this excess is entered as a negative number to exclude it from 1992 accrual rental expenses. The excess prepaid rent should be charged against the future year's business operation. A decrease in prepaid rent is added to accrual expenses because it represents use of resources during this year that were paid for in past years.

Change in accounts payable: An increase in accounts payable from beginning to end of year is added and a decrease is subtracted when calculating accrual expenses.

Accrual expenses are the costs of inputs actually used in this year's production. They are the total of cash paid, as well as changes in inventory, prepaid expenses, and accounts payable.

**CASH AND ACCRUAL FARM RECEIPTS**  
**77 Northern New York Dairy Farms, 1992**

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$224,268				\$-819		\$223,449
Dairy cattle	15,227		\$4,509		57		19,793
Dairy calves	3,689				-4		3,685
Other livestock	728		170		-64		834
Crops	2,200		2,785		-47		4,938
Government receipts	1,737		0*		15		1,752
Custom machine work	588				-7		581
Gas tax refund	74				-1		73
Other	2,245				32		2,277
Less nonfarm noncash cap.**		(-)	183			(-)	183
Total Receipts	\$250,756		\$7,281		\$-838		\$257,199

\*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 annual increase in advanced government receipts is subtracted from cash income because it represents income received in 1992 for the 1993 crop year in excess of funds earned for 1992. Likewise, a decrease is added to cash government receipts because it represents funds earned for 1992 but received in 1991.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. The January milk check for this December's marketings compared with the previous January's check is included as a change in accounts receivable.

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 selected determines profitability. 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. 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.

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, financing, and owning 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.

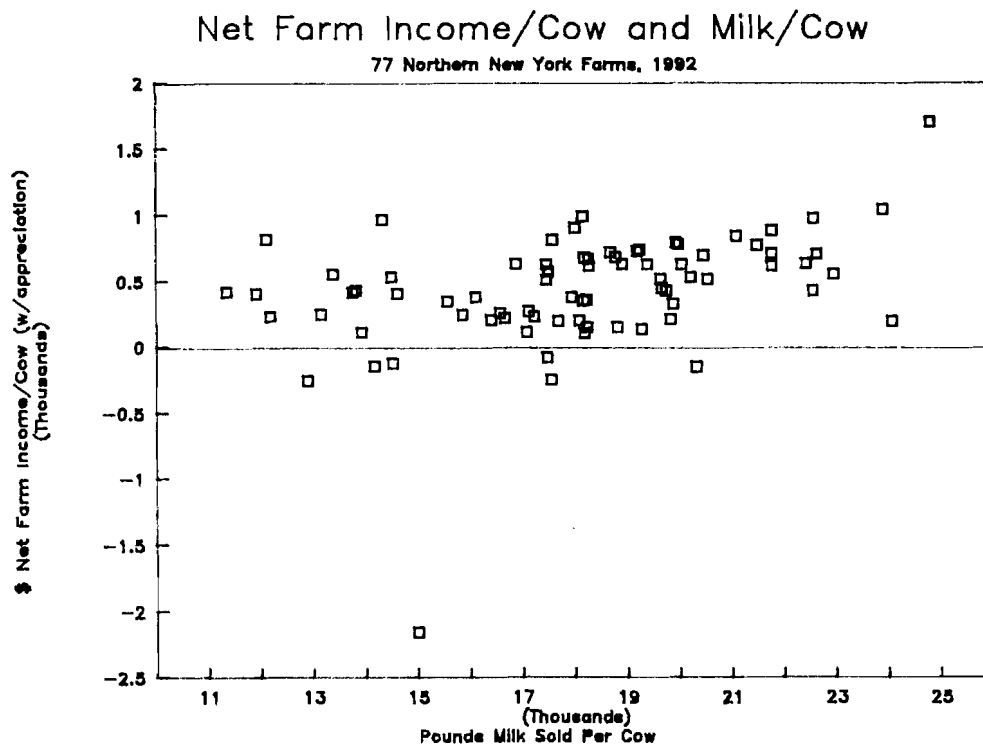
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of live-stock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit). Appreciation is a major factor contributing to changes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

### NET FARM INCOME

77 Northern New York Dairy Farms, 1992

Item	Average	My Farm
Total accrual receipts	\$257,199	\$ _____
Appreciation: Livestock	585	_____
Machinery	1,727	_____
Real Estate	4,226	_____
Other Stock/Certificates	58	_____
Total Including Appreciation	\$263,795	\$ _____
Total accrual expenses	- 221,077	- _____
Net Farm Income (with appreciation)	\$42,718	\$ _____
Net Farm Income (without appreciation)	\$36,122	\$ _____

The chart below shows the relationship between net farm income per cow (with appreciation) and pounds of milk sold per cow. Generally, farms with a higher production per cow have higher profitability per cow.





Return to operators' labor, management, and equity capital measures the total net farm income for the farm operator(s). It is calculated by deducting a charge for unpaid family labor from net farm income. Operators' labor is not included in unpaid family labor. Return to operators' labor, management, and equity capital has been calculated both with and without appreciation. Appreciation is an important part of the return to ownership of farm assets.

**RETURN TO OPERATORS' LABOR, MANAGEMENT, AND EQUITY**  
77 Northern New York Dairy Farms, 1992

Item	Average		My Farm	
	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	\$ 42,718	\$36,122	\$ _____	\$ _____
Family labor unpaid @ \$1,350 per month	- 4,590	- 4,590	- _____	- _____
Return to operators' labor, management, & equity	\$ 38,128	\$ 31,532	_____	\$ _____

Labor and management income is the return which farm operators receive for their labor and management used in operating 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 the opportunity cost of using equity capital, at a real interest rate of five percent, from the return to operators' labor, management, and equity capital 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**  
77 Northern New York Dairy Farms, 1992

Item	Average	My Farm
Return to operators' labor, management, & equity without appreciation	\$ 31,532	\$ _____
Real interest @ 5% on \$310,525 average equity capital	- 15,526	- _____
Labor & Management Income	\$ 16,006	\$ _____
Labor & Management Income per 1.25 Operator	\$ 12,805	\$ _____

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 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 or equity capital. Return on total capital is calculated by adding interest paid to the return on equity capital and then dividing by average farm assets to calculate the rate of return on total capital.

**RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL**  
77 Northern New York Dairy Farms, 1992

<u>Item</u>	<u>Average</u>	<u>My Farm</u>
Return to operators' labor, management, & equity capital with appreciation	\$ 38,128	\$ _____
Value of operators' labor & management	- 27,806	- _____
Return on equity capital with appreciation	\$ 10,322	\$ _____
Interest paid	\$ 15,499	\$ _____
Return on total capital with appreciation	\$ 25,821	\$ _____
Return on equity capital without appreciation	\$ 3,726	\$ _____
Return on total capital without appreciation	\$ 19,225	\$ _____
Rate of return on average equity capital:		
with appreciation	3.3%	_____ %
without appreciation	1.2%	_____ %
Rate of return on average total capital:		
with appreciation	4.9%	_____ %
without appreciation	3.6%	_____ %

**Farm and Family Financial Status**

The first step in evaluating the financial position of the farm is to construct a balance sheet which identifies 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 1992, leases were discounted by 8.5 percent.

