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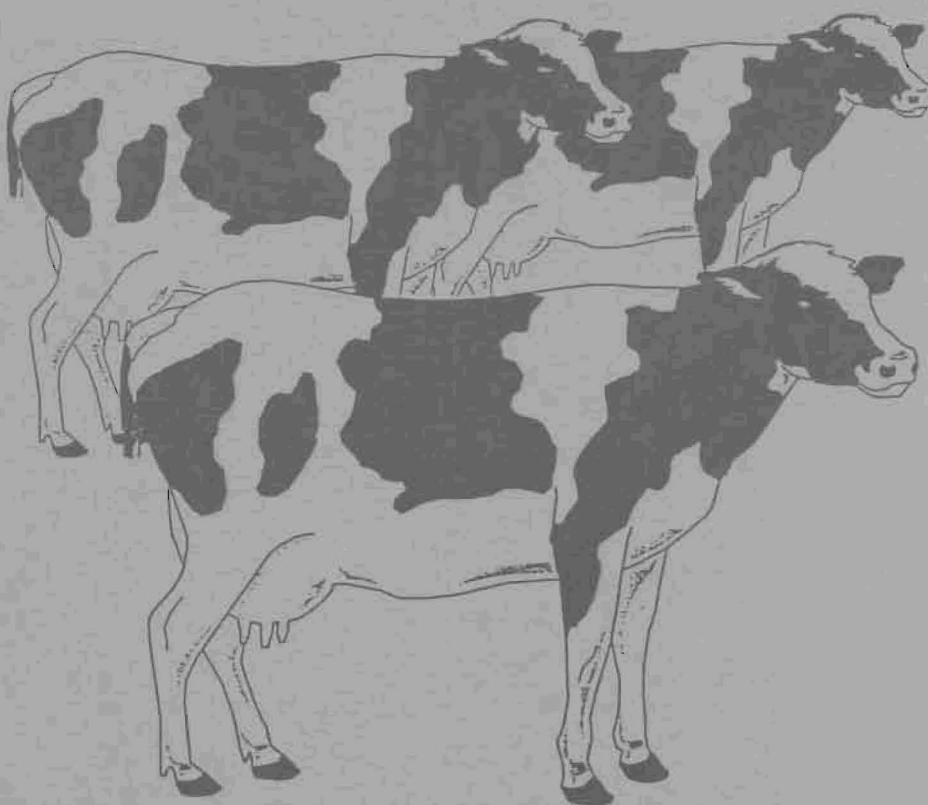
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# DAIRY FARM BUSINESS SUMMARY

## EASTERN PLATEAU REGION 1994



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# 1994 DAIRY FARM BUSINESS SUMMARY EASTERN PLATEAU REGION\*

## 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 Eastern Plateau Region for 1994.

### 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. This information can also be used to establish goals that will enable the business to better meet its objectives. In short, DFBS identifies 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 in the 1994 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 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; and
- (7) a capital and labor efficiency analysis.

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\*This publication was prepared by Linda D. Putnam and Robert A. Milligan, Department of Agricultural, Resource, and Managerial Economics, New York State College of Agriculture and Life Sciences, Cornell University in cooperation with Cooperative Extension Agents Karen Hoffman, John Carlson, Jerry LeClar and John Thurgood; area Extension Specialist Carl Crispell; farm consultants Darwin Snyder and Charles Radick; and Senior Extension Associate Stuart F. Smith. The Eastern Plateau Region is comprised of Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Tioga and Tompkins Counties. Judy Neno and Beverly Carcelli prepared the publication.

## SUMMARY AND ANALYSIS OF THE FARM BUSINESS

### Business Characteristics

Planning the 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**  
53 Eastern Plateau Region Dairy Farms, 1994

<u>Type of Farm</u>	<u>Number</u>	<u>Milking System</u>	<u>Number</u>
Dairy	51	Bucket & carry	0
Part-time dairy	0	Dumping station	0
Dairy cash-crop	2	Pipeline	35
Part-time cash-crop dairy	0	Herringbone parlor	10
		Other parlor	8
<u>Type of Ownership</u>	<u>Number</u>	<u>Production Records</u>	<u>Number</u>
Owner	48	DHIC	41
Renter	5	Owner-Sampler	7
		Other	2
<u>Type of Business</u>	<u>Number</u>	None	3
Single Proprietorship	37	<u>bST Usage</u>	<u>Number</u>
Partnership	15	Used on <25% of herd	6
Corporation	1	Used on 25-75% of herd	5
<u>Type of Barn</u>	<u>Number</u>	Used on >75% of herd	2
Stanchion/Tie-Stall	34	Stopped using in 1994	1
Freestall	17	Not used in 1994	39
Combination	2	<u>Business Record System</u>	<u>Number</u>
<u>Milking Frequency</u>	<u>Number</u>	Account Book	19
2x/day	45	Agrifax (mail-in only)	3
3x/day	6	On-farm computer	17
Other	2	Other	14

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 1994.

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

53 Eastern Plateau Region Dairy Farms, 1994

Expense Item	Cash Paid	+	Change in Inventory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
<u>Hired Labor</u>	\$33,169		\$0 <<		\$24		\$33,193
<u>Feed</u>							
Dairy grain & conc.	80,364		-223		298		80,439
Dairy roughage	9,656		-177		-68		9,411
Other livestock	66		5		0		71
<u>Machinery</u>							
Mach. hire, rent/lease	2,941		189 <<		62		3,192
Machinery repairs/parts	16,692		-63		212		16,841
Auto exp. (farm share)	1,259		0 <<		0		1,259
Fuel, oil & grease	7,104		-26		1		7,079
<u>Livestock</u>							
Replacement livestock	1,638		0 <<		142		1,780
Breeding	4,640		-104		49		4,585
Vet & medicine	8,298		-87		98		8,309
Milk marketing	16,917		0 <<		5		16,922
Cattle lease/rent	109		0 <<		0		109
Other livestock expense	15,589		24		-10		15,603
<u>Crops</u>							
Fertilizer & lime	7,833		52		230		8,115
Seeds & plants	4,159		-81		0		4,078
Spray, other crop exp.	4,249		5		9		4,263
<u>Real Estate</u>							
Land/bldg./fence repair	4,971		-71		-28		4,872
Taxes	7,579		-35 <<		-13		7,531
Rent & lease	5,391		0 <<		406		5,797
<u>Other</u>							
Insurance	4,567		0 <<		0		4,567
Telephone (farm share)	862		0 <<		4		866
Electricity (farm share)	10,005		0 <<		-8		9,997
Interest paid	16,694		0 <<		22		16,716
Miscellaneous	3,980		-68		45		3,957
Total Operating	\$268,732		\$-660		\$1,480		\$269,552
Expansion livestock	1,613		0 <<		0		1,613
Machinery depreciation							17,618
Building depreciation							10,438
TOTAL ACCRUAL EXPENSES							\$299,221

Change in prepaid expenses (noted above by <<) is a net change in non-inventory expenses that have been paid in advance of their use. If 1994 funds used to prepay 1995 leases exceed the amount of 1994 leases prepaid in 1993, the amount of this excess is entered as a negative number to exclude it from 1994 accrual lease expenses. The excess prepaid lease is charged against the future year's business operation. A decrease in prepaid lease 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 when calculating accrual expenses because these expenses were incurred (resources used) in 1994 but not paid for. A decrease is subtracted because the resource was used before 1994.

