



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

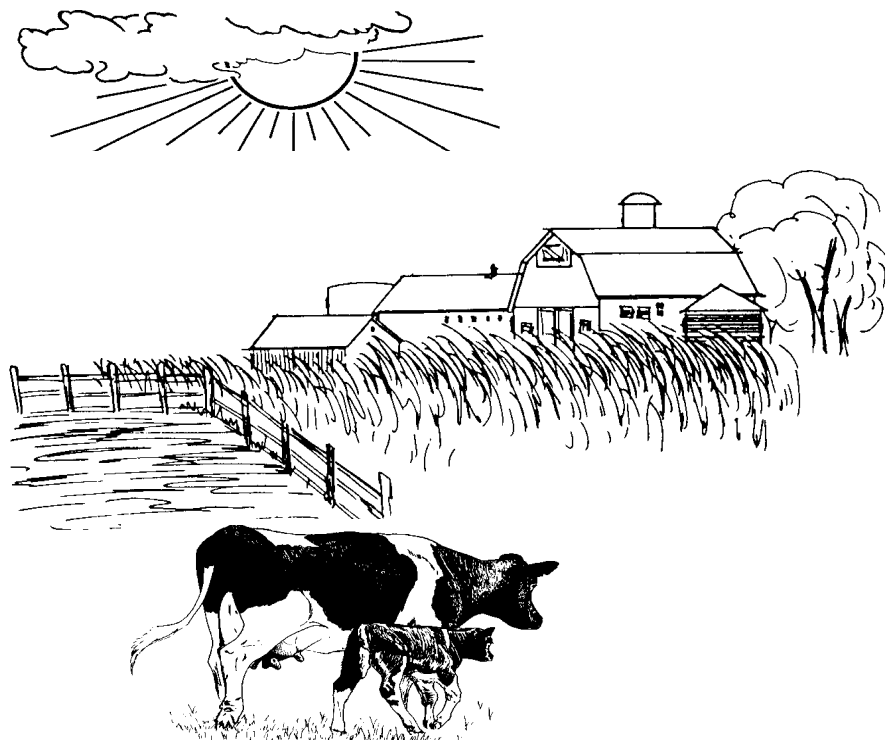
*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

MAY 1999

E.B. 99-07

***DAIRY FARM
BUSINESS SUMMARY***

***WESTERN AND
CENTRAL PLAIN
REGION
1998***



Wayne A. Knoblauch

Linda D. Putnam

Jason Karszes

Steve Richards

John Hanchar

Carry Oostveen

Bruce Dehm

George Allhusen

Vinton Smith

**Department of Agricultural, Resource, and Managerial Economics
College of Agriculture and Life Sciences
Cornell University, Ithaca, New York 14853-7801**

1998 DAIRY FARM BUSINESS SUMMARY
Western and Central Plain Region
Table of Contents

	<u>Page</u>
INTRODUCTION	1
Program Objectives	1
Format Features	1
SUMMARY AND ANALYSIS OF THE FARM BUSINESS	2
Business Characteristics	2
Income Statement	2
Profitability Analysis	4
Farm and Family Financial Status	7
Statement of Owner Equity	11
Cash Flow Statement	12
Repayment Analysis	14
Cropping Analysis	16
Dairy Analysis	18
Capital and Labor Efficiency Analysis	20
COMPARATIVE ANALYSIS OF THE FARM BUSINESS	21
Progress of the Farm Business	21
Regional Farm Business Chart	23
New York State Farm Business Chart	24
Financial Analysis Chart	26
Comparisons by Type of Barn and Herd Size	28
Herd Size Comparisons	28
IDENTIFY AND SET GOALS	35
GLOSSARY AND LOCATION OF COMMON TERMS	37
INDEX	40

1998 DAIRY FARM BUSINESS SUMMARY WESTERN AND CENTRAL PLAIN REGION*

INTRODUCTION

Dairy farm managers throughout New York State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Managers of each participating farm business receive a comprehensive summary and analysis of their farm business. The information in this report represents averages of the data submitted from dairy farms in the Western and Central Plain Region for 1998.

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 1998 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.

*The Western and Central Plain Region of New York State, with the number of participating farms in parentheses, is comprised of Cayuga (11), Erie (11), Genesee (7), Livingston (4), Niagara (1), Ontario (1), Orleans (1), Seneca (1), Wayne (1), and Wyoming (58) counties. This report was written by Wayne A. Knoblauch, Professor, Farm Management; Linda Putnam was in charge of data preparation. Faye Butts prepared the publication. Farm business data were collected by Cooperative Extension Educators Steve Richards, Carry Oostveen, and Vinton Smith; Regional Specialist John Hanchar; Senior Extension Associate Jason Karszes; and Farm Consultants Bruce Dehm and George Allhusen.

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
96 Western and Central Plain Region Dairy Farms, 1998

Type of Farm	Number	Milking System	Number
Dairy	93	Bucket & carry	0
Part-time dairy	0	Dumping station	0
Dairy cash-crop	3	Pipeline	21
Certified organic milk producer	0	Herringbone parlor	53
Rotational grazing farm	4	Other parlor	22
Type of Ownership	Number	Production Records	Number
Owner	87	DHIC	67
Renter	9	Owner-Sampler	16
		Other	11
		None	2
Type of Business	Number	bST Usage	Number
Sole Proprietorship	45	Used on <25% of herd	13
Partnership	33	Used on 25-75% of herd	57
Corporation	18	Used on >75% of herd	10
		Stopped using in 1998	4
		Not used in 1998	12
Type of Barn	Number	Business Record System	Number
Stanchion or Tie-Stall	9	Account Book	21
Freestall	75	AgriFax (mail-in only)	9
Combination	12	On-farm computer	56
		Other	10
Milking Frequency	Number		
2 times per day	40		
3 times per day	48		
Other	8		

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 1998.

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
96 Western and Central Plain Region Dairy Farms, 1998

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired Labor</u>	\$ 186,656		\$ 381	<<	\$ 522		\$ 186,797
<u>Feed</u>							
Dairy grain & concentrate	346,183		19,650		-9,946		316,588
Dairy roughage	21,313		2,880		180		18,613
Nondairy	25		0		0		25
<u>Machinery</u>							
Machinery hire, rent & lease	31,529		2,051	<<	-339		29,140
Machinery repairs & farm vehicle exp.	52,262		916		-399		50,947
Fuel, oil & grease	18,233		473		-365		17,395
<u>Livestock</u>							
Replacement livestock	22,741		0	<<	1,052		23,793
Breeding	11,607		513		-307		10,787
Veterinary & medicine	38,263		388		-855		37,020
Milk marketing	38,320		167	<<	34		38,188
Bedding	17,036		495		-99		16,442
Milking supplies	26,853		1,305		-250		25,298
Cattle lease & rent	5,276		0	<<	-18		5,258
Custom boarding	17,304		228	<<	-52		17,024
bST	23,877		981		-139		22,756
Other livestock expense	10,302		89		-73		10,141
<u>Crops</u>							
Fertilizer & lime	26,946		3,083		-795		23,068
Seeds & plants	18,789		2,952		-122		15,715
Spray, other crop expense	19,264		136		-1,033		18,095
<u>Real Estate</u>							
Land, building & fence repair	20,332		408		-177		19,747
Taxes	13,056		402	<<	-158		12,496
Rent & lease	22,959		348	<<	-315		22,296
<u>Other</u>							
Insurance	12,186		-120	<<	-21		12,285
Utilities (farm share)	21,865		-37	<<	5		21,907
Interest paid	74,965		21	<<	-548		74,397
Miscellaneous	11,519		75		-575		10,868
Total Operating	\$1,109,662		\$ 37,784		\$-14,791		\$1,057,086
Expansion livestock	17,506		0	<<	181		17,688
Machinery depreciation							41,035
Building depreciation							38,469
TOTAL ACCRUAL EXPENSES							\$1,154,278

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 1998 but not paid for. A decrease is subtracted because it represents payment for resources used before 1998.