Advanced government receipts are included as current liabilities. Government payments received in 1992 that are for participation in the 1993 program are the end year balance and payments received in 1991 for participation in the 1992 program are the beginning year balance.

**1992 FARM BUSINESS & NONFARM BALANCE SHEET**  
**77 Northern New York Dairy Farms, 1992**

<u>Farm Assets</u>			<u>Farm Liabilities &amp; Net Worth</u>		
	Jan. 1	Dec. 31		Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$3,527	\$4,168	Accounts payable	\$5,626	\$5,196
Accounts rec.	17,434	16,596	Operating debt	4,954	4,716
Prepaid exp.	51	49	Short-term	1,846	1,663
Feed & supplies	40,317	43,395	Advanced govt. rec.	0	0
Total	\$61,329	\$64,208	Total	\$12,426	\$11,575
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$93,383	\$97,271	1-10 years	\$98,016	\$96,665
leased	58	0	Financial lease		
Heifers	40,705	41,916	(cattle/mach.)	3,312	3,042
Bulls/other 1vstk.	769	934	Farm Credit stock	587	603
Mach./eq. owned	105,478	109,964	Total	\$101,915	\$100,310
Mach./eq. leased	3,254	3,042			
Farm Credit stock	587	603			
Other stock/cert.	1,873	1,932			
Total	\$246,107	\$255,662			
<u>Long-Term</u>			<u>Long Term</u>		
Land/buildings:			Structured debt		
owned	\$212,374	\$215,317	>10 yrs	\$104,426	\$103,295
leased	1,727	1,220	Financial lease		
Total	\$214,101	\$216,537	(structures)	1,727	1,220
Total Farm Assets	\$521,537	\$536,407	Total	\$106,153	\$104,515
			Total Farm Liab.	\$220,494	\$216,400
			FARM NET WORTH	\$301,043	\$320,007

**Nonfarm Assets, Liabilities & Net Worth (Average of 43 farms reporting)**

<u>Assets</u>			<u>Liabilities &amp; Net Worth</u>		
	Jan. 1	Dec. 31		Jan. 1	Dec. 31
Personal cash, chkg. & savings	\$6,720	\$6,336	Nonfarm Liab.	\$4,211	\$4,100
Cash value life ins.	8,727	9,361			
Nonfarm real estate	10,651	10,535			
Auto (personal sh.)	5,684	5,995			
Stocks & bonds	7,524	8,523			
Household furn.	12,219	12,144			
All other	2,540	6,635			
Total Nonfarm	\$54,066	\$59,528	NONFARM NET WORTH	\$49,855	\$55,428

<u>Farm &amp; Nonfarm Assets, Liabilities, &amp; Net Worth*</u>		
	Jan. 1	Dec. 31
Total Assets	\$575,603	\$595,935
Total Liabilities	224,705	220,500
TOTAL FARM & NONFARM NET WORTH	\$350,898	\$375,435

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

Balance sheet analysis involves examination of relative asset and debt levels for the business. Percent equity is calculated by dividing end of year net worth by end of year assets and multiplying by 100. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect business solvency and the potential capacity to borrow. Debt levels per productive unit represent old standards that are still useful if used with measures of cash flow and repayment ability.

**BALANCE SHEET ANALYSIS**  
77 Northern New York Dairy Farms, 1992

Item	Average	My Farm
<u>Financial Ratios - Farm:</u>		
Percent equity	60%	_____ %
Debt/asset ratio: total	.40	_____
long-term	.48	_____
intermediate/current	.35	_____
<u>Farm Debt Analysis:</u>		
Accounts payable as % of total debt	2%	_____ %
Long-term liabilities as a % of total debt	48%	_____ %
Current & inter. liab. as a % of total debt	52%	_____ %
	Per Tillable	Per Tillable
<u>Farm Debt Levels:</u>	<u>Per Cow</u>	<u>Per Cow</u>
Total farm debt	\$2,378	\$ _____
Long-term debt	1,149	_____
Intermediate & current debt	1,230	_____

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**  
77 Northern New York Dairy Farms, 1992

Item	Average of Region's Farms	
	<u>Real Estate</u>	<u>Machinery &amp; Equipment</u>
Value beg. of year	\$212,374	\$105,478
Purchases	\$9,055*	\$17,405
Gift/inheritance	+ 357	+ 0
Lost capital	- 2,969	- --
Net sales	- 1,284	- 895
Depreciation	- 6,443	- 13,752
Net investment	= -1,284	= 2,758
Appreciation	+ 4,226	+ 1,727
Value end of year	\$215,317	\$109,964

\*\$922 land and \$8,133 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 interrelated and 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) and (3) increases or decreases in the value (price) of assets owned by the business (called change in valuation equity).

The change in farm net worth without appreciation is an excellent indicator of farm generated financial progress.

#### STATEMENT OF OWNER EQUITY (RECONCILIATION)

77 Northern New York Dairy Farms, 1992

Item	Average	My Farm
Beginning of year farm net worth	\$ 301,043	\$ _____
Net farm income w/o apprec. \$ 36,122		\$ _____
+Nonfarm cash income + 9,280		+ _____
-Personal withdrawals & family expenditures excluding non-farm borrowings - 30,352		- _____
RETAINED EARNINGS	+\$ 15,050	+\$ _____
Nonfarm noncash transfers to farm \$ 540		\$ _____
+Cash used in business from nonfarm capital + 1,289		+ _____
-Note/mortgage from farm real estate sold (nonfarm) - 312		- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+\$ 1,517	+\$ _____
Appreciation \$ 6,596		\$ _____
-Lost capital - 2,969		- _____
CHANGE IN VALUATION EQUITY	+\$ 3,627	+\$ _____
IMBALANCE/ERROR	-\$ 1,230	-\$ _____
End of year farm net worth*	=\$ 320,007	=\$ _____
Change in net worth with apprec.	\$ 18,964	\$ _____
<u>Change in Net Worth</u>		
Without appreciation	\$ 12,368	\$ _____
With appreciation	\$ 18,964	\$ _____

\*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**  
77 Northern New York Dairy Farms, 1992