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**  
53 Eastern Plateau Region Dairy Farms, 1994

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	\$294,633				\$131		\$294,764
Dairy cattle	12,589		\$8,883		0		21,472
Dairy calves	4,131				0		4,131
Other livestock	125		854		0		979
Crops	8,789		5,872		772		15,433
Government receipts	3,050		0*		-178		2,872
Custom machine work	714				19		733
Gas tax refund	201				-2		199
Other	<u>4,180</u>				<u>4</u>		4,184
Less nonfarm noncash cap.**		(-)	<u>142</u>			(-)	<u>142</u>
Total Receipts	\$328,412		\$15,467		\$746		\$344,625

\*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 1994 for the 1995 crop year in excess of funds earned for 1994. Likewise, a decrease is added to cash government receipts because it represents funds earned for 1994 but received in 1993.

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, 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.

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\*Operators are the individuals who are integrally involved in the operation and management of the farm business. They are not limited to those who are the owner of a sole proprietorship or are formally a member of the partnership or corporation.

Net farm income is the return to the farm operators and other unpaid family members for their labor, management, and equity capital. It is the farm family's net annual return from working, managing, 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.

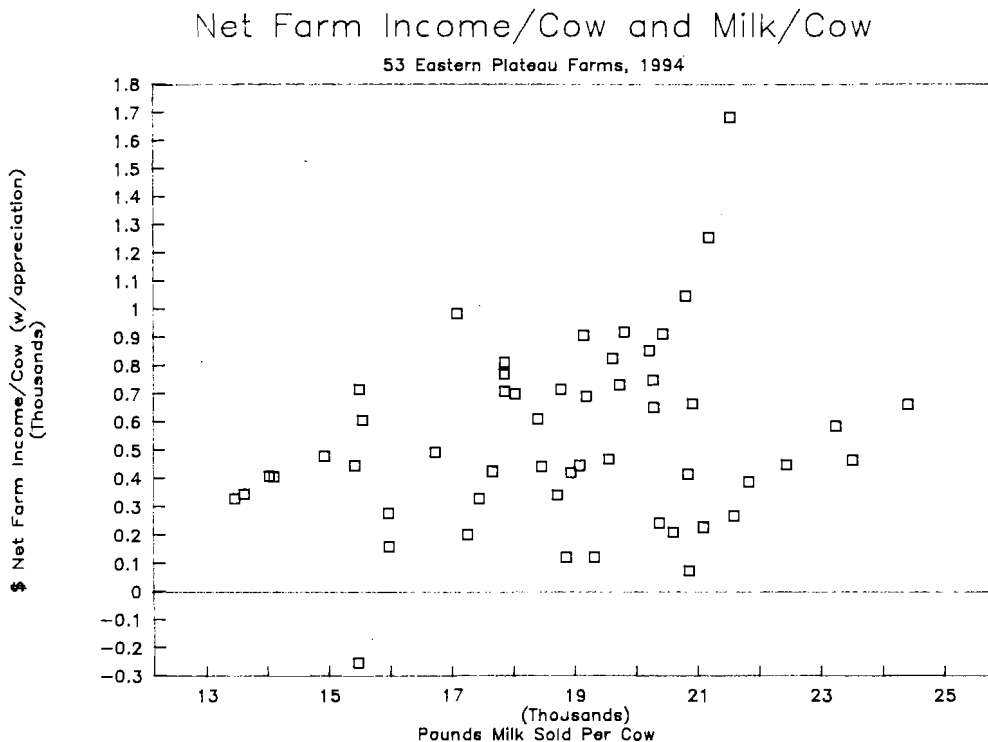
Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit). Appreciation is a major factor contributing to changes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

### NET FARM INCOME

53 Eastern Plateau Region Dairy Farms, 1994

Item	Average		My Farm	
	Total	Per Cow	Total	Per Cow
Total accrual receipts	\$334,625		\$_____	
Appreciation: Livestock	-702		_____	
Machinery	4,141		_____	
Real Estate	9,006		_____	
Other Stock/Certificates	205		_____	
Total Including Appreciation	\$357,275		\$_____	
Total accrual expenses	-299,221		-_____	
Net Farm Income (with appreciation)	\$58,054	\$523	\$_____	\$_____
Net Farm Income (w/o appreciation)	\$45,404	\$409	\$_____	\$_____

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**  
53 Eastern Plateau Region Dairy Farms, 1994

Item	<u>Average</u>		<u>My Farm</u>	
	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	\$58,054	\$45,404	\$_____	\$_____
Family labor unpaid				
@ \$1,450 per month	<u>-5,945</u>	<u>-5,945</u>	-_____	-_____
Return to operators' labor, management, & equity	\$52,109	\$39,459	\$_____	\$_____

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**  
53 Eastern Plateau Region Dairy Farms, 1994

Item	Average	My Farm
Return to operators' labor, management, & equity without appreciation	\$39,459	\$_____
Real interest @ 5% on \$513,972 average equity capital	<u>-25,699</u>	-_____
Labor & Management Income	\$13,760	\$_____
Labor & Management Income per 1.37 Operator/Manager	\$10,044	\$_____

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. 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**  
53 Eastern Plateau Region Dairy Farms, 1994

Item	Average	My Farm
Return to operators' labor, management, & equity capital with appreciation	\$52,109	\$ _____
Value of operators' labor & management	- 32,856	- _____
Return on equity capital with appreciation	\$19,253	\$ _____
Interest paid	+ 16,717	+ _____
Return on total capital with appreciation	\$35,970	\$ _____
Return on equity capital without appreciation	\$6,603	\$ _____
Return on total capital without appreciation	\$23,320	\$ _____
Rate of return on average equity capital:		
with appreciation	3.75%	_____ %
without appreciation	1.28%	_____ %
Rate of return on average total capital:		
with appreciation	4.76%	_____ %
without appreciation	3.08%	_____ %

**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 1994, lease payments were discounted by 8.25 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 1994 that are for participation in the 1995 program are the end year balance and payments received in 1993 for participation in the 1994 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.