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
96 Western and Central Plain Region Dairy Farms, 1998

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$1,209,615				\$ 22,151		\$ 1,231,766
Dairy cattle	42,557		\$ 30,847		41		73,445
Dairy calves	8,874				13		8,886
Other livestock	1,625		349		25		1,999
Crops	8,339		20,026		12		28,377
Government receipts	15,207		-30 *		655		15,832
Custom machine work	3,570				-549		3,021
Gas tax refund	588				1		590
Other	<u>15,543</u>				<u>138</u>		15,681
Less nonfarm noncash capital**		(-)	<u>0</u> **			(-)	<u>0</u>
Total Receipts	\$1,305,918		\$ 51,192		\$ 22,486		\$ 1,379,596

*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 1998 for the 1999 crop year in excess of funds earned for 1998. Likewise, a decrease is added to cash government receipts because it represents funds earned for 1998 but received in 1997.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 1999 for milk produced in December 1998 compared to January 1998 payments for milk produced in 1997 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). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

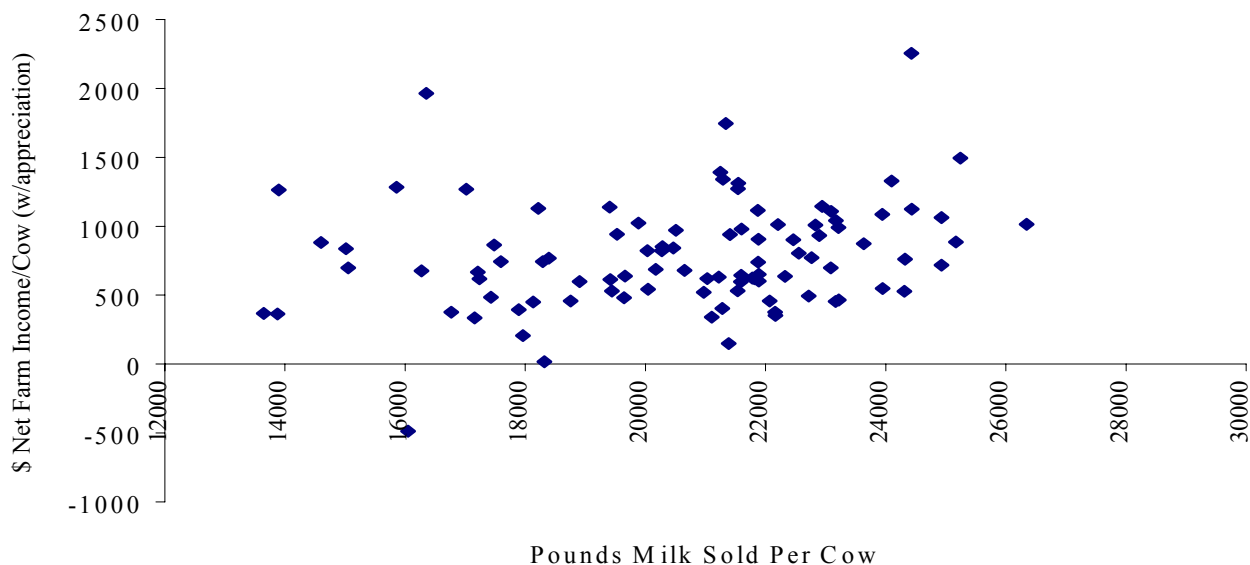
NET FARM INCOME

96 Western and Central Plain Region Dairy Farms, 1998

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$ 1,379,596		\$ _____	
Appreciation: Livestock	5,592		_____	
Machinery	11,611		_____	
Real Estate	25,839		_____	
Other Stock & Certificates	827		_____	
Total Including Appreciation	\$ 1,423,465		\$ _____	
Total accrual expenses	- 1,154,278		- _____	
Net Farm Income (with appreciation)	\$ 269,187	\$ 731	\$ _____	\$ _____
Net Farm Income (without appreciation)	\$ 225,318	\$ 612	\$ _____	\$ _____

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.

NET FARM INCOME/COW AND MILK/COW
96 Western and Central Plain Region Dairy Farms, 1998



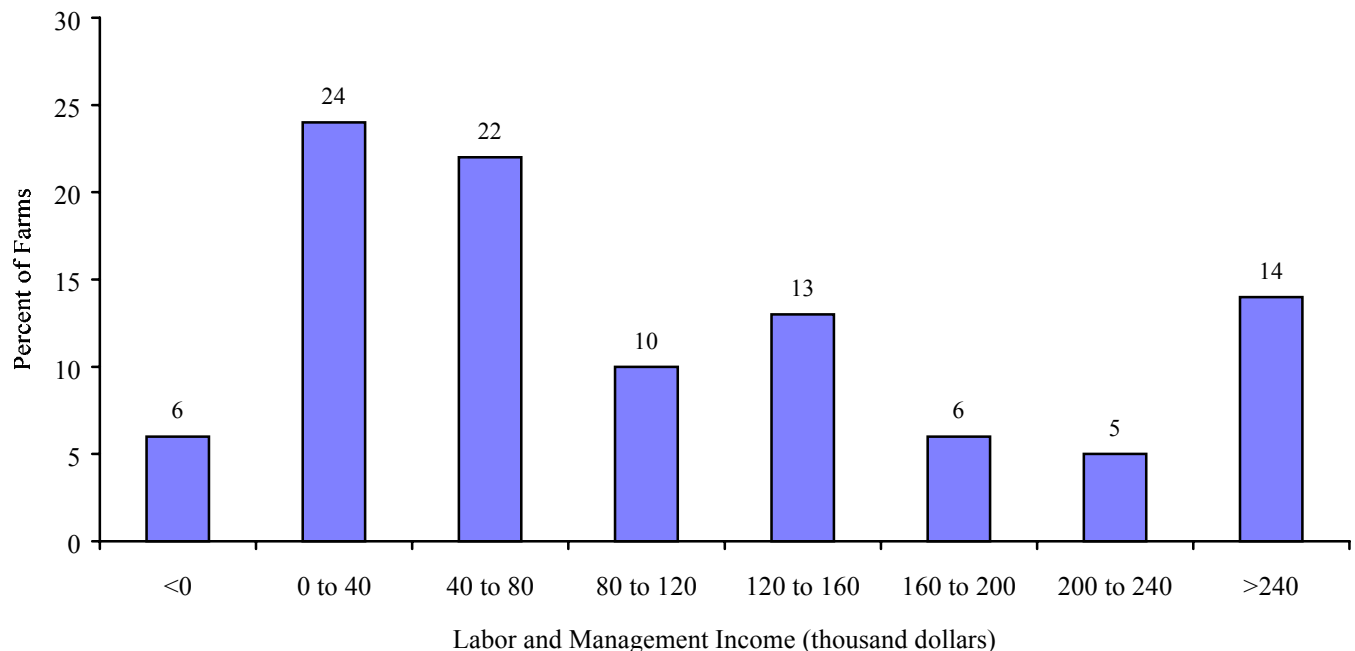
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and 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
96 Western and Central Plain Region Dairy Farms, 1998

Item	Average	My Farm
Net farm income without appreciation	\$ 225,318	\$ _____
Family labor unpaid @ \$1,600 per month	- 4,320	- _____
Interest on \$1,075,209 average equity capital @ 5% real rate	- <u>53,760</u>	- _____
Labor & Management Income per farm (1.74 Operators/farm)	\$ 167,238	\$ _____
Labor & Management Income per Operator/Manager	\$ 96,114	\$ _____

Labor and management income per operator averaged \$96,114 on these 96 farms in 1998. The range in labor and management income per operator was from about \$-50,000 to more than \$750,000. Returns to labor and management were negative on 6% of the farms. Labor and management income per operator was between \$0 and \$120,000 on 56% of the farms while 38% showed labor and management incomes of \$120,000 or more per operator.

DISTRIBUTION OF LABOR & MANAGEMENT INCOMES PER OPERATOR
96 Western and Central Plain Dairy Farms, 1998



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 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.

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
96 Western and Central Plain Region Dairy Farms, 1998

Item	Average	My Farm
Net farm income with appreciation	\$ 269,187	\$ _____
Family labor unpaid @\$1,600 per month	- 4,320	- _____
Value of operators' labor & management	- <u>57,741</u>	- _____
Return on equity capital with appreciation	\$ 207,126	\$ _____
Interest paid	+ <u>74,397</u>	+ _____
Return on total capital with appreciation	\$ 281,523	\$ _____
Return on equity capital without appreciation	\$ 163,257	\$ _____
Return on total capital without appreciation	\$ 237,654	\$ _____
Rate of return on average equity capital:		
with appreciation	19.3%	_____ %
without appreciation	15.2%	_____ %
Rate of return on average total capital:		
with appreciation	13.5%	_____ %
without appreciation	11.4%	_____ %

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 1998, lease payments were discounted by 8.75 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 1998 that are for participation in the 1999 program are the end year balance and payments received in 1997 for participation in the 1998 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.