<u>Item</u>	<u>Average</u>	
<u>Cash Flow from Operating Activities</u>		
Cash farm receipts	\$ 250,756	
- Cash farm expenses	<u>198,933</u>	
= Net cash farm income		\$ 51,822
Nonfarm income	\$ 9,280	
- Personal withdrawals/family expenses including nonfarm debt payments	<u>30,546</u>	
+ Net cash nonfarm income		\$ <u>-21,266</u>
= Net Provided by Operating Activities		\$ 30,556
<u>Cash Flow From Investing Activities</u>		
Sale of assets: Machinery	\$ 895	
+ real estate	972	
+ other stock/cert.	<u>69</u>	
= Total asset sales		\$ 1,936
Capital purchases: expansion livestock	\$ 2,671	
+ machinery	17,405	
+ real estate	9,055	
+ other stock/cert.	<u>70</u>	
- Total invested in farm assets		\$ <u>29,201</u>
= Net Provided by Investment Activities		\$ - 27,265
<u>Cash Flow From Financing Activities</u>		
Money borrowed (inter. & long-term)	\$ 24,676	
+ Money borrowed (short-term)	1,623	
+ Increase in operating debt	0	
+ Cash from nonfarm cap. used in business	1,289	
+ Money borrowed - nonfarm	<u>194</u>	
= Cash inflow from financing		\$ 27,782
Principal payments (inter. & long-term)	\$ 27,158	
+ Principal payments (short-term)	1,806	
+ Decrease in operating debt	<u>283</u>	
- Cash outflow for financing		\$ <u>29,202</u>
= Net Provided by Financing Activities		\$ -1,420
<u>Cash Flow From Reserves</u>		
Beginning farm cash, checking & savings	\$ 3,527	
- Ending farm cash, checking & savings	<u>4,168</u>	
= Net Provided from Reserves		\$ <u>-641</u>
<u>Imbalance (error)</u>		\$ 1,230

## ANNUAL CASH FLOW STATEMENT

Item	My Farm
<u>Cash Flow from Operating Activities</u>	
Cash farm receipts	\$ _____
- Cash farm expenses	_____
= Net cash farm income	\$ _____
Nonfarm income	\$ _____
- Personal withdrawals/family expenses including nonfarm debt payments	_____
+ Net cash nonfarm income	\$ _____
= 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 (inter. & long-term)	\$ _____
+ Money borrowed (short-term)	_____
+ Increase in operating debt	_____
+ Cash from nonfarm cap. used in business	_____
+ Money borrowed - nonfarm	_____
= Cash inflow from financing	\$ _____
Principal payments (inter. & 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	\$ _____
<u>Imbalance (error)</u>	\$ _____

**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 1993. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1993 debt payments shown below.

**FARM DEBT PAYMENTS PLANNED**

Same 64 Northern New York Dairy Farms, 1991 and 1992

Debt Payments	Average			My Farm		
	1992 Payments Planned	1992 Payments Made	Planned 1993	1992 Payments Planned	1992 Payments Made	Planned 1993
Long-term	\$14,332	\$17,405	\$13,272	\$ _____	\$ _____	\$ _____
Intermediate-term	24,532	26,496	26,345	_____	_____	_____
Short-term	1,363	2,123	1,125	_____	_____	_____
Operating (net reduction)	1,694	180	1,710	_____	_____	_____
Accounts payable (net reduction)	1,013	257	241	_____	_____	_____
Total	\$42,934	\$46,461	\$42,692	\$ _____	\$ _____	\$ _____
Per cow	\$472	\$511		\$ _____	\$ _____	
Per cwt. 1992 milk	\$2.50	\$2.70		\$ _____	\$ _____	
Percent of total 1992 receipts	16%	18%		_____	_____	
Percent of 1992 milk receipts	19%	20%		_____	_____	

The cash flow coverage ratio measures the ability of the farm business to meet its planned debt payment schedule. The ratio shows the percentage of payments planned for 1992 (as of December 31, 1991) that could have been made with the amount available for debt service in 1992. Farmers who did not participate in DFBS in 1991 have their 1992 cash flow coverage ratio based on planned debt payments for 1993.

**CASH FLOW COVERAGE RATIO**

Same 64 Northern New York Dairy Farms, 1991 and 1992

Item	Average	My Farm
Cash farm receipts	\$258,116	\$ _____
- Cash farm expenses	204,187	_____
+ Interest paid	15,779	_____
- Net personal withdrawals from farm**	21,028	_____
(A) = Amount Available for Debt Service	\$48,680	\$ _____
(B) = Debt Payments Planned for 1992 (as of December 31, 1991)	\$42,934	\$ _____
(A ÷ B) = Cash Flow Coverage Ratio for 1992	1.13	_____

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



## ANNUAL CASH FLOW WORKSHEET

Item	Regional Average	My Farm		Expected Change	1993 Projection
		Total	Per Cow		
	(per cow)				
Average number of cows	89.1				
<u>Accrual Oper. Receipts</u>					
Milk	\$2,507.85	\$	\$		\$
Dairy cattle	222.14				
Dairy calves	41.36				
Other livestock	9.37				
Crops	55.41				
Misc. receipts	52.56				
Total	\$2,888.68	\$	\$		\$
<u>Accrual Oper. Expenses</u>					
Hired labor	\$264.64	\$	\$		\$
Dairy grain & conc.	725.43				
Dairy roughage	18.52				
Nondairy feed	1.35				
Mach. hire/rent/lease	36.20				
Mach. rpr./parts & auto	165.95				
Fuel, oil & grease	59.46				
Replacement lvstk.	33.11				
Breeding	31.55				
Vet & medicine	55.87				
Milk marketing	77.42				
Cattle lease	.70				
Other livestock exp.	130.42				
Fertilizer & lime	54.86				
Seeds & plants	31.75				
Spray/other crop exp.	35.95				
Land, bldg., fence repair	47.33				
Taxes	70.92				
Real estate rent/lease	38.98				
Insurance	50.24				
Utilities	78.00				
Miscellaneous	42.04				
Total Less Int. Paid	\$2,050.69				\$
<u>Net Accrual Operating Income</u>	(total)				
(without interest paid)	\$74,669	\$			\$
- Change in lvstk./crop inv.*	7,281				
- Change in accts. rec.	-838				
+ Change in feed/supply inv.**	-293				
+ Change in accts. payable***	-429				
NET CASH FLOW	\$67,504	\$			\$
- Net personal withdrawals from farm (see footnote on pg. 13)	21,072				
Available for Farm Debt					
Payments & Investments	\$46,432	\$			\$
- Farm debt payments	44,523				
Available for Farm Investment	\$1,909	\$			\$
- Capital purchases: cattle, machinery & improvements	\$29,201				
Additional Capital Needed		\$			\$

\*Includes change in advance government receipts.

\*\*Includes change in prepaid expenses.

\*\*\*Excludes change in interest account payable.