**1994 FARM BUSINESS & NONFARM BALANCE SHEET**  
**53 Eastern Plateau Region Dairy Farms, 1994**

Farm Assets			Farm Liabilities & Net Worth		
	Jan. 1	Dec. 31		Jan. 1	Dec. 31
<b>Current</b>			<b>Current</b>		
Farm cash, checking & savings	\$7,915	\$5,612	Accounts payable	\$4,287	\$5,766
Accounts rec.	22,558	23,305	Operating debt	7,631	8,803
Prepaid exp.	192	39	Short-term	3,172	4,327
Feed & supplies	55,928	62,614	Advanced govt. rec.	0	0
			Current Portion:		
			Intermediate	15,766	17,668
			Long Term	6,579	6,282
Total	\$86,593	\$91,570	Total	\$37,435	\$42,846
<b>Intermediate</b>			<b>Intermediate</b>		
Dairy cows:			Structured debt		
owned	\$122,151	\$126,034	1-10 years	\$87,660	\$95,534
leased	0	0	Financial lease		
Heifers	51,821	56,144	(cattle/mach.)	1,137	452
Bulls/other lvstk.	1,209	2,039	Farm Credit stock	595	662
Mach./eq. owned	137,713	146,370			
Mach./eq. leased	1,137	452	Total	\$89,392	\$96,648
Farm Credit stock	595	662			
Other stock/cert.	3,262	3,350			
Total	\$317,888	\$335,051			
<b>Long Term</b>			<b>Long Term</b>		
Land/buildings:			Structured debt		
owned	\$329,077	\$344,569	>10 yrs	\$106,649	\$103,835
leased	584	7,242	Financial lease		
			(structures)	584	7,242
Total	\$329,661	\$351,811	Total	\$107,233	\$111,077
Total Farm Assets	\$734,142	\$778,432	Total Farm Liab.	\$234,060	\$250,571
			FARM NET WORTH	\$500,082	\$527,861

**Nonfarm Assets, Liabilities & Net Worth (Average of 29 farms reporting)**

Assets			Liabilities & Net Worth		
	Jan. 1	Dec. 31		Jan. 1	Dec. 31
Personal cash, chkg. & savings	\$1,763	\$2,133	Nonfarm Liab.	\$6,324	\$5,455
Cash value life ins.	14,489	15,927			
Nonfarm real estate	18,900	24,510			
Auto (personal sh.)	5,641	4,951			
Stocks & bonds	10,003	12,241			
Household furn.	9,966	10,293			
All other	4,545	5,558			
Total Nonfarm	\$65,306	\$75,613	NONFARM NET WORTH	\$58,982	\$70,158

Farm & Nonfarm Assets, Liabilities, & Net Worth*			Jan. 1	Dec. 31
Total Assets			\$799,448	\$854,045
Total Liabilities			240,384	256,026
TOTAL FARM & NONFARM NET WORTH			\$559,064	\$598,019

\*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 and date on 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. However, they could be important.

# **CONDENSED BALANCE SHEET INCLUDING DEFERRED TAXES**

December 31, 1994

12 New York Dairy Farms, 1994

ASSETS		LIABILITIES & NET WORTH	
		Current debts & payables	\$80,678
		Current deferred taxes	28,791
Total Current Assets	\$106,867	Total Current Liabilities	\$109,469
		Intermediate debts & leases	\$131,814
		Intermediate deferred taxes	103,642
Total Inter. Assets	\$396,178	Total Inter. Liabilities	\$235,456
		Long term debts & leases	\$147,974
		Long term deferred taxes	79,196
Total Long Term Assets	\$438,030	Total Long Term Liab.	\$227,170
TOTAL FARM ASSETS	\$941,075	TOTAL FARM LIABILITIES	\$572,095
		Farm Net Worth	\$368,981
		Percent Equity (Farm)	39%
<hr/>			
		Nonfarm debts	\$700
		Nonfarm deferred taxes	8,881
Total Nonfarm Assets	\$38,089	Total Nonfarm Liabilities	\$9,581
<hr/>			
TOTAL ASSETS	\$979,164	TOTAL LIABILITIES	\$581,675
		Total Net Worth	\$397,489
		Percent Equity (Total)	41%

**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

53 Eastern Plateau Region Dairy Farms, 1994

Item	Average	My Farm
<u>Financial Ratios - Farm:</u>		
Percent equity	68%	_____ %
Debt/asset ratio: total	.32	_____
long-term	.32	_____
intermediate/current	.33	_____
<u>Farm Debt Analysis:</u>		
Accounts payable as % of total debt	2%	_____ %
Long-term liabilities as a % of total debt	44%	_____ %
Current & inter. liab. as a % of total debt	56%	_____ %
<u>Farm Debt Levels:</u>		
	Per Cow	Per Tillable Acre Owned
Total farm debt	\$2,179	\$1,440
Long-term debt	966	638
Intermediate & long term	1,806	1,191
Intermediate & current debt	1,213	802

**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

53 Eastern Plateau Region Dairy Farms, 1994

Item	Average of Region's Farms	
	<u>Real Estate</u>	<u>Machinery &amp; Equipment</u>
Value beg. of year	\$329,077	\$137,713
Purchases	\$21,684*	\$21,924
Gift/inheritance	+ 0	+ 2,343
Lost capital	- 4,401	
Sales	- 360	- 2,133
Depreciation	- 10,438	- 17,618
Net investment	= 6,485	= 4,516
Appreciation	+ 9,006	+ 4,141
Value end of year	\$344,569	\$146,370

\*\$2,075 land and \$19,609 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).

Retained earnings is an excellent indicator of farm generated financial progress.

**STATEMENT OF OWNER EQUITY (RECONCILIATION)**  
53 Eastern Plateau Region Dairy Farms, 1994

Item	Average	My Farm
Beginning of year farm net worth	\$500,082	\$_____
Net farm income w/o apprec.	\$45,404	\$_____
+Nonfarm cash income	+ 6,754	+_____
-Personal withdrawals & family expenditures excluding nonfarm borrowings	- 36,146	-_____
RETAINED EARNINGS	+\$16,012	\$_____
Nonfarm noncash transfers to farm	\$2,485	\$_____
+Cash used in business from nonfarm capital	+ 2,100	+_____
-Note/mortgage from farm real estate sold (nonfarm)	- 342	-_____
CONTRIBUTED/WITHDRAWN CAPITAL	+\$4,243	+\$_____
Appreciation	\$12,650	\$_____
-Lost capital	- 4,401	-_____
CHANGE IN VALUATION EQUITY	+\$8,249	+\$_____
IMBALANCE/ERROR	-\$ 732	-\$_____
End of year farm net worth*	=\$527,861	=\$_____
<hr/>		
<u>Change in Net Worth</u>		
Without appreciation	\$15,129	\$_____
With appreciation	\$27,779	\$_____

\*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**  
53 Eastern Plateau Region Farms, 1994