1998 FARM BUSINESS & NONFARM BALANCE SHEET
96 Western and Central Plain Region Dairy Farms, 1998

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 13,411	\$ 9,218	Accounts payable	\$ 46,175	\$ 31,565
Accounts receivable	83,663	106,149	Operating debt	88,902	101,955
Prepaid expenses	3,262	6,701	Short Term	8,389	5,460
Feed & supplies	194,610	248,980	Advanced govt. receipts	213	242
			Current Portion:		
			Intermediate	57,140	68,927
			Long Term	25,379	29,584
Total Current	\$ 294,946	\$ 371,048	Total Current	\$ 226,197	\$ 237,731
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			Structured debt		
owned	\$ 349,150	\$ 371,024	1-10 years	\$ 358,385	\$ 342,211
leased	11,931	8,494	Financial lease		
Heifers	143,626	158,285	(cattle/machinery)	45,771	37,613
Bulls & other livestock	2,568	2,824	Farm Credit stock	11,689	12,554
Mach. & equip. owned	318,187	345,765	Total Intermediate	\$ 415,845	\$ 392,378
Mach. & equip. leased	33,840	29,119			
Farm Credit stock	11,689	12,554			
Other stock/certificate	46,502	58,697			
Total Intermediate	\$ 917,493	\$ 986,762			
<u>Long Term</u>			<u>Long Term</u>		
Land & buildings:			Structured debt		
owned	\$ 784,184	\$ 824,604	>10 years	\$ 372,711	\$ 383,757
leased	1,368	1,290	Financial lease		
Total Long Term	\$ 785,552	\$ 825,894	(structures)	1,368	1,290
			Total Long Term	\$ 374,079	\$ 385,047
Total Farm Assets	\$1,997,991	\$2,183,704	Total Farm Liab.	\$1,016,121	\$1,015,156
			FARM NET WORTH	\$ 981,870	\$1,168,548

Nonfarm Assets, Liabilities & Net Worth (Average of 45 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	\$ 4,298	\$ 4,613	Nonfarm Liabilities	\$ 4,056	\$ 5,928
Cash value life insurance	8,471	9,705			
Nonfarm real estate	22,440	25,178			
Auto (personal share)	5,672	5,779			
Stocks & bonds	6,634	10,626			
Household furnishings	8,722	9,344			
All other nonfarm assets	4,684	7,814			
Total Nonfarm Assets	\$ 60,921	\$ 73,059	NONFARM NET WORTH	\$ 56,865	\$ 67,131

Farm & Nonfarm Assets, Liabilities, and Net Worth*

	Jan. 1	Dec. 31
Total Assets	\$2,058,912	\$2,256,763
Total Liabilities	1,020,177	1,021,084
TOTAL FARM & NONFARM NET WORTH	\$1,038,735	\$1,235,679

*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 liabilities were increased 59 percent on these 6 farms by including deferred taxes.

CONDENSED BALANCE SHEET INCLUDING DEFERRED TAXES

December 31, 1998

6 New York Dairy Farms, 1998

Assets		Liabilities & Net Worth	
		Current debts & payables	\$ 110,688
		Current deferred taxes	<u>60,728</u>
Total Current Assets	\$ 198,183	Total Current Liabilities	\$ 171,416
		Intermediate debts & leases	\$ 196,519
		Intermediate deferred taxes	<u>165,443</u>
Total Inter. Assets	\$ 703,305	Total Intermediate Liabilities	\$ 361,962
		Long term debts & leases	\$ 215,577
		Long term deferred taxes	<u>79,742</u>
Total Long Term Assets	<u>\$ 531,142</u>	Total Long Term Liabilities	\$ 295,319
TOTAL FARM ASSETS	\$ 1,432,630	TOTAL FARM LIABILITIES	\$ 828,697
		Farm Net Worth	\$ 603,933
		Percent Equity (Farm)	42%
		Nonfarm debts	\$ 1,250
		Nonfarm deferred taxes	<u>13,287</u>
Total Nonfarm Assets	\$ 48,538	Total Nonfarm Liabilities	\$ 14,537
TOTAL ASSETS	\$ 1,481,168	TOTAL LIABILITIES	\$ 843,234
		Total Net Worth	\$ 637,934
		Percent Equity (Total)	43%

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. 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

96 Western and Central Plain Region Dairy Farms, 1998

Item	Average		My Farm	
<u>Financial Ratios - Farm:</u>				
Percent equity		0.54%	_____	%
Debt/asset ratio: total		0.46	_____	
long-term		0.47	_____	
intermediate/current		0.46	_____	
Current Ratio:		1.56		
Working capital	\$133,317	As % of total Expenses:	12%	
<u>Farm Debt Analysis:</u>				
Accounts payable as % of total debt		3%	_____	%
Long-term liabilities as a % of total debt		38%	_____	%
Current & inter. liabilities as a % of total debt		62%	_____	%
<u>Farm Debt Levels:</u>				
		<u>Per Cow</u>	<u>Per Tillable Acre Owned</u>	<u>Per Cow</u>
Total farm debt	\$	2,700	\$	2,789
Long-term debt		1,024		1,058
Intermediate & long term		2,068		2,136
Intermediate & current debt		1,676		1,731

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

96 Western and Central Plain Region Dairy Farms, 1998

Item	Average of Region's Farms			
	Real Estate		Machinery & Equipment	
Value beginning of year		\$ 784,184		\$ 318,187
Purchases	\$	79,827*	\$	62,109
Gift & inheritance	+	162	+	0
Lost capital	-	23,606		
Sales	-	3,333	-	5,106
Depreciation	-	38,468	-	41,035
Net investment		= 14,581		= 15,967
Appreciation		+ 25,839		+ 11,611
Value end of year		\$ 824,604		\$ 345,765

*\$11,743 land and \$68,084 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)
96 Western and Central Plain Region Dairy Farms, 1998

Item	Average	My Farm
Beginning of year farm net worth	\$ 981,870	\$ _____
Net farm income w/o appreciation	\$ 225,318	\$ _____
+Nonfarm cash income	+ 5,640	+ _____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 71,316</u>	- _____
RETAINED EARNINGS	+ \$ 159,642	+ \$ _____
Nonfarm noncash transfers to farm	\$ 162	\$ _____
+Cash used in business from nonfarm capital	+ 6,312	+ _____
-Note or mortgage from farm real estate sold (nonfarm)	<u>- 0</u>	- _____
CONTRIBUTED/WITHDRAWN CAPITAL	+ \$ 6,474	+ \$ _____
Appreciation	\$ 43,869	\$ _____
-Lost capital	<u>- 23,606</u>	- _____
CHANGE IN VALUATION EQUITY	+ \$ 20,263	+ \$ _____
IMBALANCE/ERROR	<u>- 299</u>	- \$ _____
End of year net worth*	= \$1,168,548	= \$ _____
<hr/>		
<u>Change in Net Worth</u>		
Without appreciation	\$ 142,809	\$ _____
With appreciation	\$ 186,678	\$ _____

*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
96 Western and Central Plain Region Dairy Farms, 1998

Item	Average	
<u>Cash Flow from Operating Activities</u>		
Cash farm receipts	\$ 1,305,918	
- Cash farm expenses	<u>1,109,662</u>	
= Net cash farm income		\$ 196,256
Personal withdrawals & family expenses including nonfarm debt payments	\$ 72,365	
- Nonfarm income	<u>5,640</u>	
- Net cash withdrawals from the farm		<u>\$ 66,725</u>
= Net Provided by Operating Activities		\$ 129,531
<u>Cash Flow From Investing Activities</u>		
Sale of assets: machinery	\$ 5,106	
+ real estate	3,333	
+ other stock & cert.	<u>3,635</u>	
= Total asset sales		\$ 12,074
Capital purchases: expansion livestock	\$ 17,506	
+ machinery	62,109	
+ real estate	79,827	
+ other stock & cert.	<u>15,003</u>	
- Total invested in farm assets		<u>\$ 174,445</u>
= Net Provided by Investment Activities		\$ -162,371
<u>Cash Flow From Financing Activities</u>		
Money borrowed (intermediate & long term)	\$ 146,733	
+ Money borrowed (short term)	1,637	
+ Increase in operating debt	13,052	
+ Cash from nonfarm capital used in business	6,312	
+ Money borrowed - nonfarm	<u>1,049</u>	
= Cash inflow from financing		\$ 168,783
Principal payments (intermediate & long term)	\$ 135,869	
+ Principal payments (short term)	4,566	
+ Decrease in operating debt	<u>0</u>	
- Cash outflow for financing		<u>\$ 140,435</u>
= Net Provided by Financing Activities		\$ 28,348
<u>Cash Flow From Reserves</u>		
Beginning farm cash, checking & savings		\$ 13,411
- Ending farm cash, checking & savings		<u>9,218</u>
= Net Provided from Reserves		\$ 4,193
Imbalance (error)		<u>\$ -299</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 1998. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1999 debt payments shown below.

FARM DEBT PAYMENTS PLANNED

Same 86 Western and Central Plain Region Dairy Farms, 1997 & 1998

Debt Payments	Average			My Farm		
	1998 Payments		Planned 1999	1998 Payments		Planned 1999
	Planned	Made		Planned	Made	
Long term	\$ 55,908	\$ 77,135	\$ 58,513	\$ _____	\$ _____	\$ _____
Intermediate term	98,424	127,766	98,982	_____	_____	_____
Short term	6,366	5,272	3,280	_____	_____	_____
Operating (net reduction)	4,703	0	3,080	_____	_____	_____
Accounts payable (net reduction)	<u>3,666</u>	<u>14,115</u>	<u>324</u>	_____	_____	_____
Total	\$ 169,067	\$ 224,288	\$164,179	\$ _____	\$ _____	\$ _____
Per cow	\$ 467	\$ 620		\$ _____	\$ _____	
Per cwt. 1998 milk	\$ 2.16	\$ 2.87		\$ _____	\$ _____	
Percent of total 1998 farm receipts	12%	17%		_____	_____	
Percent of 1998 milk receipts	14%	19%		_____	_____	

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 1998 (as of December 31, 1997) that could have been made with the amount available for debt service in 1998. Farmers who did not participate in DFBS in 1997 have their 1998 ratios based on planned debt payments for 1999.