### Cropping Analysis

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

#### LAND RESOURCES AND CROP PRODUCTION 77 Northern New York Dairy Farms, 1992

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	179	83	261	_____	_____	_____
Nontillable	41	10	50	_____	_____	_____
Other nontillable	103	14	118	_____	_____	_____
Total	322	107	429	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Prod/Acre</u>	<u>Acres</u>	<u>Prod/Acre</u>	
Hay crop	76	153	2.78 tn DM	_____	_____	tn DM
Corn silage	62	77	14.83 tn	_____	_____	tn
			4.87 tn DM	_____	_____	tn DM
Other forage	14	25	1.33 tn DM	_____	_____	tn DM
Total forage	76	220	3.32 tn DM	_____	_____	tn DM
Corn grain	14	101	73.90 bu	_____	_____	bu
Oats	8	35	52.47 bu	_____	_____	bu
Wheat	2	19	26.53 bu	_____	_____	bu
Other crops	11	43		_____	_____	
Tillable pasture	20	35		_____	_____	
Idle	22	22		_____	_____	
Total Tillable Acres	76	265		_____	_____	

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 151, corn silage 62, corn grain 18, oats 4, tillable pasture 9, and idle 6.

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 77 Northern New York Dairy Farms, 1992

Item	Average	My Farm
Total tillable acres per cow	2.93	_____
Total forage acres per cow	2.45	_____
Harvested forage dry matter, tons per cow	8.10	_____

**Cropping Analysis** (continued)

A number of cooperators have allocated crop expenses among the hay crop, corn, and other crops produced. Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per acre and per production unit for hay and corn. Additional expense items such as fuels, labor, and machinery repairs are not included.

**CROP RELATED ACCRUAL EXPENSES**  
Northern New York Farms Reporting, 1992

Item	Total Per Till. Acre	Hay Crop		All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Shell Bu.
		Per Acre	Per Ton DM			
Number of farms reporting	77		24	12		
Average number of acres	261		140	81		
Fertilizer & lime	\$18.73	\$10.91	\$4.46	\$38.36	\$8.56	\$.46
Seeds & plants	10.84	6.26	2.56	25.93	5.79	.31
Spray & other crop expense	12.27	3.53	1.44	47.00	10.49	.56
Total	\$41.84	\$20.70	\$8.46	\$111.29	\$24.84	\$1.33

**My Farm:**

Fertilizer & lime	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
Seeds & plants	_____	_____	_____	_____	_____	_____
Spray & other crop expense	_____	_____	_____	_____	_____	_____
Total	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____

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

**ACCRUAL MACHINERY EXPENSES**  
77 Northern New York Dairy Farms, 1992

Machinery Expense Item	Average		My Farm	
	Total Expenses	Per Til. Acre	Total Expenses	Per Til. Acre
Fuel, oil & grease	\$5,298	\$20.30	\$ _____	\$ _____
Machinery repairs & parts	13,466	51.59	_____	_____
Machine hire, rent & lease	3,224	12.36	_____	_____
Auto expense (farm share)	1,320	5.06	_____	_____
Interest (5%)	5,386	20.64	_____	_____
Depreciation	13,752	52.69	_____	_____
Total	\$42,447	\$162.63	\$ _____	\$ _____

**Dairy Analysis**

Analysis of the dairy enterprise can reveal a great deal about the 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**

77 Northern New York Dairy Farms, 1992

Item	<u>Dairy Cows</u>		<u>Bred</u>		<u>Heifers</u>		<u>Calves</u>	
	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	89	\$93,383	25	\$21,406	25	\$13,127	22	\$6,172
+ Change w/o apprec.		3,191		1,347		-128		98
+ Appreciation		697		46		-114		-38
End year (owned)	91	\$97,271	26	\$22,799	25	\$12,885	23	\$6,232
End incl. leased	91							
Average number	89		73 (all age groups)					

**My Farm:**

Beg. of year (owned)	___	\$___	___	\$___	___	\$___	___	\$___
+ Change w/o apprec.		___		___		___		___
+ Appreciation		___		___		___		___
End of 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. Farm managers on DHI should compare milk sold per cow with their rolling herd average on the test date nearest December 31 to see how close the DHI estimate of milk produced is to actual milk sales.

**MILK PRODUCTION**

77 Northern New York Farms, 1992

Item	Average	My Farm
Total milk sold, lbs.	1,672,086	_____
Milk sold per cow, lbs.	18,763	_____
Average milk plant test, percent butterfat	3.68	_____

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. 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. Total costs without operator's labor, management, and capital are the operating costs plus depreciation and unpaid family labor.

#### ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK

77 Northern New York Dairy Farms, 1992

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Costs of Producing Milk</u>						
Operating costs	\$167,131	\$1,876	\$10.00	\$_____	\$_____	\$_____
Total costs w/o opers' labor, mgmt. & capital	\$191,916	\$2,154	\$11.48	\$_____	\$_____	\$_____
Total Costs	\$235,248	\$2,640	\$14.07	\$_____	\$_____	\$_____
<u>Accrual Receipts</u>						
From Milk	\$223,449	\$2,508	\$13.36	\$_____	\$_____	\$_____

The accrual operating expenses most commonly associated with the dairy enterprise are listed in the table below. Evaluating these costs per unit of production enables an evaluation of the dairy enterprise.

#### DAIRY RELATED ACCRUAL EXPENSES

77 Northern New York Dairy Farms, 1992

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrates	\$725	\$3.87	\$_____	\$_____
Purchased dairy roughage	19	.10	_____	_____
Total Purchased Dairy Feed	\$744	\$3.96	\$_____	\$_____
Purchased grain & conc. as % of milk receipts		29%		%
Purchased feed & crop exp.	\$867	\$4.62	\$_____	\$_____
Purchased feed & crop exp. as % of milk receipts		35%		%
Breeding	\$32	\$.17	\$_____	\$_____
Veterinary & medicine	56	.30	_____	_____
Milk marketing	77	.41	_____	_____
Cattle lease	1	0.00	_____	_____
Other livestock expense	130	.69	_____	_____

**Capital and Labor Efficiency Analysis**

Capital efficiency factors measure how intensively 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.

**CAPITAL EFFICIENCY**

77 Northern New York Dairy Farms, 1992

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$192,174	\$5,937	\$2,027	\$2,955
Real estate		2,417		1,203
Machinery & equipment	40,278	1,244	425	
Asset turnover ratio	.50			

**My Farm:**

Farm capital	\$ _____	\$ _____	\$ _____	\$ _____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
Asset turnover ratio	_____	_____	_____	_____

**LABOR FORCE INVENTORY AND ANALYSIS**

77 Northern New York Dairy Farms, 1992

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	11.75	43	14	\$22,687
Operator number 2	2.75	40	14	4,301
Operator number 3	.47	34	14	818
Family paid	2.22			
Family unpaid	3.40			
Hired	12.44			
Total	33.04	÷ 12 = 2.75 Worker Equivalent		
		1.25 Operator/Manager Equiv.		

<b>My Farm: Total</b>	_____	÷ 12 = _____	Worker Equivalent
Operator's	_____	÷ 12 = _____	Operator/Manager Equiv.