Item		Average	
<b><u>Cash Flow from Operating Activities</u></b>			
Cash farm receipts	\$328,412		
- Cash farm expenses	<u>268,732</u>		
= Net cash farm income		\$59,681	
Nonfarm income	\$6,754		
- Personal withdrawals/family expenses	<u>36,334</u>		
including nonfarm debt payments			
+ Net cash nonfarm income		<u>\$-29,580</u>	
= Net Provided by Operating Activities			\$30,101
<b><u>Cash Flow From Investing Activities</u></b>			
Sale of Assets:			
Machinery	\$2,133		
+ real estate	19		
+ other stock/cert.	<u>179</u>		
= Total asset sales		\$2,331	
Capital purchases:			
expansion livestock	\$1,613		
+ machinery	21,924		
+ real estate	21,684		
+ other stock/cert.	<u>62</u>		
- Total invested in farm assets		<u>\$45,283</u>	
= Net Provided by Investment Activities			\$-42,952
<b><u>Cash Flow From Financing Activities</u></b>			
Money borrowed (inter. & long term)	\$39,745		
+ Money borrowed (short-term)	3,938		
+ Increase in operating debt	1,172		
+ Cash from nonfarm cap. used in business	2,100		
+ Money borrowed - nonfarm	<u>188</u>		
= Cash inflow from financing		\$47,143	
Principal payments (inter. & long-term)	\$33,080		
+ Principal payments (short-term)	2,783		
+ Decrease in operating debt	<u>0</u>		
- Cash outflow for financing		<u>\$35,863</u>	
= Net Provided by Financing Activities			\$11,280
<b><u>Cash Flow From Reserves</u></b>			
Beginning farm cash, checking & savings		\$7,915	
- Ending farm cash, checking & savings		<u>5,612</u>	
= Net Provided from Reserves			<u>\$2,303</u>
Imbalance (error)			\$732

## 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 1995. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1995 debt payments shown below.

**FARM DEBT PAYMENTS PLANNED**

Same 44 Eastern Plateau Region Dairy Farms, 1993 & 1994

Debt Payments	Average			My Farm		
	1994 Payments Planned	Made	Planned 1995	1994 Payments Planned	Made	Planned 1995
Long-term	\$16,748	\$18,383	\$16,538	\$_____	\$_____	\$_____
Intermediate-term	22,187	34,515	25,652	_____	_____	_____
Short-term	1,713	2,633	1,742	_____	_____	_____
Operating (net reduction)	1,972	0	3,090	_____	_____	_____
Accounts payable (net reduction)	739	0	1,205	_____	_____	_____
Total	\$43,359	\$55,531	\$48,227	\$_____	\$_____	\$_____
Per cow	\$391	\$500		\$_____	\$_____	
Per cwt. 1994 milk	\$1.99	\$2.55		\$_____	\$_____	
Percent of total 1994 receipts	12%	16%		_____	_____	
Percent of 1994 milk receipts	15%	19%		_____	_____	

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 1994 (as of December 31, 1993) that could have been made with the amount available for debt service in 1994. Farmers who did not participate in DFBS in 1993 have their 1994 cash flow coverage ratio based on planned debt payments for 1995.

**CASH FLOW COVERAGE RATIO**

Same 44 Eastern Plateau Region Dairy Farms, 1993 & 1994

Item	Average	My Farm
Cash farm receipts	\$334,259	\$_____
- Cash farm expenses	272,597	_____
+ Interest paid	18,050	_____
- Net personal withdrawals from farm*	30,972	_____
(A) = Amount Available for Debt Service	\$48,740	\$_____
(B) = Debt Payments Planned for 1994 (as of December 31, 1993)	\$43,359	\$_____
(A/B) = Cash Flow Coverage Ratio for 1994	1.12	_____

\*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 Per Cow	Average Per Cwt.	My Farm Per Cow/ Per Cwt.	Expected Change	1995 Projection
No. cows and cwt. milk	111.1	21,640.15			
<u>Accrual Oper. Receipts</u>					
Milk	\$2,653.14	\$13.62	\$		\$
Dairy cattle	193.27	.99			
Dairy calves	37.18	.19			
Other livestock	8.82	.05			
Crops	138.91	.71			
Misc. receipts	<u>71.90</u>	<u>.37</u>			
Total	\$3,103.23	\$15.93	\$		\$
<u>Accrual Oper. Expenses</u>					
Hired labor	\$298.77	\$1.53	\$		\$
Dairy grain & conc.	724.02	3.72			
Dairy roughage	84.71	.43			
Nondairy feed	.64	.00			
Mach. hire/rent/lease	28.72	.15			
Mach. rpr./parts & auto	162.92	.84			
Fuel, oil & grease	63.71	.33			
Replacement lvstk.	16.01	.08			
Breeding	41.27	.21			
Vet & medicine	74.79	.38			
Milk marketing	152.31	.78			
Cattle lease	.98	.01			
Other livestock exp.	140.44	.72			
Fertilizer & lime	73.03	.37			
Seeds & plants	36.71	.19			
Spray/other crop exp.	38.37	.20			
Land, bldg., fence repair	43.84	.23			
Taxes	67.79	.35			
Real estate rent/lease	52.18	.27			
Insurance	41.11	.21			
Utilities	97.78	.50			
Miscellaneous	<u>35.62</u>	<u>.18</u>			
Total Less Int. Paid	\$2,275.72	\$11.68	\$		\$
<u>Net Accrual Operating Income</u>		Total			
(without interest paid)		\$91,937	\$		\$
- Change in lvstk./crop inv.*		15,467			
- Change in accts. rec.		746			
+ Change in feed/supply inv.**		-660			
+ Change in accts. payable***		<u>1,458</u>			
NET CASH FLOW		\$76,522	\$		\$
- Net personal w/drawals from farm (see footnote on pg. 14)		<u>\$29,392</u>			
Available for Farm Debt					
Payment & Investments		\$47,130	\$		\$
- Farm debt payments		<u>52,091</u>			
Available for Farm Investment		\$-4,961	\$		\$
- Capital purchases: cattle, machinery & improvements		\$45,283			
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 productivity and profitability. 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**  
53 Eastern Plateau Region Dairy Farms, 1994

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	175	129	304	_____	_____	_____
Nontillable	60	21	81	_____	_____	_____
Other nontillable	<u>104</u>	<u>20</u>	<u>124</u>	_____	_____	_____
Total	339	170	509	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres*</u>	<u>Prod/Acre</u>	<u>Acres</u>	<u>Prod/Acre</u>	
Hay crop	53	160	2.78 tn DM	_____	_____	tn DM
Corn silage	49	76	16.84 tn	_____	_____	tn
			5.48 tn DM	_____	_____	tn DM
Other forage	5	17	1.44 tn DM	_____	_____	tn DM
Total forage	53	232	3.59 tn DM	_____	_____	tn DM
Corn grain	27	82	119.21 bu	_____	_____	bu
Oats	11	26	49.77 bu	_____	_____	bu
Wheat	0	0	0.00 bu	_____	_____	bu
Other crops	6	49		_____	_____	
Tillable pasture	20	33		_____	_____	
Idle	14	26		_____	_____	
Total Tillable Acres	53	304		_____	_____	

\*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 160, corn silage 70, corn grain 42, oats 5, tillable pasture 13, 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**  
53 Eastern Plateau Region Dairy Farms, 1994

Item	Average	My Farm
Total tillable acres per cow	2.74	_____
Total forage acres per cow	2.09	_____
Harvested forage dry matter, tons per cow	7.47	_____