COVERAGE RATIOS

Same 86 Western and Central Plain Region Dairy Farms, 1997 & 1998

Item	Average	Item	Average
<u>Cash Flow Coverage Ratio</u>		<u>Debt Coverage Ratio</u>	
Cash farm receipts	\$1,283,048	Net farm income (w/o apprec.)	\$225,135
- Cash farm expenses	1,089,624	+ Depreciation	76,820
+ Interest paid (cash)	74,162	+ Interest paid (accrual)	73,531
- Net personal withdrawals from farm*	<u>64,049</u>	- Net personal withdrawals from farm*	<u>64,049</u>
(A) = Amount Available for Debt Service	\$ 203,537	(A') = Repayment Capacity	\$311,437
(B) = Debt Payments Planned for 1998 (as of December 31, 1997)	\$ 169,067	(B) = Debt Payments Planned for 1998 (as of December 31, 1997)	\$169,067
(A/B)= Cash Flow Coverage Ratio for 1998	1.20	(A'/B)= Debt Coverage Ratio for 1998	1.84

*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	Regional Average		My Farm	Expected Change	1999 Projection
	Per Cow	Per Cwt.	Per Cow/ Per Cwt.		
Average no. of cows	368				
Total cwt. of milk sold		79,690			
<u>Accrual Operating Receipts</u>					
Milk	\$ 3,347	\$ 15.46	\$ _____		\$ _____
Dairy cattle	200	0.92			
Dairy calves	24	0.11			
Other livestock	5	0.03			
Crops	77	0.36			
Misc. Receipts	95	0.44			
Total	\$ 3,749	\$ 17.31	\$ _____		\$ _____
<u>Accrual Operating Expenses</u>					
Hired labor	\$ 508	\$ 2.34	\$ _____		\$ _____
Dairy grain & concentrate	860	3.97			
Dairy roughage	51	0.23			
Nondairy feed	0	0.00			
Mach. hire, rent & lease	79	0.37			
Mach. repair & vehicle exp.	138	0.64			
Fuel, oil & grease	47	0.22			
Replacement livestock	65	0.30			
Breeding	29	0.14			
Vet & medicine	101	0.46			
Milk marketing	104	0.48			
Bedding	45	0.21			
Milking supplies	69	0.32			
Cattle lease	14	0.07			
Custom boarding	46	0.21			
bST	62	0.29			
Other livestock exp.	28	0.13			
Fertilizer & lime	63	0.29			
Seeds & plants	43	0.20			
Spray & other crop exp.	49	0.23			
Land, bldg., fence repair	54	0.25			
Taxes	34	0.16			
Real estate rent & lease	61	0.28			
Insurance	33	0.15			
Utilities	60	0.27			
Miscellaneous	30	0.14			
Total Less Interest Paid	\$ 2,670	\$ 12.33	\$ _____		\$ _____
<u>Net Accrual Operating Income</u>					
		<u>Total</u>			
(without interest paid)	\$ 396,907		\$ _____		\$ _____
- Change in livestock & crop invent.*	51,192				
- Change in accounts receivable	22,486				
- Change in feed & supply inventory**	37,784				
+ Change in accounts payable***	<u>-14,243</u>				
NET CASH FLOW	\$ 271,221		\$ _____		\$ _____
- Net family withdrawals	\$ 65,676				
Available for Farm	\$ 205,545		\$ _____		
- Farm debt payments	<u>225,671</u>				
Available for Farm Investment	\$ -20,126		\$ _____		\$ _____
- Capital purchases	<u>174,445</u>				
Additional Capital Needed	\$ 194,571		\$ _____		\$ _____

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

Cropping Analysis

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

LAND RESOURCES AND CROP PRODUCTION
96 Western and Central Plain Region Dairy Farms, 1998

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	364	350	714	_____	_____	_____
Nontillable	26	5	31	_____	_____	_____
Other nontillable	89	8	97	_____	_____	_____
Total	478	364	842	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Prod/Acre</u>	<u>Acres</u>	<u>Prod/Acre</u>	
Hay crop	88	306	3.8 tn DM	_____	_____	tn DM
Corn silage	87	327	20.2 tn	_____	_____	tn
			6.5 tn DM	_____	_____	tn DM
Other forage	11	112	1.7 tn DM	_____	_____	tn DM
Total forage	89	635	5.1 tn DM	_____	_____	tn DM
Corn grain	36	143	119 bu	_____	_____	bu
Oats	7	27	62 bu	_____	_____	bu
Wheat	19	68	68 bu	_____	_____	bu
Other crops	36	104		_____	_____	
Tillable pasture	19	51		_____	_____	
Idle	15	44		_____	_____	
Total Tillable Acres	96	714		_____	_____	

*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 280, corn silage 296, corn grain 54, oats 2, tillable pasture 10, and idle 7.

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
96 Western and Central Plain Region Dairy Farms, 1998

Item	Average	My Farm
Total tillable acres per cow	1.94	_____
Total forage acres per cow	1.60	_____
Harvested forage dry matter, tons per cow	8.15	_____

Cropping Analysis (continued)

A number of cooperators have allocated crop expenses among the hay crop, corn, and other crops produced. Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per acre and per production unit for hay and corn. Additional expense items such as fuels, labor, and machinery repairs are not included. Rotational grazing was used on 4 farms in the region.

CROP RELATED ACCRUAL EXPENSES
Western and Central Plain Region Dairy Farms Reporting, 1998

Item	Total Per Till. Acre	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Sh. Bu.	Hay Crop		Pasture	
					Per Acre	Per Ton DM	Per Till. Acre	Per Total Acre
No. of farms reporting	96	18			18		3	
Ave. number of acres	714	342			275		0	27
Fert. & lime	\$ 32.31	\$ 38.98	\$ 6.48	\$ 0.33	\$ 25.99	\$ 6.77	\$ 0.00	\$ 31.74
Seeds & plants	22.01	30.24	5.03	0.26	18.92	4.93	0.00	39.89
Spray & other crop exp.	25.34	43.56	7.24	0.37	11.84	3.08	0.00	13.00
TOTAL	\$ 79.66	\$ 112.78	\$ 18.75	\$ 0.96	\$ 56.75	\$ 14.78	\$ 0.00	\$ 84.63

My Farm

Fert. & lime	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
Seeds & plants	_____	_____	_____	_____	_____	_____	_____	_____
Spray & other crop exp.	_____	_____	_____	_____	_____	_____	_____	_____
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
96 Western and Central Plain Region Dairy Farms, 1998

Machinery Expense	Average		My Farm	
	Total Expenses	Per Till. Acre	Total Expenses	Per Till. Acre
Fuel, oil & grease	\$ 17,395	\$ 24.36	\$ _____	\$ _____
Mach. repair & vehicle exp.	50,947	71.35	_____	_____
Machine hire, rent & lease	29,140	40.81	_____	_____
Interest (5%)	18,173	25.45	_____	_____
Depreciation	41,035	57.47	_____	_____
Total	\$ 156,690	\$ 219.45	\$ _____	\$ _____

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

96 Western and Central Plain Region Dairy Farms, 1998

Item	Dairy Cows		Heifer					
	No.	Value	Bred		Open		Calves	
			No.	Value	No.	Value	No.	Value
Beg. year (owned)	350	\$ 349,150	89	\$ 78,721	86	\$ 45,312	67	\$ 19,593
+ Change w/o apprec.		18,404		8,770		4,310		-638
+ Appreciation		<u>3,470</u>		<u>1,280</u>		<u>115</u>		<u>821</u>
End year (owned)	365	\$ 371,024	99	\$ 88,771	93	\$ 49,737	66	\$ 19,776
End including leased	376							
Average number	368		257	(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. 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

96 Western and Central Plain Region Dairy Farms, 1998

Item	Average	My Farm
Total milk sold, lbs.	7,969,001	_____
Milk sold per cow, lbs.	21,646	_____
Average milk plant test, percent butterfat	3.62%	_____