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	89	32	_____	_____
Milk sold, pounds	1,672,086	607,464	_____	_____
Tillable acres	261	95	_____	_____
Work units	950	345	_____	_____

Labor Costs	Total	Average		Total	My Farm	
		Per Cow	Per Til. Acre		Per Cow	Per Til. Acre
Value of operator(s) labor (\$1,350/mo.)	\$20,210	\$227	\$77.43	\$ _____	\$ _____	\$ _____
Family unpaid (\$1,350/mo.)	4,590	52	17.59	_____	_____	_____
Hired	23,579	265	90.34	_____	_____	_____
Total Labor	\$48,379	\$543	\$185.36	\$ _____	\$ _____	\$ _____
Machinery Cost	\$42,447	\$476	\$162.63	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$90,826	\$1,019	\$347.99	\$ _____	\$ _____	\$ _____

## COMPARATIVE ANALYSIS OF THE FARM BUSINESS

Progress of the Farm Business

Comparing your business with average data from regional DFBS co-operators that participated in both of the last two years is one part of a business checkup. It is equally important for you to determine the progress your business has made over the past two or three years and to set targets or goals for the future.

## PROGRESS OF THE FARM BUSINESS

Same 64 Northern New York Dairy Farms, 1991 and 1992

Selected Factors	Average of 64 Farms*		My Farm		
	1991	1992	1991	1992	Goal
<u>Size of Business</u>					
Average number of cows	87	91			
Average number of heifers	75	76			
Milk sold, lbs.	1,568,010	1,718,391			
Worker equivalent	2.83	2.77			
Total tillable acres	261	266			
<u>Rates of Production</u>					
Milk sold per cow, lbs.	18,095	18,809			
Hay DM per acre, tons	2.58	2.78			
Corn silage per acre, tons	15	15			
<u>Labor Efficiency</u>					
Cows per worker	31	33			
Milk sold/worker, lbs.	553,754	620,492			
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	30%	29%	%	%	%
Dairy feed & crop exp. per cwt. milk	\$4.70	\$4.62	\$	\$	\$
Labor & mach. costs/cow	\$983	\$1,011	\$	\$	\$
Operating cost of pro- ducing cwt of milk	\$ 9.94	\$ 10.05			
<u>Capital Efficiency**</u>					
Farm capital per cow	\$5,956	\$5,897	\$	\$	\$
Mach. & equip. per cow	\$1,267	\$1,229	\$	\$	\$
Asset turnover ratio	.47	.50			
<u>Profitability</u>					
Net farm inc w/o apprec	\$25,165	\$35,831	\$	\$	\$
Net farm inc. w/apprec.	\$33,817	\$41,986	\$	\$	\$
Labor & mgt. income per operator	\$4,744	\$12,722	\$	\$	\$
Rate of return on eq. capital w/apprec.	1%	3%	%	%	%
Rate of return on all capital w/apprec.	4%	5%	%	%	%
<u>Financial Summary</u>					
Farm net worth, end year	\$308,163	\$326,014	\$	\$	\$
Debt to asset ratio	.42	.40			
Farm debt per cow	\$2,422	\$2,364	\$	\$	\$

\*Farms participating both years.

\*\*Average for the year.

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.

**FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS**

77 Northern New York Dairy Farms, 1992

<u>Size of Business</u>			<u>Rates of Production</u>			<u>Labor Efficiency</u>	
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)
5.32	183	3,724,603	22,199	4.4	19	49	893,582
2.88	97	1,833,333	19,534	3.0	17	35	651,592
2.25	67	1,128,039	18,082	2.4	15	29	551,998
1.94	55	903,115	16,687	2.0	13	27	459,177
1.19	37	623,756	13,374	1.6	8	21	338,452

<u>Cost Control</u>					
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)
\$ 426	21%	\$ 273	\$ 725	\$ 536	\$ 3.50
604	26	387	901	730	4.23
702	29	459	1,009	855	4.63
821	32	538	1,130	976	5.15
990	40	684	1,379	1,163	6.08

<u>Value and Cost of Production</u>			<u>Profitability</u>			
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)
\$ 2,965	\$ 7.60	\$ 12.17	\$ 115,863	\$ 105,432	\$ 47,163	\$ 74,510
2,601	8.96	13.43	48,908	42,217	19,792	26,270
2,407	9.80	14.36	30,767	25,872	8,341	12,804
2,186	10.90	16.00	17,331	10,997	-3,483	2,255
1,767	13.12	18.85	-4,572	-8,922	-24,740	-25,194

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



# 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 407 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 407 New York Dairy Farms, 1991

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)
8.8	360	6,870,298	22,184	4.4	21	50	900,171
4.8	167	3,036,923	20,340	3.4	18	41	733,337
3.8	122	2,195,234	19,365	2.9	16	37	649,588
3.2	100	1,826,683	18,651	2.6	15	33	593,922
2.9	84	1,498,642	17,985	2.3	14	31	550,266
2.6	73	1,259,510	17,277	2.1	14	29	504,178
2.3	62	1,039,997	16,617	1.9	13	27	465,990
2.0	55	918,621	15,757	1.7	11	25	417,823
1.8	47	765,395	14,697	1.4	10	23	367,451
1.3	37	556,444	12,063	1.0	7	18	272,888

### 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)
\$ 340	16%	\$234	\$ 649	\$ 468	\$2.95
459	21	318	781	599	3.62
527	24	360	839	673	4.01
577	26	389	902	732	4.26
624	28	417	961	784	4.48
674	31	454	1,018	829	4.76
726	33	488	1,070	885	5.02
787	35	534	1,129	951	5.27
850	37	596	1,222	1,029	5.68
996	43	763	1,489	1,180	6.67

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

**FARM BUSINESS CHART FOR FARM  
MANAGEMENT COOPERATORS  
407 New York Dairy Farms, 1991**

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)
\$2,878	\$14.17	\$1,044	\$ 6.81	\$1,903	\$11.87
2,630	13.40	1,368	8.33	2,197	12.92
2,497	13.21	1,541	8.98	2,360	13.60
2,395	13.02	1,642	9.62	2,489	14.14
2,298	12.84	1,738	10.05	2,589	14.61
<hr/>					
2,206	12.69	1,840	10.46	2,680	15.24
2,111	12.57	1,945	10.88	2,810	15.88
1,992	12.43	2,055	11.34	2,945	16.77
1,852	12.25	2,183	12.03	3,149	17.94
1,552	11.60	2,480	13.88	3,578	21.49

**Profitability**

Net Farm Income		Return to Operator's Labor, Management, & Equity Capital		Labor & Management Income	
With Appreciation	Without Appreciation	With Appreciation	Without Appreciation	Per Farm	Per Operator
(3)	(3)	(3)	(3)	(3)	(3)
\$176,029	\$133,540	\$174,444	\$131,468	\$83,710	\$52,031
75,394	54,218	72,052	52,232	25,627	18,117
52,358	38,884	49,622	35,612	14,522	11,194
40,222	28,608	37,513	26,402	6,953	5,181
32,278	22,880	29,348	19,817	292	205
<hr/>					
25,325	16,746	21,423	12,846	-5,953	-4,644
18,399	9,151	13,682	5,173	-12,873	-11,042
9,333	1,400	5,351	-3,002	-20,114	-17,922
383	-6,922	-4,921	-12,177	-32,052	-28,881
-22,307	-37,575	-28,088	-44,465	-76,192	-65,860

Farm Business Charts for farms with freestall barns and 120 cows or less and more than 120 cows, and farms with conventional barns with 60 cows or less and more than 60 cows are shown on pages 27-30.