**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 11 farms in the region.

**CROP RELATED ACCRUAL EXPENSES**

Eastern Plateau Region Dairy Farms Reporting, 1994

Item	Total Per Till. Acre	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Sh.Bu.	<u>Hay Crop</u>		<u>Pasture</u>	
					Per Acre	Per Ton DM	Per Till. Acre	Per Total Acre
No. of farms reporting	53	16			16		7	
Ave. number of acres	304	124			147		13	78
Fert./lime	\$26.69	\$36.16	\$6.11	\$.29	\$20.25	\$6.42	\$62.73	\$10.63
Seeds/plants	13.41	26.28	4.44	.21	8.39	2.66	10.80	1.83
Spray/other crop exp.	<u>14.02</u>	<u>38.75</u>	<u>6.54</u>	<u>.31</u>	<u>4.46</u>	<u>1.41</u>	<u>.00</u>	<u>.00</u>
TOTAL	\$54.12	\$101.19	\$17.09	\$.81	\$33.10	\$10.49	\$73.53	\$12.46

**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**

53 Eastern Plateau Region Dairy Farms, 1994

Machinery Expense Item	<u>Average</u>		<u>My Farm</u>	
	Total Expenses	Per Till. Acre	Total Expenses	Per Till. Acre
Fuel, oil & grease	\$7,078	\$23.28	\$_____	\$_____
Machinery repairs & parts	16,841	55.40	_____	_____
Machine hire, rent & lease	3,192	10.50	_____	_____
Auto expense (farm share)	1,259	4.14	_____	_____
Interest (5%)	7,102	23.36	_____	_____
Depreciation	17,618	57.95	_____	_____
Total	\$53,089	\$174.64	\$_____	\$_____

**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**  
53 Eastern Plateau Region Dairy Farms, 1994

Item	<u>Dairy Cows</u>		<u>Heifers</u>				<u>Calves</u>	
	No.	Value	<u>Bred</u>	<u>Open</u>	No.	Value	No.	Value
Beg. year (owned)	110	\$122,151	31	\$28,959	28	\$15,889	25	\$6,973
+ Change w/o apprec.		4,559		2,398		1,573		353
+ Appreciation		-676		-230		214		15
End year (owned)	115	\$126,034	33	\$31,127	31	\$17,676	26	\$7,341
End incl. leased	115							
Average number	111		87 (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**  
53 Eastern Plateau Region Dairy Farms, 1994

Item	Average	My Farm
Total milk sold, lbs.	2,164,015	_____
Milk sold per cow, lbs.	19,479	_____
Average milk plant test, percent butterfat	3.63	_____

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**

53 Eastern Plateau Region Dairy Farms, 1994

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Costs of Producing Milk</u>						
Operating costs	\$221,305	\$1,992	\$10.23	\$_____	\$_____	\$_____
Purchased inputs costs	\$249,361	\$2,244	\$11.52	\$_____	\$_____	\$_____
Total Costs	\$313,861	\$2,825	\$14.50	\$_____	\$_____	\$_____
<u>Accrual Receipts From Milk</u>						
Net Farm Income	\$294,764	\$2,653	\$13.62	\$_____	\$_____	\$_____
without Apprec.	\$45,404	\$409	\$2.10	\$_____	\$_____	\$_____
Net Farm Income with Apprec.	\$58,054	\$523	\$2.68	\$_____	\$_____	\$_____

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**

53 Eastern Plateau Region Dairy Farms, 1994

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrates	\$724	\$3.72	\$_____	\$_____
Purchased dairy roughage	85	.43	_____	_____
Total Purchased Dairy Feed	\$809	\$4.15	\$_____	\$_____
Purchased grain & conc. as % of milk receipts		27%		____%
Purchased feed & crop exp.	\$957	\$4.91	\$_____	\$_____
Purchased feed & crop exp. as % of milk receipts		36%		____%
Breeding	\$41	\$.21	\$_____	\$_____
Veterinary & medicine	75	.38	_____	_____
Milk marketing	152	.78	_____	_____
Cattle lease	1	.01	_____	_____
Other livestock expense	140	.72	_____	_____



**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**

53 Eastern Plateau Region Dairy Farms, 1994

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$229,170	\$6,807	\$2,488	\$4,346
Real estate		\$3,067		\$1,958
Machinery & equipment	\$43,282	\$1,286	\$470	
Asset turnover ratio	.47			
<b>My Farm:</b>				
Farm capital	\$_____	\$_____	\$_____	\$_____
Real estate		_____		_____
Machinery & equipment	_____	_____	_____	
Asset turnover ratio	_____			

**LABOR FORCE INVENTORY AND ANALYSIS**

53 Eastern Plateau Region Dairy Farms, 1994

55 Eastern Piedmont Region Dairy Farms, 1994

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	11.82	46	14	\$23,562
Operator number 2	3.65	41	14	7,062
Operator number 3	.96	37	15	2,232
Family paid	4.91			
Family unpaid	4.10			
Hired	<u>14.16</u>			
Total	39.60	/ 12 = 3.30 Worker Equivalent 1.37 Operator/Manager Equiv.		
<u>My Farm</u> : Total	_____	/ 12 = _____ Worker Equivalent		
Operator's	_____	/ 12 = _____ Operator/Manager Equiv.		

Labor	Average		My Farm	
Efficiency	Total	Per Worker	Total	Per Worker
Cows, average number	111	34	_____	_____
Milk sold, pounds	2,164,015	655,741	_____	_____
Tillable acres	304	92	_____	_____
Work units	1,142	346	_____	_____

	Average			My Farm		
Labor Costs	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Value of operator(s) labor (\$1,450/mo.)	\$23,824	\$214	\$1.10	\$_____	\$_____	\$_____
Family unpaid (\$1,450/mo.)	5,945	54	.28	_____	_____	_____
Hired	<u>33,193</u>	<u>299</u>	<u>1.53</u>	_____	_____	_____
Total Labor	\$62,962	\$567	\$2.91	\$_____	\$_____	\$_____
Machinery Cost	\$53,089	\$478	\$2.45	\$_____	\$_____	\$_____
Total Labor & Mach.	\$116,051	\$1,045	\$5.36	\$_____	\$_____	\$_____