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**

96 Western and Central Plain Region Dairy Farms, 1998

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Cost of Producing Milk</u>						
Operating costs	\$ 926,944	\$ 2,519	\$ 11.63	\$ _____	\$ _____	\$ _____
Purchased inputs costs	\$1,006,448	\$ 2,735	\$ 12.63	\$ _____	\$ _____	\$ _____
Total Costs	\$1,122,269	\$ 3,050	\$ 14.08	\$ _____	\$ _____	\$ _____
<u>Accrual Receipts</u>						
<u>From Milk</u>	\$1,231,766	\$ 3,347	\$ 15.46	\$ _____	\$ _____	\$ _____
Net Milk Receipts	\$1,193,578	\$ 3,243	\$ 14.98	\$ _____	\$ _____	\$ _____
Net Farm Income without Apprec.	\$ 225,318	\$ 612	\$ 2.83	\$ _____	\$ _____	\$ _____
Net Farm Income with Apprec.	\$ 269,187	\$ 731	\$ 3.38	\$ _____	\$ _____	\$ _____

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

96 Western and Central Plain Region Dairy Farms, 1998

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	\$ 860	\$ 3.97	\$ _____	\$ _____
Purchased dairy roughage	51	0.23	_____	_____
Total Purchased Dairy Feed	\$ 911	\$ 4.20	\$ _____	\$ _____
Purchased grain & conc. as % of milk receipts		26%		%
Purchased feed & crop exp.	\$ 1,065	\$ 4.92	\$ _____	\$ _____
Purchased feed & crop exp. as % of milk receipts		32%		%
Breeding	\$ 29	\$ 0.14	\$ _____	\$ _____
Veterinary & medicine	101	0.46	_____	_____
Milk marketing	104	0.48	_____	_____
Bedding	45	0.21	_____	_____
Milking supplies	69	0.32	_____	_____
Cattle lease	14	0.07	_____	_____
Custom boarding	46	0.21	_____	_____
bST	62	0.29	_____	_____
Other livestock expense	28	0.13	_____	_____

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.

CAPITAL EFFICIENCY

96 Western and Central Plain Region Dairy Farms, 1998

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$ 252,518	\$ 5,682	\$ 2,928	\$ 5,744
Real estate		2,189		2,214
Machinery & equipment	43,896	988	509	
<u>Ratios</u>				
Asset turnover	Operating Expense	Interest Expense	Depreciation Expense	
0.68	0.73	0.05	0.06	
<u>My Farm</u>				
Farm capital	\$ _____	\$ _____	\$ _____	\$ _____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
<u>Ratios</u>				
Asset turnover	Operating Expense	Interest Expense	Depreciation Expense	
_____	_____	_____	_____	

LABOR FORCE INVENTORY AND ANALYSIS

96 Western and Central Plain Region Dairy Farms, 1998

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	14.4	46	13	\$ 36,620
Operator number 2	5.7	40	13	14,471
Operator number 3	2.7	38	13	6,650
Family paid	8.0			
Family unpaid	2.7			
Hired	<u>65.9</u>			
Total	99.3	/ 12 = 8.28 Worker Equivalent 1.74 Operator/Manager Equivalent		
<u>My Farm:</u> Total _____ / 12 = _____ Worker Equivalent				
Operator's	_____	/ 12 = _____ Operator/Manager Equivalent		
<u>Labor Efficiency</u>				
	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	368	44	_____	_____
Milk sold, pounds	7,969,001	962,440	_____	_____
Tillable acres	714	86	_____	_____
Work units	3,571	431	_____	_____
<u>Labor Costs</u>				
	Average		My Farm	
	Total	Per Cow	Per Cwt.	Total
				Per Cow
				Per Cwt.
Value of operator(s) labor (\$1,600/mo.)	\$ 36,480	\$ 99	\$ 0.46	\$ _____
Family unpaid (\$1,600/mo.)	4,320	12	0.05	_____
Hired	<u>186,797</u>	<u>508</u>	<u>2.34</u>	_____
Total Labor	\$ 227,597	\$ 618	\$ 2.85	\$ _____
Machinery Cost	\$ 156,690	\$ 426	\$ 1.97	\$ _____
Total Labor & Mach.	\$ 384,287	\$ 1,044	\$ 4.82	\$ _____

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 86 Western and Central Plain Region Dairy Farms, 1997 & 1998

Selected Factors	Average of 86 Farms*		My Farm		
	1997	1998	1997	1998	Goal
<u>Size of Business</u>					
Average number of cows	334	362	_____	_____	_____
Average number of heifers	230	251	_____	_____	_____
Milk sold, lbs.	7,307,699	7,823,720	_____	_____	_____
Worker equivalent	7.83	8.09	_____	_____	_____
Total tillable acres	655	709	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, lbs.	21,860	21,642	_____	_____	_____
Hay DM per acre, tons	3.0	3.8	_____	_____	_____
Corn silage per acre, tons	17.5	20.6	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	43	45	_____	_____	_____
Milk sold/worker, lbs.	933,295	967,085	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	33%	26%	_____ %	_____ %	_____ %
Dairy feed & crop exp. per cwt. milk	\$ 5.33	\$ 4.92	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$ 1,010	\$ 1,042	\$ _____	\$ _____	\$ _____
Operating cost of producing cwt. of milk	\$ 11.78	\$ 11.62	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$ 5,684	\$ 5,719	\$ _____	\$ _____	\$ _____
Mach. & equip. per cow	\$ 984	\$ 994	\$ _____	\$ _____	\$ _____
Asset turnover ratio	0.60	0.68	_____	_____	_____
<u>Profitability</u>					
Net farm income w/o apprec.	\$ 63,288	\$ 225,135	\$ _____	\$ _____	\$ _____
Net farm income w/apprec.	\$ 80,613	\$ 264,455	\$ _____	\$ _____	\$ _____
Labor & mgt. income per operator/manager	\$ 5,057	\$ 97,283	\$ _____	\$ _____	\$ _____
Rate of return on equity capital w/appreciation	2.1%	19.0%	_____ %	_____ %	_____ %
Rate of return on all capital w/appreciation	4.6%	13.4%	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth, end year	\$ 976,691	\$ 1,156,270	\$ _____	\$ _____	\$ _____
Debt to asset ratio	0.50	0.47	_____	_____	_____
Farm debt per cow	\$ 2,777	\$ 2,724	\$ _____	\$ _____	\$ _____

*Farms participating both years.

**Average for the year.

RECEIPTS AND EXPENSES PER COW AND PER CWT.
Same 86 Western and Central Plain Region Dairy Farms, 1997 & 1998

Item	1997		1998	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	334		362	
Cwt. Of Milk Sold		73,077		78,237
<u>ACCRUAL OPERATING RECEIPTS</u>				
Milk	\$ 2,955	\$ 13.51	\$ 3,345	\$ 15.48
Dairy cattle	241	1.10	201	0.93
Dairy calves	20	0.09	25	0.12
Other livestock	7	0.03	6	0.03
Crops	35	0.16	83	0.39
Miscellaneous receipts	75	0.34	92	0.43
Total Receipts	\$ 3,332	\$ 15.23	\$ 3,753	\$ 17.37
<u>ACCRUAL OPERATING EXPENSES</u>				
Hired labor	\$ 477	\$ 2.18	\$ 503	\$ 2.33
Dairy grain & concentrate	978	4.47	856	3.96
Dairy roughage	32	0.15	49	0.23
Nondairy feed	0	0.00	0	0.00
Machine hire/rent/lease	72	0.33	80	0.37
Mach. repair & vehicle exp.	123	0.56	138	0.64
Fuel, oil & grease	51	0.23	48	0.22
Replacement livestock	52	0.24	63	0.29
Breeding	28	0.13	29	0.13
Veterinary & medicine	95	0.43	101	0.47
Milk marketing	101	0.46	104	0.48
Bedding	40	0.18	45	0.21
Milking supplies	63	0.29	70	0.32
Cattle lease	10	0.04	11	0.05
Custom boarding	38	0.17	51	0.23
bST expense	64	0.29	61	0.28
Other livestock expense	31	0.14	27	0.13
Fertilizer & lime	65	0.30	64	0.29
Seeds & plants	43	0.20	44	0.20
Spray/other crop expense	47	0.21	51	0.24
Land, building, fence repair	43	0.20	53	0.25
Taxes	33	0.15	34	0.16
Real estate rent/lease	59	0.27	60	0.28
Insurance	30	0.14	34	0.16
Utilities	67	0.31	60	0.28
Interest paid	201	0.92	203	0.94
Miscellaneous	26	0.12	27	0.13
Total Operating Expenses	\$ 2,869	\$ 13.11	\$ 2,867	\$ 13.27
Expansion Livestock	84	0.38	52	0.24
Machinery Depreciation	114	0.52	112	0.52
Real Estate Depreciation	75	0.34	101	0.47
Total Expenses	\$ 3,143	\$ 14.36	\$ 3,131	\$ 14.49
Net Farm Income Without Appreciation	\$ 189	\$ 0.87	\$ 622	\$ 2.88

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

96 Western and Central Plain Region Dairy Farms, 1998

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)
19.88	939	21,331,329	24,141	5.6	26	59	1,254,616
9.55	418	9,075,436	22,267	4.1	20	48	1,017,169
5.97	274	5,472,314	21,226	3.6	18	43	887,978
3.98	147	2,846,610	19,304	2.9	17	36	718,050
2.32	79	1,461,801	16,218	1.9	14	28	529,834