**Financial Analysis Chart**

The farm financial analysis chart on page 24 is designed just like the Farm Business Chart and may be used to assess the financial health of the farm business. Most of the financial measures used in the chart are defined on pages 6, 9, 13, and 19 of this publication. References to DBFS output page numbers for participating dairy farmers are provided in the table headings.

**FINANCIAL ANALYSIS CHART**  
**407 New York Dairy Farms, 1991**

<u>Liquidity (repayment)</u>				
Planned Debt Payments Per Cow	Available for Debt Service Per Cow	Cash Flow Coverage Ratio	Debt Payments as Percent of Milk Sales	Debt Per Cow
(8)*	(12)	(8)	(8)	(5)
\$ 50	\$786	2.97	6%	\$ 106
205	608	1.39	11	692
295	513	1.14	15	1,259
372	452	0.97	18	1,665
446	397	0.85	20	2,094
502	351	0.74	22	2,457
551	292	0.63	25	2,820
607	227	0.48	28	3,267
678	122	0.28	32	3,698
866	-96	-0.29	41	4,687

<u>Solvency</u>				<u>Profitability</u>	
Leverage Ratio**	Percent Equity	<u>Debt/Asset Ratio</u>		<u>Percent Rate of Return with appreciation on:</u>	
		Current & Intermediate	Long Term	Equity	Investment***
	(5)	(5)	(5)	(3)	(3)
0.02	98%	0.01	0.00	15%	12%
0.11	90	0.06	0.00	7	8
0.23	81	0.12	0.06	5	6
0.33	75	0.20	0.19	2	4
0.44	68	0.27	0.30	1	3
0.57	63	0.32	0.41	-1	2
0.73	57	0.38	0.49	-4	0
0.98	50	0.45	0.59	-7	-2
1.26	45	0.54	0.72	-12	-4
2.62	30	0.76	1.02	-28	-9

<u>Efficiency (Capital)</u>				
Asset Turnover Ratio	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow	Change in Net Worth w/Appreciation
(11)	(11)	(11)	(11)	(11)
0.63	\$1,408	\$ 564	\$ 4,354	\$105,575
0.52	2,046	818	5,293	38,311
0.47	2,342	962	5,847	24,223
0.43	2,677	1,095	6,269	16,153
0.41	3,002	1,243	6,646	10,535
0.38	3,342	1,355	7,016	5,620
0.35	3,694	1,551	7,527	-436
0.32	4,087	1,768	8,210	-7,282
0.29	4,760	2,058	9,140	-16,030
0.22	6,672	2,735	11,260	-57,840

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

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

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

### Comparisons 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 used has as many of the same physical characteristics as possible as the farm being analyzed. To assist in this endeavor, dairy farms in the 1991 State Summary\* have been divided into those with freestall and those with conventional housing. Within each group is a further classification by size of the dairy herd.

The table on page 26 shows the average values for the resulting four groups of dairy farms. Within each housing type, the larger herd size had the higher rate of milk sold per cow but the greatest difference was between the conventional and freestall farms. The total cost of producing milk was lower on the larger farms while labor efficiency was greater. Profitability was higher on the larger farms as well as the freestall farms. Note the similarity of resource use and management performance between the large conventional and small freestall farms.

Farm business charts have been computed for each of the four housing and herd size categories. References to DFBS output page numbers of participating dairy farmers are provided in the table headings. From these charts on pages 27-30, the range in size of business, rates of production, labor efficiency, value and cost of producing milk, and profitability can be observed. The range in every category of business performance is tremendous.

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. Farm managers should remember, however, that their competition is not limited to the other farms in their own barn type and herd size category. They should observe how their management performance compares with farms in other categories as well.

### Herd Size Comparisons

A detailed comparison of profitability, financial situation, and business analysis factors across herd sizes is contained on pages 42-49 of the 1991 State Summary.\* As herd size increases, the average profitability generally increases (pages 42-43). Net farm income without appreciation was \$136,656 per farm for the 300 or more herd size group and \$2,303 per farm for those with less than 40 cows. This relationship generally holds for all measures of profitability including rate of return on capital.

Farm net worth increases rapidly as herd size increases (pages 44-47), even though percent equity was higher on the smaller farms. The moderate size herd groups demonstrated the strongest ability to make debt payments.

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 48-49). Milk sold per cow increased as herd size increased, ranging from 16,211 pounds on the farms with less than 40 cows to 19,134 pounds on farms with 300 or more cows. 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 328,553 pounds at the lowest herd size category up to 864,343 pounds at the largest size category.

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\*Smith, Stuart F., Wayne A. Knoblauch, and Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1991, Department of Agricultural Economics, Cornell University, A.E. Res. 92-6, August 1992.