## 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 44 Eastern Plateau Region Dairy Farms, 1993 & 1994

Selected Factors	<u>Average of 44 Farms*</u>		<u>My Farm</u>		
	1993	1994	1993	1994	Goal
<u>Size of Business</u>					
Average number of cows	105	111	_____	_____	_____
Average number of heifers	82	88	_____	_____	_____
Milk sold, lbs.	1,991,832	2,176,740	_____	_____	_____
Worker equivalent	3.24	3.30	_____	_____	_____
Total tillable acres	304	306	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, lbs.	18,978	19,538	_____	_____	_____
Hay DM per acre, tons	2.62	2.81	_____	_____	_____
Corn silage per acre, tons	16	17	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	32	34	_____	_____	_____
Milk sold/worker, lbs.	613,929	658,560	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	28%	27%	_____%	_____%	_____%
Dairy feed & crop exp. per cwt. milk	\$4.57	\$4.95	\$_____	\$_____	\$_____
Labor & mach. costs/cow	\$1,039	\$1,039	\$_____	\$_____	\$_____
Operating cost of producing cwt. of milk	\$10.03	\$10.19	\$_____	\$_____	\$_____
<u>Capital Efficiency**</u>					
Farm capital per cow	\$6,774	\$6,880	\$_____	\$_____	\$_____
Mach. & equip. per cow	\$1,313	\$1,264	\$_____	\$_____	\$_____
Asset turnover ratio	.46	.47	_____	_____	_____
<u>Profitability</u>					
Net farm inc. w/o apprec.	\$39,735	\$48,257	\$_____	\$_____	\$_____
Net farm inc. w/apprec.	\$50,858	\$62,528	\$_____	\$_____	\$_____
Labor & mgt. income per oper./manager	\$7,740	\$11,994	\$_____	\$_____	\$_____
Rate of return on eq. capital w/apprec.	2.98%	4.70%	_____%	_____%	_____%
Rate of return on all capital w/apprec.	4.21%	5.50%	_____%	_____%	_____%
<u>Financial Summary</u>					
Farm net worth, end year	\$486,231	\$527,124	\$_____	\$_____	\$_____
Debt to asset ratio	.34	.33	_____	_____	_____
Farm debt per cow	\$2,204	\$2,252	\$_____	\$_____	\$_____

\*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. Use this information to identify business areas where more challenging goals are needed.

**FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS**  
**53 Eastern Plateau Region Dairy Farms, 1994**

Size of Business			Rate of Production			Labor Efficiency	
Worker Equiv- alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
6.64	265	5,440,434	22,055	4.5	23	44	869,410
3.42	102	1,947,530	20,270	3.5	19	36	664,162
2.56	79	1,443,522	18,948	2.8	17	30	583,294
2.10	57	1,067,228	17,373	2.3	15	26	469,136
1.52	42	687,418	14,804	1.7	11	21	357,444

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)	
\$493	19%	\$309	\$799	\$650	\$3.43	
588	23	382	970	768	4.17	
689	28	462	1,082	853	4.76	
778	32	558	1,219	957	5.16	
959	37	717	1,424	1,168	6.06	

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)
\$3,046	\$7.66	\$12.95	\$139,647	\$113,254	\$35,965	\$93,200
2,748	9.00	14.04	64,057	51,689	14,633	32,273
2,597	10.07	14.68	45,529	33,552	7,813	16,914
2,343	10.82	15.97	25,371	20,719	-3,739	4,898
2,000	12.25	18.20	8,184	1,600	-20,641	-14,295

\*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 343 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**

343 New York Dairy Farms, 1993

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)
10.7	462	9,210,867	22,475	4.9	21	50	963,128
5.2	179	3,493,545	21,010	3.8	18	43	804,714
4.0	138	2,565,387	20,106	3.3	17	38	709,611
3.4	114	2,073,209	19,397	3.0	16	35	642,389
3.0	96	1,728,227	18,760	2.7	15	33	599,692
-----							
2.6	80	1,451,335	17,998	2.4	15	31	557,105
2.4	68	1,226,267	17,311	2.2	13	28	499,590
2.1	60	1,040,531	16,476	1.9	12	26	456,139
1.8	50	826,069	15,121	1.7	10	24	415,686
1.4	38	598,906	13,045	1.1	8	20	327,680
-----							
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)		
\$368	16	\$246	\$684	\$523	\$3.14		
506	22	323	822	642	3.78		
569	25	365	888	700	4.10		
612	27	399	948	761	4.37		
656	28	428	1,009	819	4.55		
-----							
701	30	462	1,061	872	4.75		
750	31	499	1,114	915	4.93		
795	33	533	1,178	963	5.18		
869	35	597	1,243	1,043	5.49		
1,000	40	766	1,482	1,202	6.21		

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

**FARM BUSINESS CHART FOR  
FARM MANAGEMENT COOPERATORS  
343 New York Dairy Farms, 1993**

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)
\$2,976	\$14.08	\$1,139	\$7.14	\$1,961	\$11.84
2,761	13.64	1,398	8.36	2,247	12.90
2,637	13.40	1,546	8.87	2,409	13.50
2,531	13.17	1,668	9.33	2,520	13.95
2,439	13.06	1,773	9.72	2,631	14.36
<hr/>					
2,363	12.95	1,882	10.17	2,736	14.85
2,255	12.87	1,992	10.58	2,829	15.27
2,126	12.75	2,107	11.05	2,940	15.96
1,985	12.60	2,237	11.80	3,073	16.92
1,698	12.27	2,568	13.90	3,577	19.81

**Profitability**

Net Farm Income Without Appreciation			Return to Operator's Labor, Management & Equity Capital Without Apprec.	Labor & Management Income	
Total	Per Cow	As % of Total Accrual Receipts		Per Farm	Per Operator
(3)	(3)	(3)	(3)	(3)	(3)
\$192,832	\$940	31%	\$191,192	\$124,134	\$85,449
77,826	652	22	75,244	43,729	27,233
55,227	521	18	51,356	26,801	16,175
42,463	436	16	39,250	15,841	11,141
32,415	370	14	29,500	8,538	6,547
<hr/>					
25,580	303	11	21,117	980	723
19,375	232	8	14,467	-5,165	-4,119
12,786	154	6	7,783	-11,741	-9,895
1,493	19	1	-3,421	-21,147	-19,125
-26,148	-377	-16	-30,572	-56,479	-49,025

Farm Business Charts for farms with freestall barns and 180 cows or less and more than 180 cows, and farms with conventional barns with 60 cows or less and more than 60 cows are shown on pages 28-31.

**Financial Analysis Chart**

The farm financial analysis chart on page 25 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**  
**343 New York Dairy Farms, 1993**

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)
\$44	\$855	3.03	6%	\$122
217	606	1.46	10	734
295	522	1.21	13	1,211
358	450	1.06	15	1,611
414	407	0.93	18	1,979
458	359	0.81	20	2,335
512	308	0.70	22	2,657
581	256	0.59	25	3,005
674	170	0.37	29	3,510
935	-52	-0.77	41	4,601

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)
-0.11	98%	0.03	0.00	16%	12%
0.11	90	0.10	0.00	9	8
0.22	82	0.17	0.01	6	6
0.33	75	0.23	0.12	4	5
0.41	70	0.29	0.23	2	3
0.55	64	0.35	0.33	0	2
0.70	58	0.41	0.43	-1	1
0.86	53	0.46	0.54	-4	-1
1.17	46	0.56	0.67	-7	-2
3.07	30	0.78	0.94	-30	-8

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)	(11)
.70	\$1,308	\$555	\$4,257	\$140,006
.56	1,935	765	5,051	53,236
.51	2,251	889	5,643	34,723
.47	2,562	1,039	6,137	24,685
.43	2,849	1,175	6,527	15,292
.40	3,190	1,303	6,950	9,229
.37	3,538	1,505	7,422	4,779
.34	4,034	1,750	8,155	-210
.31	4,617	2,043	8,908	-9,542
.23	6,511	2,678	11,227	-52,027

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

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

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

### Comparison by Type of Barn and Herd Size

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

The table of page 27 includes the average values for the resulting four groups of dairy farms. The average size of farms in the four groups ranges from 48 cows on the small conventional farms to 386 cows on the large freestall farms.