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)	
\$490	17%	\$272	\$733	\$738	\$3.79	
694	22	386	931	924	4.60	
797	25	447	1,037	1,036	4.92	
907	28	515	1,163	1,110	5.37	
1,028	31	665	1,384	1,289	6.17	

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)
\$3,713	\$8.57	\$12.37	\$682,200	\$592,852	308,975	\$482,735
3,442	10.73	13.73	316,468	260,448	123,256	248,010
3,283	11.60	14.30	200,681	162,574	76,715	137,758
3,009	12.17	15.22	117,270	90,900	39,241	69,315
2,564	13.62	17.86	41,306	30,089	3,491	5,121

*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 253 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

253 New York Dairy Farms, 1997

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)
16.3	749	16,977,721	24,322	4.1	22	57	1,169,242
8.0	318	6,801,234	22,395	3.4	19	46	929,873
5.8	214	4,351,063	21,446	3.0	18	41	819,044
4.5	155	3,051,237	20,524	2.6	17	37	731,958
3.9	128	2,361,619	19,512	2.4	16	34	659,774

3.4	106	1,896,078	18,496	2.2	15	32	597,572
2.9	85	1,512,359	17,718	2.0	14	30	532,282
2.4	69	1,177,556	16,584	1.8	13	28	486,658
1.9	55	940,983	15,088	1.5	11	24	413,316
1.4	40	601,704	12,762	1.0	8	19	288,154

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)
\$435	20%	\$226	\$675	\$576	\$3.68
600	26	296	813	774	4.51
673	28	336	903	874	4.82
745	29	393	975	943	5.10
820	32	429	1,021	1,016	5.37

883	33	465	1,079	1,092	5.61
939	35	503	1,172	1,146	5.85
987	37	550	1,254	1,202	6.09
1,059	39	613	1,350	1,279	6.47
1,183	45	741	1,553	1,411	7.41

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

**FARM BUSINESS CHART FOR
FARM MANAGEMENT COOPERATORS**
253 New York Dairy Farms, 1997

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)
\$3,381	\$15.09	\$1,319	\$8.30	\$2,127	\$12.68
3,052	14.56	1,690	10.02	2,552	13.72
2,941	14.20	1,870	10.58	2,726	14.27
2,836	13.86	2,079	11.05	2,847	14.84
2,719	13.66	2,158	11.46	2,947	15.45

2,553	13.53	2,279	11.81	3,056	16.12
2,428	13.41	2,403	12.24	3,151	16.61
2,271	13.25	2,525	12.81	3,285	17.46
2,030	13.01	2,682	13.59	3,486	18.63
1,686	12.54	3,039	15.55	3,820	22.37

Profitability						
Net Farm Income Without Appreciation			Net Farm Income With Appreciation		Labor & Management Income	
Total	Per Cow	As % of Total Accrual Receipts	Total	Per Cow	Per Farm	Per Operator
(3)	(10)	(3)	(3)	(10)	(3)	(3)
\$258,543	\$806	25.1%	\$270,808	\$847	\$160,233	\$98,682
77,869	516	17.3	100,963	573	37,347	28,721
46,999	392	13.3	63,703	461	15,083	11,972
34,998	326	11.1	45,449	396	5,143	3,819
27,155	261	8.6	34,877	320	-1,948	-1,611

19,291	165	5.8	24,515	239	-10,582	-7,542
8,889	86	3.0	14,345	147	-20,185	-14,855
-2,819	-28	-1.1	4,254	40	-31,873	-25,017
-19,342	-181	-6.9	-11,524	-118	-52,868	-39,548
-74,027	-473	-22.2	-67,379	-442	-114,768	-93,571

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 30-34.

Financial Analysis Chart

The farm financial analysis chart on page 26 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
253 New York Dairy Farms, 1997

Liquidity (repayment)					
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)	
\$66	\$720	2.32	3%	\$218	
209	565	1.40	8	910	
297	500	1.18	11	1,452	
363	442	1.01	13	1,913	
410	379	0.89	16	2,291	

445	318	0.76	18	2,675	
496	258	0.62	19	3,031	
565	197	0.44	22	3,349	
620	87	0.17	25	3,818	
770	-210	-0.60	38	4,870	

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)	(3)	(3)
0.02	97%	0.04	0.00	15%	10%
0.10	89	0.13	0.00	7	7
0.23	79	0.21	0.08	4	5
0.37	72	0.29	0.21	1	4
0.51	65	0.36	0.31	-1	2

0.71	57	0.41	0.41	-3	1
0.90	52	0.47	0.49	-5	-1
1.12	46	0.56	0.59	-8	-3
1.55	38	0.68	0.71	-14	-5
7.09	16	1.01	1.14	-58	-11

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	
(11)	(11)	(11)	(11)	(6)	
.75	\$1,142	\$513	\$3,881	\$144,340	
.62	1,845	749	4,914	49,494	
.55	2,138	900	5,538	31,463	
.52	2,395	1,041	6,043	19,820	
.48	2,708	1,169	6,505	10,964	

.44	3,158	1,319	6,937	2,421	
.40	3,544	1,484	7,378	-6,589	
.35	3,888	1,704	7,957	-22,343	
.30	4,476	2,033	9,059	-48,040	
.22	7,015	2,778	11,938	-157,818	

*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.

Factors Concerning bST, Culling, Dairy Enterprise, and Parlor Efficiency

In 1998, supplementary data were collected from the participating farms that dealt with some additional management concerns of dairy farms. Reported below are the averages and business charts for these factors. Each category is sorted independently, therefore farms that are the highest or lowest in one column may not necessarily be the highest or lowest in the next column. Please note that this is only descriptive data from the participating farms and only represents those farms. Please refer to the glossary for definitions and how these factors were calculated.

SUPPLEMENTAL FARM BUSINESS CHART
Western and Central Plain Farms, 1998

Culling Rate %	For Dairy Enterprise Only		
	Dairy Worker Equivalents	Cows Per Worker Equivalents	Pounds Sold Per Worker Equivalent
55 farms	53 farms	53 farms	53 farms
20.8	9.95	166	3,297,546
29.2	4.31	116	2,582,160
32.1	2.82	96	2,014,656
36.0	1.92	71	1,459,162
44.4	1.06	51	954,116
Average			
32.5	3.96	100	2,059,101

Milk lbs Produced Per Labor Hour	Total Cows By Labor Hour Milking	Milk Harvested Per Machine
53 farms	53 farms	53 farms
2,174	37.2	749,547
1,493	25.4	531,020
1,235	21.4	374,841
909	16.3	296,865
538	10.3	180,116
Average		
1,266	22.1	425,030

bST Expense Per Cow	bST Expense Per Cwt of Milk	% Herd On bST
80 farms	80 farms	80 farms
\$ 15.88	\$ 0.08	69%
48.00	0.24	58
64.50	0.31	47
79.56	0.36	35
94.44	0.43	12
Average		
\$ 66.00	\$ 0.30	44%

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 29 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 587 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 large conventional farms showed average profits somewhat higher than the small freestall farm businesses.

Farm business charts have been computed for each of the five housing and herd size categories and are on pages 30-34. 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 42-51 of the 1997 State Summary*. As herd size increases, the average profitability generally increases (page 42)*. Net farm income without appreciation averaged \$ -603 per farm for the less than 40 cow farms and \$131,897 per farm for those with 300 cows and over. 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 46-49)*, even though percent equity was higher on the smaller farms. The group with 85 to 99 cows 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 50-51)*. The farms with 300 and more cows per farm averaged 57 percent more milk sold per cow than the smallest farms. All of the groups with 85 or more cows averaged above 18,000 pounds of milk sold per cow while the farms smaller than 85 cows averaged 16,650 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 288,076 pounds at the lowest herd size category up to 1,011,165 pounds at the largest size category.

*Wayne A. Knoblauch, and Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1997, Department of Agricultural, Resource, and Managerial Economics, Cornell University, R.B. 98-06, August 1998.