**SELECTED BUSINESS FACTORS BY TYPE OF BARN  
AND HERD SIZE  
373 New York Dairy Farms, 1991**

Farms with:	Conventional		Freestall	
Item	<60 Cows	>60 Cows	<120 Cows	>120 Cows
Number of farms	122	101	66	84
<u>Cropping Program Analysis</u>				
Total Tillable acres	162	277	288	658
Tillable acres rented*	52	97	103	269
Hay crop acres*	106	168	150	273
Corn silage acres*	28	53	71	229
Hay crop, tons DM/acre	2.0	2.3	2.4	2.6
Corn silage, tons/acre	13.1	13.6	13.9	13.6
Oats, bushels/acre	48.7	47.0	55.4	52.4
Forage DM per cow, tons	7.2	7.4	8.3	7.2
Tillable acres/cow	3.4	3.2	3.3	2.6
Fert. & lime exp./til. acre	\$18.38	\$22.77	\$27.18	\$26.03
Total machinery costs	\$21,629	\$36,112	\$43,948	\$106,964
Machinery cost/tillable acre	\$134	\$130	\$153	\$163
<u>Dairy Analysis</u>				
Number of cows	47	87	87	250
Number of heifers	37	70	76	206
Milk sold, lbs.	797,052	1,481,199	1,562,487	4,707,816
Milk sold/cow, lbs.	16,824	17,082	18,022	18,812
Operating cost of prod. milk/cwt.	\$9.86	\$10.42	\$10.05	\$10.55
Total cost of prod. milk/cwt.	\$16.36	\$14.96	\$14.98	\$13.89
Price/cwt. milk sold	\$12.58	\$12.85	\$12.93	\$13.10
Purchased dairy feed/cow	\$652	\$668	\$687	\$726
Purchased dairy feed/cwt. milk	\$3.88	\$3.91	\$3.81	\$3.86
Purc. grain & conc. as % milk rec.	30%	30%	29%	29%
Purc. feed & crop exp./cwt. milk	\$4.56	\$4.67	\$4.75	\$4.65
<u>Capital Efficiency</u>				
Farm capital/worker	\$181,301	\$208,892	\$226,807	\$246,252
Farm capital/cow	\$7,585	\$6,903	\$7,325	\$6,296
Farm capital/til. acre owned	\$3,269	\$3,307	\$3,433	\$4,049
Real estate/cow	\$3,883	\$3,187	\$3,370	\$2,808
Machinery investment/cow	\$1,491	\$1,383	\$1,523	\$1,083
Asset turnover ratio	.39	.43	.44	.55
<u>Labor Efficiency</u>				
Worker equivalent	1.98	2.87	2.80	6.40
Operator/manager equivalent	1.19	1.34	1.36	1.63
Milk sold/worker, lbs.	401,914	516,996	558,026	736,003
Cows/worker	24	30	31	39
Labor cost/cow	\$609	\$508	\$519	\$541
Labor cost/tillable acre	\$178	\$159	\$156	\$206
<u>Profitability &amp; Balance Sheet Analysis</u>				
Net farm income (w/o apprec.)	\$10,935	\$19,495	\$22,444	\$58,491
Labor & mgmt. income/operator	\$-5,520	\$-2,907	\$-1,172	\$4,891
Return on all capital w/apprec.	-0.7%	2.6%	2.6%	6.1%
Farm debt/cow	\$2,159	\$2,239	\$2,524	\$2,437
Percent equity	71%	67%	65%	60%

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

**FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS**  
**122 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1991**

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)
3.1	60	1,161,296	21,471	3.4	20	40	661,204
2.6	57	1,006,402	19,284	2.8	18	32	550,224
2.3	55	947,762	18,742	2.6	16	28	494,803
2.1	53	890,831	17,979	2.4	15	27	462,890
2.0	50	822,459	17,196	2.1	14	25	433,585
1.9	46	760,538	16,335	1.8	13	24	401,914
1.7	43	702,257	15,668	1.7	12	22	369,641
1.5	41	646,896	15,116	1.5	11	21	328,322
1.4	37	564,752	14,129	1.3	9	18	283,503
1.1	31	419,523	11,178	1.0	7	14	214,463

**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)
\$341	17%	\$212	\$ 632	\$ 438	\$2.93
455	22	297	819	573	3.57
520	25	355	920	632	4.00
546	28	390	971	690	4.20
595	29	412	1,023	735	4.41
644	32	451	1,080	779	4.57
686	34	484	1,136	822	4.98
752	35	530	1,209	894	5.16
816	38	614	1,326	957	5.61
926	43	808	1,615	1,134	6.56

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income		Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	With Apprec.	Without Apprec.	(3)	(6)
\$2,740	\$ 6.42	\$12.23	\$53,078	\$42,465	\$19,889	\$30,248
2,489	7.90	13.68	36,007	27,726	9,709	17,867
2,353	8.56	14.61	29,496	22,409	4,709	13,846
2,277	9.26	15.21	23,712	17,446	625	9,309
2,166	9.72	15.81	19,116	12,439	-3,791	6,461
2,040	10.04	16.45	13,857	8,394	-7,738	3,784
1,948	10.44	17.16	7,625	4,234	-12,141	-351
1,852	11.06	17.80	3,156	-1,971	-16,055	-4,980
1,714	11.92	19.22	-1,875	-6,070	-22,626	-10,842
1,383	13.99	25.01	-16,933	-21,744	-38,727	-25,962

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

**FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS**  
**101 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1991**

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)
4.6	142	2,453,279	21,818	4.5	20	49	873,548
3.6	109	2,007,656	19,722	3.5	18	40	684,468
3.2	97	1,739,966	18,796	2.9	16	34	598,951
3.0	87	1,562,748	18,310	2.6	15	32	560,716
2.9	82	1,436,342	17,780	2.4	15	31	523,504
-----							
2.7	77	1,346,317	17,148	2.1	14	29	493,477
2.5	73	1,246,501	16,384	1.9	12	28	455,675
2.4	68	1,105,390	15,123	1.7	10	26	416,880
2.1	64	993,013	13,510	1.5	9	24	377,657
1.6	62	823,566	11,607	1.1	6	21	327,086

**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)
\$ 309	15%	\$222	\$ 636	\$ 434	\$2.91
422	21	296	740	547	3.53
491	24	351	799	640	3.90
543	25	370	837	694	4.19
606	28	390	886	767	4.44
-----					
650	31	426	928	821	4.70
707	33	456	993	850	4.97
782	35	490	1,062	915	5.27
861	38	554	1,136	1,005	5.62
1,026	45	645	1,306	1,178	6.68

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income		Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	With Apprec.	Without Apprec.	(3)	(6)
\$2,867	\$ 7.21	\$12.27	\$95,623	\$66,317	\$24,217	\$79,568
2,510	8.54	13.22	59,028	47,527	15,711	36,142
2,442	9.14	13.71	45,692	34,267	10,979	24,998
2,344	9.75	14.12	37,975	27,772	6,367	17,567
2,242	10.15	14.49	31,274	22,916	1,175	12,531
-----						
2,148	10.60	14.84	24,354	17,174	-3,736	6,901
2,051	11.00	15.31	18,295	9,265	-10,773	-1,326
1,938	11.37	16.14	8,667	1,122	-19,843	-9,415
1,761	12.22	17.71	-2,600	-9,656	-33,574	-18,321
1,523	13.87	19.66	-19,012	-26,407	-50,112	-36,366

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

**FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS**  
**66 Freestall Barn Dairy Farms with 120 or Less Cows, New York, 1991**

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)
4.0	114	2,208,962	22,859	4.4	20	48	828,128
3.6	108	1,993,141	20,423	3.6	18	38	700,061
3.4	102	1,890,636	19,598	3.1	16	36	639,501
3.1	95	1,801,092	18,714	2.7	15	34	595,425
2.8	89	1,671,062	18,040	2.3	15	32	574,105
-----							
2.6	82	1,458,043	17,311	2.1	14	31	537,744
2.4	78	1,290,108	16,780	2.0	14	29	508,421
2.2	73	1,173,974	16,382	1.9	13	26	490,526
2.0	63	1,012,572	15,235	1.6	11	25	423,955
1.6	52	850,607	12,679	1.1	8	20	341,458