The large freestall farms averaged the highest milk output per cow and per worker, the lowest total costs of production and investment per cow, and the greatest returns to labor, management and capital. The small freestall farms showed average profits somewhat higher than the large conventional farm businesses.

Farm business charts have been computed for each of the four housing and herd size categories and are on pages 28-31. 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 1993 State Summary\*. As herd size increases, the average profitability generally increases (pages 44-45). Net farm income without appreciation was \$195,640 per farm for the 300 or more herd size group and \$6,328 per farm for those with less than 40 cows. This relationship generally holds for all measures of profitability including rate of return on capital. However, the 85 to 99 herd size group showed a lower rate of return on capital in 1993 than the farms with 70 to 84 cows.

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 more than 300 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 18 percent more milk sold per cow than the smallest farms. All of the groups with 85 or more cows averaged well above 18,000 pounds of milk sold per cow while the farms smaller than 85 cows averaged 17,380 pounds of milk sold per cow. Farm capital per worker increased, and farm capital per cow decreased as herd size increased. Milk sold per worker increased dramatically as herd size increased, ranging from 366,798 pounds at the lowest herd size category up to 898,758 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, 1993, Department of Agricultural, Resource, and Managerial Economics, Cornell University, R.B. 94-07, September 1994.

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

318 New York Dairy Farms, 1993

Item	Farms with:		Freestall	
	Conventional			
	<=60 Cows	>60 Cows	<=180 Cows	>180 Cows
Number of farms	89	86	95	48
<u>Cropping Program Analysis</u>				
Total Tillable acres	152	270	378	798
Tillable acres rented*	50	91	157	325
Hay crop acres*	102	166	189	332
Corn silage acres*	28	51	90	313
Hay crop, tons DM/acre	2.1	2.5	2.7	3.1
Corn silage, tons/acre	12.9	14.1	14.3	15.8
Oats, bushels/acre	95.5	57.5	71.0	60.0
Forage DM per cow, tons	7.0	7.9	8.1	7.0
Tillable acres/cow	3.2	3.2	3.3	2.1
Fert. & lime exp./til. acre	\$17.34	\$21.46	\$22.04	\$31.72
Total machinery costs	\$21,915	\$37,677	\$57,748	\$145,560
Machinery cost/tillable acre	\$144	\$140	\$153	\$182
<u>Dairy Analysis</u>				
Number of cows	48	85	116	386
Number of heifers	37	69	96	280
Milk sold, lbs.	816,340	1,533,621	2,182,035	7,617,959
Milk sold/cow, lbs.	17,164	17,969	18,770	19,727
Operating cost of prod. milk/cwt.	\$10.26	\$10.01	\$10.07	\$10.37
Total cost of prod. milk/cwt.	\$16.38	\$14.63	\$14.31	\$13.08
Price/cwt. milk sold	\$12.98	\$13.01	\$13.17	\$13.23
Purchased dairy feed/cow	\$705	\$685	\$684	\$768
Purchased dairy feed/cwt. milk	\$4.11	\$3.81	\$3.65	\$3.89
Purchased grain & conc. as % of milk receipts	30%	29%	27%	29%
Purc. feed & crop exp./cwt. milk	\$4.78	\$4.58	\$4.51	\$4.61
<u>Capital Efficiency</u>				
Farm capital/worker	\$197,229	\$209,788	\$236,729	\$246,514
Farm capital/cow	\$7,591	\$7,034	\$6,948	\$5,673
Farm capital/til. acre owned	3,542	3,371	\$3,656	\$4,632
Real estate/cow	\$3,835	\$3,254	\$3,069	\$2,539
Machinery investment/cow	\$1,498	\$1,378	\$1,363	\$867
Asset turnover ratio	0.35	0.39	0.44	0.56
<u>Labor Efficiency</u>				
Worker equivalent	1.83	2.86	3.41	8.89
Operator/manager equivalent	1.16	1.46	1.51	1.69
Milk sold/worker, lbs.	445,590	536,209	639,227	857,074
Cows/worker	26	30	34	43
Labor cost/cow	\$633	\$575	\$548	\$562
Labor cost/tillable acre	\$198	\$182	\$169	\$272
<u>Profitability &amp; Balance Sheet Analysis</u>				
Net farm income (w/o apprec.)	\$11,606	\$29,193	\$40,576	\$132,377
Labor & mgmt. income/operator	\$-4,625	\$2,921	\$6,744	\$38,811
Return on all capital w/apprec.	-0.5%	2.6%	3.9%	7.7%
Farm debt/cow	\$2,280	\$2,039	\$2,298	\$2,362
Percent equity	69%	71%	66%	85%

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



**FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS**  
 89 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1993

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)
2.8	60	1,212,080	21,711	4.4	21	42	684,109
2.3	58	1,064,987	20,121	3.1	17	34	606,087
2.1	56	948,553	18,929	2.7	15	31	545,106
2.0	53	878,192	18,297	2.4	15	29	491,677
1.9	49	834,515	17,622	2.2	14	27	455,896
1.7	46	773,615	16,974	2.0	13	25	436,105
1.5	43	695,797	15,866	1.8	12	24	410,769
1.5	41	661,816	14,962	1.6	11	23	367,001
1.3	37	596,911	14,182	1.3	9	21	327,041
1.1	30	457,003	12,147	1.0	6	16	268,937
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)		
\$388	19%	\$236	\$675	\$509	\$3.23		
501	24	305	859	607	3.88		
562	26	356	942	661	4.13		
593	27	402	1,021	703	4.32		
620	29	427	1,060	761	4.52		
662	30	454	1,115	800	4.78		
708	32	500	1,164	861	5.06		
755	34	546	1,232	928	5.34		
833	37	608	1,337	1,023	5.67		
1,058	42	810	1,645	1,282	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 Without Appreciation		Labor & Mgmt. Inc. Per Oper.	Change in New Worth w/Apprec.	
(10)	(10)	(10)	Total	Per Cow	(3)	(6)	
\$2,877	\$7.23	\$12.91	\$40,922	\$839	\$20,186	\$55,216	
2,627	8.23	13.96	30,984	635	10,285	22,000	
2,464	8.76	14.76	24,240	502	6,446	14,486	
2,379	9.05	15.10	20,806	427	3,582	10,246	
2,263	9.35	15.69	17,349	372	581	6,959	
2,171	9.78	16.38	13,210	290	-3,052	4,300	
2,041	10.57	16.87	7,460	171	-9,308	1,323	
1,951	11.47	17.63	190	-1	-14,096	-2,420	
1,830	12.85	18.99	-8,025	-168	-23,601	-7,799	
1,058	15.56	23.73	-35,523	-821	-56,378	-21,844	