SELECTED BUSINESS FACTORS BY TYPE OF BARN AND HERD SIZE

222 New York Dairy Farms, 1997

Item	Farms with:	Conventional		Freestall		
		<= 60 Cows	>60 Cows	<=150 Cows	151-300 Cows	≥300 Cows
Number of farms		42	39	60	41	40
<u>Cropping Program Analysis</u>						
Total Tillable acres		153	247	332	597	1,108
Tillable acres rented*		58	101	143	311	500
Hay crop acres*		100	156	174	269	437
Corn silage acres*		26	52	92	185	495
Hay crop, tons DM/acre		1.9	2.1	2.1	2.5	3.0
Corn silage, tons/acre		12.2	14.3	14.6	14.9	17.2
Oats, bushels/acre		71	65	58	55	40
Forage DM per cow, tons		6.6	7.2	7.4	7.3	6.8
Tillable acres/cow		3.3	3.1	3.1	2.8	1.9
Fert. & lime exp./tillable acre		\$17.31	\$23.18	\$27.38	\$27.65	\$31.89
Total machinery costs		\$21,065	\$35,299	\$50,301	\$101,405	\$229,353
Machinery cost/tillable acre		\$138	\$143	\$152	\$170	\$207
<u>Dairy Analysis</u>						
Number of cows		46	80	107	216	587
Number of heifers		36	63	77	156	422
Milk sold, lbs.		757,555	1,394,133	1,997,423	4,337,572	13,169,719
Milk sold/cow, lbs.		16,392	17,327	18,714	20,118	22,421
Operating cost of prod. milk/cwt.		\$10.80	\$12.07	\$11.82	\$12.23	\$11.65
Total cost of prod. milk/cwt.		\$17.82	\$16.81	\$16.12	\$15.21	\$13.68
Price/cwt. milk sold		\$13.61	\$13.73	\$13.77	\$13.93	\$13.49
Purchased dairy feed/cow		\$765	\$808	\$850	\$926	\$1,041
Purchased dairy feed/cwt. milk		\$4.65	\$4.64	\$4.55	\$4.61	\$4.64
Purchased grain & conc. as % milk rec.		31%	32%	32%	32%	34%
Purchased feed & crop exp./cwt. milk		\$5.43	\$5.46	\$5.57	\$5.51	\$5.29
<u>Capital Efficiency</u>						
Farm capital/worker		\$207,363	\$199,094	\$226,750	\$246,641	\$249,800
Farm capital/cow		\$8,745	\$6,968	\$6,972	\$6,280	\$5,528
Farm capital/tillable acre owned		\$4,235	\$3,818	\$3,947	\$4,760	\$5,337
Real estate/cow		\$4,597	\$3,355	\$3,169	\$2,603	\$2,236
Machinery investment/cow		\$1,762	\$1,310	\$1,423	\$1,145	\$875
Asset turnover ratio		0.30	0.38	0.43	0.51	0.62
<u>Labor Efficiency</u>						
Worker equivalent		1.94	2.80	3.29	5.50	12.99
Operator/manager equivalent		1.25	1.31	1.41	1.73	2.08
Milk sold/worker, lbs.		390,492	497,905	607,119	788,649	1,013,835
Cows/worker		24	29	33	39	45
Labor cost/cow		\$757	\$640	\$577	\$562	\$597
Labor cost/tillable acre		\$228	\$207	\$186	\$203	\$316
<u>Profitability & Balance Sheet Analysis</u>						
Net farm income (without appreciation)		\$12,153	\$9,146	\$16,448	\$27,901	\$135,137
Labor & management income/operator		\$-6,954	\$-12,276	\$-9,715	\$-7,221	\$23,612
Rate Return on all capital with appreciation		-1.8%	-1.4%	0.4%	2.7%	6.1%
Farm debt/cow		\$2,153	\$1,980	\$2,448	\$2,779	\$2,737
Percent equity		74%	71%	63%	55%	50%

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

FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS

42 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds of 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)
3.21	59	1,101,928	20,866	3.4	19	39	693,273
2.44	55	1,003,781	19,995	2.5	18	32	565,561
2.17	53	914,960	18,631	2.2	17	30	495,451
2.01	51	879,648	18,136	2.1	16	28	468,090
1.96	48	803,954	17,338	2.0	15	26	434,043

1.82	46	731,007	15,900	1.8	14	24	400,376
1.68	42	680,016	15,083	1.6	12	23	346,975
1.58	41	624,372	14,511	1.4	10	22	311,828
1.50	39	555,439	13,519	1.2	8	20	286,172
1.33	34	416,286	10,729	0.8	5	15	202,070

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)
\$361	19%	\$197	\$744	\$462	\$3.64
519	24	297	1,000	639	4.34
575	27	360	1,080	746	4.68
637	28	411	1,131	807	4.88
658	31	449	1,175	853	5.27

725	33	470	1,246	944	5.68
798	35	493	1,311	998	5.95
847	38	570	1,382	1,069	6.23
905	41	639	1,515	1,148	6.59
1,084	46	789	1,840	1,349	7.67

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)
\$3,082	\$7.59	\$13.87	\$42,028	\$872	\$21,550	\$38,588
2,831	9.03	15.37	31,895	732	11,197	21,215
2,552	9.85	16.36	28,320	603	5,762	15,630
2,454	10.36	16.62	23,690	436	718	12,112
2,377	10.54	17.44	14,588	349	-1,899	9,298

2,102	11.16	17.81	10,027	215	-4,866	3,903
1,978	11.63	18.76	5,331	112	-11,366	696
1,904	12.40	20.20	-504	-11	-22,365	-5,288
1,780	12.96	22.27	-5,675	-130	-28,673	-11,140
1,403	14.95	27.10	-16,537	-446	-43,483	-22,635

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

FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS

39 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds of 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)
4.05	126	2,056,671	22,995	4.1	21	48	884,871
3.78	103	1,865,087	20,647	3.1	19	38	677,191
3.46	91	1,675,072	18,877	2.8	18	35	636,310
3.21	82	1,581,941	18,329	2.4	17	33	559,715
2.98	77	1,383,678	17,873	2.3	16	31	517,084

2.63	74	1,248,877	17,266	2.1	15	29	497,963
2.50	70	1,182,772	16,701	1.9	14	28	479,995
2.32	67	1,152,870	15,718	1.7	12	26	441,783
1.93	64	1,063,871	14,601	1.2	12	22	354,372
1.47	62	896,128	12,637	0.8	9	19	300,834

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)		
\$448	21%	\$184	\$664	\$608	\$3.75		
563	25	246	816	699	4.10		
633	28	299	936	774	4.67		
680	29	394	978	834	4.88		
723	31	431	1,033	900	5.09		

800	33	460	1,123	938	5.46		
868	35	509	1,207	1,072	5.97		
951	38	564	1,311	1,131	6.44		
1,011	42	655	1,357	1,202	6.84		
1,086	47	748	1,541	1,360	7.95		

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)	
\$3,044	\$8.78	\$13.65	\$42,169	\$555	\$15,671	\$56,186	
2,854	10.51	14.98	36,176	416	9,029	25,240	
2,652	11.24	15.59	28,970	354	3,396	17,846	
2,517	11.73	15.96	24,309	323	628	8,612	
2,432	11.92	16.27	17,957	244	-7,852	2,860	

2,377	12.21	16.70	11,509	142	-11,099	-3,089	
2,270	12.79	17.47	-159	-0.8	-17,743	-10,909	
2,183	13.57	18.33	-10,805	-136	-25,059	-22,645	
2,046	14.17	19.55	-17,203	-224	-30,421	-36,438	
1,690	15.53	23.35	-33,218	-423	-55,370	-69,723	

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

FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS
60 Freestall Barn Dairy Farms with 150 or Less Cows, New York, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds of 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)
5.28	145	3,195,348	24,936	3.8	21	58	993,037
4.44	139	2,748,342	21,844	3.0	19	42	782,022
4.08	134	2,549,753	20,493	2.7	18	38	721,468
3.67	122	2,283,113	19,390	2.5	16	34	672,546
3.46	114	2,103,312	18,563	2.2	15	33	638,941

3.13	107	1,942,241	17,900	2.0	14	32	596,502
2.84	96	1,657,370	17,259	1.8	14	31	550,538
2.58	85	1,425,509	16,213	1.7	13	29	513,301
2.03	73	1,182,037	15,070	1.4	11	27	458,883
1.38	54	887,209	13,256	1.0	8	22	357,100

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)		
\$530	23%	\$263	\$659	\$630	\$4.09		
615	26	307	819	834	4.74		
652	27	335	878	879	5.05		
703	29	395	965	916	5.20		
759	31	442	1,021	1,015	5.35		

827	32	494	1,062	1,060	5.54		
883	34	535	1,160	1,129	5.87		
948	36	575	1,213	1,176	6.16		
992	39	640	1,303	1,244	6.52		
1,131	42	756	1,458	1,377	7.23		

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)	
\$3,439	\$8.88	\$12.77	\$80,921	\$746	\$42,272	\$66,765	
3,026	10.20	13.87	54,208	486	25,117	42,074	
2,831	10.49	14.54	42,104	382	9,790	34,040	
2,646	10.73	15.20	32,497	332	-73	23,877	
2,558	11.07	15.91	25,051	267	-4,267	15,215	

2,506	11.41	16.45	16,655	176	-9,885	4,624	
2,347	11.84	16.99	7,778	90	-17,559	-5,834	
2,197	12.84	17.83	-3,503	-33	-26,980	-25,878	
2,023	14.03	18.94	-22,366	-260	-50,159	-59,207	
1,798	16.51	21.41	-68,863	-590	-87,562	-107,335	