**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)
\$ 304	14%	\$257	\$ 689	\$ 511	\$2.96
454	20	341	809	628	3.57
535	23	380	848	705	4.03
576	25	407	887	744	4.28
611	27	441	921	781	4.57
-----					
682	30	492	1,001	858	4.95
743	33	520	1,064	938	5.23
812	36	567	1,114	1,022	5.49
882	38	649	1,238	1,075	5.81
1,003	40	876	1,565	1,235	6.80

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income With Apprec.	Without Apprec.	Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	(3)	(3)	(3)	(6)
\$2,927	\$ 7.48	\$12.08	\$82,214	\$66,646	\$29,929	\$69,398
2,667	8.47	12.94	57,671	46,073	15,194	36,752
2,527	9.22	13.56	45,031	37,230	9,298	24,657
2,425	9.66	14.17	39,035	29,014	4,126	15,276
2,296	9.99	14.75	34,718	23,021	-567	9,326
-----						
2,231	10.31	15.53	28,021	17,945	-4,155	3,405
2,158	10.64	15.96	20,709	9,787	-10,866	-2,955
2,085	11.16	16.57	11,223	1,964	-18,096	-8,018
1,993	11.61	17.45	4,475	-4,068	-26,046	-14,391
1,755	12.67	19.25	-10,343	-17,325	-41,780	-38,262

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



**FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS**  
**84 Freestall Barn Dairy Farms with More Than 120 Cows, New York, 1991**

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)
15.3	687	13,384,842	22,407	4.2	18	56	1,003,143
7.9	328	6,283,512	21,089	3.4	17	46	872,694
6.8	253	4,743,201	20,463	3.1	15	44	809,299
6.1	211	4,020,615	19,950	2.8	15	40	754,498
5.5	195	3,591,100	18,918	2.6	14	38	706,657
5.1	183	3,322,631	18,193	2.3	13	36	663,402
4.6	171	3,100,997	17,466	2.1	12	34	640,597
4.3	153	2,875,093	16,810	1.9	12	32	603,479
3.9	138	2,514,339	16,123	1.8	10	30	547,129
3.1	125	2,041,714	14,028	1.1	7	27	474,745

**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)
\$ 401	16%	\$258	\$ 642	\$ 545	\$2.91
502	22	333	781	677	3.75
592	25	359	840	758	4.08
635	27	391	915	809	4.40
679	28	420	965	838	4.59
712	29	456	1,010	892	4.78
747	31	481	1,057	933	4.90
800	33	528	1,093	976	5.16
853	35	592	1,166	1,033	5.59
997	42	700	1,328	1,159	6.57

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income With Apprec.	Without Apprec.	Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	(3)	(3)	(3)	(6)
\$2,921	\$ 6.81	\$11.43	\$331,877	\$255,187	\$115,674	\$192,536
2,754	8.41	12.12	175,987	127,746	42,826	90,274
2,667	9.13	12.77	114,944	90,074	22,567	51,012
2,578	9.99	13.20	89,770	58,939	13,025	35,705
2,459	10.47	13.57	69,743	45,653	3,039	21,327
2,376	10.74	14.04	56,700	34,538	-3,324	11,395
2,276	11.00	14.38	45,465	25,844	-12,124	2,802
2,185	11.53	15.09	29,906	13,628	-23,811	-9,084
2,118	12.21	15.95	16,185	-18,515	-44,840	-27,592
1,850	14.16	18.92	-40,501	-85,430	-137,414	-147,251

\*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 the 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 proper 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. You should designate a Time when each goal will be achieved.

Goal setting on a dairy farm does not have to be a complex process. In many cases it provides 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

## Summarize Your Business Performance

The Farm Business and Financial Analysis Charts on pages 21-24 and 27-30 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: \_\_\_\_\_

Need Improvement: \_\_\_\_\_

\_\_\_\_\_

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## GLOSSARY AND LOCATION OF COMMON TERMS

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

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

Accrual Expenses - (defined on page 3)

Accrual Receipts - (defined on page 4)

Annual Cash Flow Statement - (defined on page 11)

Appreciation - (defined on page 5)

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

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

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

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

Cash Flow Coverage Ratio - (defined on page 13)

Cash Paid - (defined on page 2)

Cash Receipts - (defined on page 4)

Change in Accounts Payable - (defined on page 3)

Change in Accounts Receivable - (defined on page 4)

Change in Inventory - (defined on page 2)

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

Debt to Asset Ratios - (defined on page 9)

- 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 13.
- 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-cancellable 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.
- 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.
- 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.
- 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 Worth** - The value of assets less liabilities equal net worth. It is the equity the owner has in owned assets.
- Operating Costs of Producing Milk** - (defined on page 18)
- Opportunity Cost** - 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; bedding, DHIC, milk house and parlor supplies, livestock board, registration fees and transfers.
- Part-Time Cash-Crop Dairy (farm)** - Operating and managing this farm is not a full-time occupation, crop sales exceed 10 percent of accrual milk receipts and cropland is owned.

**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 costs including the opportunity costs of the owner/manager's labor, management, and equity capital.

**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)

**Return to Operators' Labor, Management, and Equity Capital** - (defined on page 6)

**Solvency** - The extent or ability of assets to cover or pay liabilities.  
Debt/asset and leverage ratios are common measures of solvency.

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

**Whole Farm Method** - A procedure used to calculate costs of producing milk on dairy farms without using enterprise cost accounts. All non-milk receipts are assigned a cost equal to their sale value and deducted from total farm expenses to determine the costs of producing milk.

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No. 92-22	Annual Cost of Investment in a Durable Asset Using Present Value Analysis	John Brake
No. 92-23	Beef Farm Business Summary 1991 Northeast Beef Farm Business Summary	Caroline Nowak Rasmussen Danny G. Fox Stuart F. Smith Ted C. Perry
No. 92-24	New York Economic Handbook 1993 Agricultural Situation and Outlook	Ag Ec Staff
No. 93-01	The Cornell Program on Dairy Markets and Policy Summary of Activities, 1989 to 1992	Andrew M. Novakovic
No. 93-02	MICRO DFBS A Guide to Processing Dairy Farm Business Summaries in County and Regional Extension Offices for Micro DFBS 2.7	Linda Putnam Wayne Knoblauch Stuart Smith
No. 93-03	Fruit Farm Business Summary Lake Ontario Region New York 1991	Gerald B. White Alison M. DeMarree Linda D. Putnam
No. 93-04	Cooperative Development and Functions in Specialty Crop Industries with Case Studies of the U.S. Tart Cherry and Farm- Raised Catfish Industries	Cecile Murphy Lois Schertz Willett
No. 93-05	Dairy Farm Business Summary Western Plain Region 1992	Stuart F. Smith Linda D. Putnam George Allhusen Jason Karszes David Thorp