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

**FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS**  
 86 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1993

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)
4.7	144	2,719,201	22,035	5.1	21	44	771,502
3.7	106	1,916,656	20,507	3.7	18	37	648,458
3.2	91	1,687,647	19,540	3.2	16	34	609,112
3.0	84	1,560,310	19,079	3.0	16	32	582,040
2.7	80	1,431,819	18,203	2.6	15	31	559,614
2.5	74	1,360,480	17,652	2.4	14	29	523,110
2.4	71	1,270,716	17,204	2.1	13	27	477,984
2.3	68	1,176,700	16,356	1.9	12	25	447,489
2.0	65	1,103,896	15,033	1.6	11	23	422,245
1.8	62	924,485	12,690	1.2	8	21	355,438

**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)
\$278	14%	\$231	\$678	\$461	\$3.02
480	20	311	822	607	3.62
552	24	357	886	683	3.88
603	27	389	946	711	4.19
643	29	417	974	783	4.56
681	30	453	1,034	844	4.70
737	31	490	1,088	889	4.84
789	33	518	1,174	948	4.99
858	34	563	1,209	1,035	5.34
990	40	717	1,381	1,136	5.99

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 New Worth w/Apprec.
(10)	(10)	(10)	Total (3)	Per Cow (3)	(3)	(6)
\$2,868	\$6.68	\$12.35	\$82,324	\$923	\$31,899	\$63,923
2,687	8.24	13.10	53,888	635	18,147	39,116
2,578	8.68	13.73	45,966	529	13,273	23,274
2,470	9.17	14.18	35,632	452	9,585	13,292
2,389	9.73	14.45	30,858	361	4,417	9,085
2,308	10.25	14.77	23,307	284	-2,041	5,798
2,193	10.63	15.10	17,058	204	-6,936	1,717
2,080	10.90	15.49	9,660	131	-12,907	-5,447
1,971	11.70	16.58	-36	2	-20,766	-20,823
1,637	12.92	18.05	-18,775	-256	-45,216	-45,873

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

**FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS**  
 95 Freestall Barn Dairy Farms with 180 or Less Cows, New York, 1993

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv- alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
5.8	168	3,559,901	23,024	4.6	20	51	951,201
4.6	150	2,938,553	21,379	3.8	18	46	826,524
3.9	137	2,588,880	20,130	3.3	17	41	774,998
3.6	126	2,333,571	19,698	3.0	16	38	717,679
3.4	117	2,147,365	19,141	2.8	15	36	665,532
3.1	110	1,992,534	18,494	2.5	15	33	617,331
2.9	101	1,805,227	17,484	2.2	14	31	580,615
2.6	95	1,656,006	16,764	2.0	12	28	514,799
2.2	83	1,441,095	15,611	1.8	10	26	477,497
1.7	63	1,061,874	13,252	1.0	9	24	398,276
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)		
\$346	15%	\$274	\$671	\$522	\$2.95		
483	20	354	809	631	3.54		
561	23	391	874	714	3.92		
580	24	426	927	761	4.19		
624	26	459	1,001	794	4.40		
658	28	497	1,065	853	4.54		
699	29	521	1,114	900	4.81		
770	31	578	1,170	962	5.20		
877	34	677	1,263	1,031	5.51		
985	39	805	1,505	1,171	6.08		
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 New Worth w/Apprec.	
(10)	(10)	(10)	Total	Per Cow	(3)	(6)	
\$3,039	\$6.96	\$11.77	\$116,153	\$950	\$48,320	\$97,010	
2,784	8.23	12.78	72,642	633	27,441	56,522	
2,660	8.83	13.33	60,299	505	17,082	43,864	
2,580	9.27	13.54	49,765	424	13,070	31,882	
2,475	9.53	13.99	38,264	356	8,275	25,860	
2,391	9.93	14.29	30,101	301	244	16,948	
2,322	10.33	14.88	23,187	219	-4,248	9,113	
2,234	11.01	15.54	17,420	172	-8,965	3,416	
2,077	11.64	16.23	9,753	91	-18,782	-9,918	
1,763	13.50	17.65	-26,664	-220	-42,358	-57,440	

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

**FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS**  
 48 Freestall Barn Dairy Farms with More Than 180 Cows, New York, 1993

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)
23.2	1,174	22,553,675	22,666	5.0	20	58	1,090,785
12.4	551	11,544,889	21,710	4.4	18	49	1,030,797
9.9	396	8,275,051	21,163	3.8	18	47	941,981
8.6	345	6,907,353	20,841	3.6	17	45	881,114
7.6	281	5,711,010	20,176	3.2	16	43	853,879
6.2	239	4,738,923	19,325	2.8	15	40	801,184
5.8	220	4,226,435	18,835	2.5	14	38	753,126
5.1	201	3,869,202	17,652	2.3	13	36	675,313
4.7	189	3,580,283	17,091	2.0	11	33	644,525
3.8	185	3,052,051	15,598	1.6	10	29	511,771
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)		
\$481	19%	\$231	\$661	\$653	\$3.41		
577	24	286	764	756	4.05		
689	26	329	819	852	4.35		
737	27	352	886	885	4.51		
761	29	373	922	916	4.70		
774	30	391	959	927	4.89		
788	31	429	1,016	956	4.98		
824	32	471	1,073	999	5.11		
874	33	515	1,163	1,079	5.34		
949	36	612	1,239	1,216	5.91		
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 New Worth w/Apprec.	
(10)	(10)	(10)	Total	Per Cow	(3)	(6)	
\$3,113	\$7.65	\$11.22	\$418,400	\$886	\$250,416	\$328,392	
2,903	9.18	11.82	225,831	610	75,579	150,558	
2,799	9.76	12.26	189,019	452	63,248	101,419	
2,715	10.15	12.75	145,176	368	50,347	76,913	
2,621	10.36	13.18	113,549	325	34,098	49,307	
2,546	10.56	13.54	79,606	288	19,490	31,606	
2,484	10.79	13.95	56,282	236	8,196	20,355	
2,399	11.08	14.22	42,209	195	-1,094	6,657	
2,263	11.41	14.77	26,860	119	-13,372	-5,039	
2,121	12.40	16.10	-25,950	-84	-74,673	-131,065	

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

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 designate a Time when each goal will be achieved.

It is important to identify both objectives (long-range) and goals (short-range) when looking at the future of your farm business.

- Begin with a mission statement which describes why the business exists based on the preferences and values of the owners.
- Identify 4-6 objectives.
- Identify SMART goals.

## I. Mission and Objectives

[illegible]

What

When

## Who is Responsible

[illegible]

The Farm Business and Financial Analysis Charts on pages 22-25 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: \_\_\_\_\_

[illegible]

## 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.

**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)

**Current Portion** - (defined on page 7)

**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 10)

**Deferred Taxes** - (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 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.

**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 19)

**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; 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 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)

**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 19)

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

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