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

FARM BUSINESS CHART FOR MEDIUM FREESTALL DAIRY FARMS

41 Freestall Barn Dairy Farms with 151-300 Cows, New York, 1997

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)
8.87	287	6,731,911	24,776	3.8	23	63	1,224,427
6.95	272	5,348,971	22,961	3.4	20	50	980,478
6.47	254	5,094,989	22,007	3.3	18	48	910,554
5.75	235	4,872,494	21,306	3.1	17	45	872,906
5.51	220	4,497,454	20,775	2.9	16	42	811,162

5.36	203	4,025,898	20,268	2.5	15	39	776,088
5.00	190	3,690,005	19,634	2.4	13	36	739,869
4.38	182	3,483,656	18,313	2.2	12	34	701,973
4.05	171	3,278,840	17,079	2.0	10	31	635,417
3.21	158	2,748,721	14,619	1.0	9	29	553,188

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)
\$512	20%	\$262	\$656	\$747	\$4.06
674	26	327	779	920	4.70
770	28	399	873	955	4.94
862	30	436	946	1,003	5.14
901	32	463	983	1,080	5.45

925	33	491	1,024	1,122	5.61
970	34	531	1,156	1,186	5.91
1,002	36	562	1,269	1,265	6.11
1,055	39	635	1,346	1,369	6.38
1,261	46	710	1,418	1,525	7.77

Value and Cost of Production**Profitability**

Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Apprec.		Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(10)	(10)	(10)	Total	Per Cow	(3)	(6)
\$3,568	\$9.13	\$13.07	\$167,103	\$838	\$60,411	\$118,357
3,298	10.55	13.65	100,768	548	40,779	70,965
3,057	11.15	13.96	76,563	336	25,167	52,519
2,932	11.44	14.21	56,942	256	9,952	29,714
2,904	12.20	14.83	35,560	160	-1,910	7,348

2,809	12.66	15.37	16,759	68	-7,808	-16,957
2,721	13.00	15.81	-934	-4	-18,240	-34,456
2,471	13.54	16.41	-20,243	-90	-31,069	-49,012
2,370	14.12	17.60	-41,389	-214	-47,750	-67,973
2,004	16.10	19.65	-84,122	-439	-112,680	-168,740

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

FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS

40 Freestall Barn Dairy Farms with 300 or More Cows, New York, 1997

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds of 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)
30.16	1,612	36,966,226	25,557	4.7	21	60	1,365,046
18.07	853	20,303,842	23,339	3.8	20	53	1,220,599
15.91	631	14,342,577	23,090	3.5	19	50	1,127,199
13.08	555	12,345,606	22,744	3.2	18	46	1,016,973
11.73	493	10,427,122	22,491	2.9	18	44	986,127
10.03	394	9,006,380	22,162	2.6	17	43	922,153
8.90	365	8,011,622	21,646	2.5	15	41	866,314
8.16	341	7,378,266	20,921	2.3	15	38	845,784
7.54	321	6,683,887	20,230	2.1	14	37	781,372
6.32	310	6,231,661	18,428	1.4	13	33	687,109
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)		
\$783	27%	\$254	\$726	\$948	\$4.37		
846	28	289	779	1,055	4.61		
923	30	309	831	1,102	4.95		
976	32	357	885	1,156	5.27		
991	34	374	968	1,206	5.45		
1,034	35	397	1,017	1,230	5.56		
1,089	37	422	1,036	1,241	5.70		
1,117	38	467	1,068	1,283	5.79		
1,139	39	492	1,164	1,301	5.93		
1,210	41	595	1,323	1,370	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 Without Appreciation		Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.	
(10)	(10)	(10)	Total	Per Cow	(3)	(6)	
\$3,466	\$9.84	\$11.88	595,440	\$724	\$275,911	\$325,657	
3,219	10.85	12.93	333,662	436	107,574	153,526	
3,113	11.16	13.23	217,681	381	65,647	95,093	
3,034	11.52	13.51	142,588	317	44,564	59,203	
3,010	11.73	13.82	120,804	244	24,904	36,690	
2,983	11.82	14.06	71,533	160	5,076	4,542	
2,904	12.06	14.24	40,577	103	-9,912	-25,129	
2,815	12.38	14.66	10,600	23	-30,893	-60,317	
2,746	12.92	15.29	-38,458	-81	-55,740	-154,390	
2,555	14.28	17.30	-143,065	-355	-142,233	-341,572	

*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

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 23-27 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: _____

Needs improvement: _____

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)

Cows per Worker Equivalent for the Dairy Enterprise – Determined by dividing the average number of milking and dry cows by the number of worker equivalents in the dairy enterprise.

Culling Rate – Culling rate is calculated by dividing the number of animals that left the herd for culling purposes and that died by the average number of milking and dry cows for the year.

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-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.

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.

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

Milk Harvested per Machine – Calculated by dividing the total pounds of milk produced for the year by the number of milking machines in the milking center.

Milk Pounds Produced per Labor Hour – Calculated by dividing the total pounds milk produced by the total number of labor hours used to operate the milking center for 1 year. The total number of labor hours is estimated by multiplying the number of hours to operate the milking center for one day, which was provided by the participating dairies, by 365. Operating the milking center includes setting up, milking, and washing down the milking center, but doesn't include time spent to bring cows to and from the milking center.

Milk Sold per Worker Equivalent for the Dairy Enterprise – Determined by dividing the total amount of milk produced in the year by the number of worker equivalents in the dairy enterprise.

Net Farm Income - (defined on page 5)

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; 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.

Percent Herd on bST – Calculated by taking the accrual bST expense for the year and dividing by an average price of \$5.25 per dose, then dividing by 26, then dividing by the average number of milking and dry cows in the herd.

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)

Total Cows by Labor Hour Milking – Determined by dividing the average number of milking and dry cows by the labor hours required to operate the milking center for a one day period.

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.

Worker Equivalents for the Dairy Enterprise – Determined by the farmer estimating how many of hours of labor are spent in the milking center and dairy complex performing all routine tasks. Labor spent in the field or in the dairy replacement enterprise is excluded. The daily labor estimate is multiplied by 365 days and then divided by 2,760 hours to get the number of worker equivalents.

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.

INDEX

	<u>Page(s)</u>		<u>Page(s)</u>
Accounts Payable	3,8	Farm Debt Payments as Percent	
Accounts Receivable	4,8	of Milk Sales	13
Accrual Expenses	3,5	Farm Debt Payments Per Cow	13
Accrual Receipts	4,5	Financial Analysis Chart	26
Acreage	16	Financial Lease	8
Advanced Government Receipts	7,8	Income Statement	2
Age	20	Inflows	12
Amount Available for Debt Service	14	Interest Expense Ratio	20
Annual Cash Flow Statement	12	Labor & Mgmt. Income	6
Appreciation	5,11,18	Labor & Mgmt. Income Per Oper.	6
Asset Turnover Ratio	20	Labor Efficiency	20
Balance Sheet	8	Land Resources	16
Barn Type	2	Liquidity	10
bST Usage	2	Lost Capital	10
Business Type	2	Machinery Expenses	3,17
Capital Efficiency	20	Milking Frequency	2
Cash From Nonfarm Capital Used in		Milk Production	18
the Business	12	Milking System	2
Cash Flow Coverage Ratio	14	Money Borrowed	12
Cash Paid	2	Net Farm Income	5
Cash Receipts	4,12	Net Investment	10
Certified Organic Milk Producer	2	Net Milk Receipts	19
Change in Accounts Payable	3	Net Worth	8
Change in Accounts Receivable	4	Number of Cows	18
Change in Inventory	2,3	Operating Costs of Prod. Milk	19
Change in Net Worth	11	Operating Expense Ratio	20
Crop Expenses	3,17	Opportunity Cost	6
Crop/Dairy Ratios	16	Other Livestock Expenses	3
Current Portion	7,8	Outflows	12
Current Ratio	10	Part-Time Cash-Crop Dairy (farm)	2
Dairy (farm)	2	Part-Time Dairy (farm)	2
Dairy Cash-Crop (farm)	2	Percent Equity	9,10
Debt Coverage Ratio	14	Personal Withdrawals and Family Expenditures	
Debt per Cow	10	Including Nonfarm Debt Payments	12
Debt to Asset Ratios	10	Principal Payments	12
Deferred Taxes	9	Profitability	4
Depreciation	3,10	Purchased Inputs Cost	19
Depreciation Expense Ratio	20	Receipts	4
Dry Matter	16	Record System	2
Education	20	Repayment Analysis	14
Equity Capital	7	Replacement Livestock	3
Expansion Livestock	3,12	Retained Earnings	11
Expenses	3	Return on Equity Capital	7
Farm Business Chart	23-27,30-34	Return on Total Capital	7

Rotational Grazing	2,17
Solvency	10
Total Costs of Producing Milk	19
Whole Farm Method	19

Worker Equivalent	20
Working Capital	10
Yields Per Acre.....	16