

# CENTRAL NEW YORK REGION 1985

## DAIRY FARM BUSINESS SUMMARY

FARM NO. 38001 JANUARY 30, 1986

INCOME STATEMENT (continued)

Receipts	Cash	Change in Inventory	Change in Accounts Receivable	Accrual Receipts
Milk sales	\$ 151850	\$ 14000	\$ 1825	\$ 154475
Dairy cattle	9540	0	-1000	2240
Dairy calves	1600	0	0	1330
Other livestock	0	1600	0	1600
Crops	400	0	0	12885
Gov't receipts	250	0	0	230
Custom machine work	160	0	0	250
Gas tax refund	200	0	0	160
Other	0	0	0	0
TOTAL ACCRUAL RECEIPTS	\$ 16426			

Change in livestock inventory in grown feeds inventory

RETURN TO OPERATOR(S) & P UNPAID, MGMT., & EQUITY C

Total Accrual Receipts

- Total Accrual Expenses

= NET FARM INCOME

RETURN TO OPERATOR(S) & L MANAGEMENT & EQUITY C

Net Farm Income

- Family Labor Unpaid

= RETURN TO OPERATOR'S MANAGEMENT & EQUITY

RETURN TO OPERATOR'S

Return to operator's Management & Equity

- Real Interest on \$ Capital & 5%

= LABOR & MANAGEMENT

LABOR & MANAGEMENT

2.00 OPERATOR,

RETURN TO EQUITY C

Return to Operator's Management & Equity

- Value of Operator's Management & Equity

= RETURN ON EQUITY

Rate of Return c

FARM NO. 38001 JANUARY 30, 1986

INCOME STATEMENT

Sam. Farnsworth

Expenses	Cash	Change in Inventory	Change in Accounts Payable	Accrual Expenses
Hired Labor	\$ 5200			\$ 5200
Feed		250	6000	43750
Dairy grain & conc.			0	0
Dairy roughage			0	0
Other livestock			0	0
Machinery				
Machine hire, rent/lease				
Machinery repairs/part				
Auto expense (f.o.)				
Fuel, oil & grease				
Livestock				
Replacement livestock				
Breeding				
Veterinary & medicine				
Milk marketing				
Cattle lease/rent				
Other livestock exps				
Crops				
Fertilizer & lime				
Seeds & plants				
Spray, other crop				
Real Estate				
Land/bldg/fence rw				
Taxes				
Insurance				
Rent & lease				
Other				
Telephone (farm)				
Electricity (farm)				
Interest paid				
Miscellaneous				
TOTAL OPERATING				
Expansion livestock				
Machinery depreci				
Building depreci				
TOTAL ACCRUAL				

NEW YORK COOPERATIVE EXTENSION  
Prepared by  
DEPARTMENT OF AGRICULTURAL ECONOMICS  
CORNELL UNIVERSITY

Name Sam. Farnsworth

Address RD 1 Box 19  
Danbytown, NY

1985 DAIRY FARM BUSINESS SUMMARY

PROGRESS OF THE FARM BUSINESS JANUARY 30, 1986

SELECTED FACTORS	1981	1984	1985
Size of Business			
Avg # of cows	65	67	77
Avg # of heifers	30	30	50
Milk sold, lbs.	91000	964800	1116500
Worker equiv.	2.75	2.75	2.75
Total tillable acres	260	260	260
Rates of Production			
Milk sold per cow, lbs.	14000	14400	14500
Hay DM per acre, tons	2.8	2.4	2.7
Corn silage per acre, tons	14	14	14
Labor Efficiency			
Cows per worker	24	24	28
Milk sold per worker, lbs.	330909	350836	406000
Cost Control			
Grain & conc. purch. as % milk sales	289	298	288
Dairy feed & crop exp. per cwt. milk	\$ 4.38	\$ 4.17	\$ 5.46
Labor and mach. costs per cow	\$ 786	\$ 468	\$ 821
Capital Efficiency (average for year)			
Farm capital per cow	\$ 5754	\$ 5719	\$ 5507
Real estate per cow	\$ 2345	\$ 2351	\$ 2500
Machinery and equipment per cow	\$ 1362	\$ 1336	\$ 1175
Capital turnover, years	2.4	2.8	2.3
Profitability			
Net farm income w/o apprec.	\$ 1200	\$ -6426	\$ 18557
Net farm income w/ appreciation	\$ 19213	\$ -5881	\$ 13602
Labor & management income	\$ -11529	\$ -19844	\$ 2974
Rate return on equity capital w/apprec	-5.4%	-15.7%	-6.5%
Financial Summary			
Farm net worth	\$ 224875	\$ 238365	\$ 278667
Debt to asset ratio	0.44	0.42	0.38
Farm debt per cow	\$ 2603	\$ 2583	\$ 2212
Cash flow coverage ratio	1.06	1.14	1.22

PARTNERSHIP, ACCT. BOOK, DOP.

Wayne A. Knoblauch

Department of Agricultural Economics  
New York State College of Agriculture and Life Sciences  
A Statutory College of the State University  
Cornell University, Ithaca, New York 14853

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1985 DAIRY FARM BUSINESS SUMMARY  
Central New York Region\*

Introduction

Dairy farmers throughout the State have been participating in New York Cooperative Extension's farm business summary and analysis program since the early 1950's. Each participating farmer receives a complete summary and analysis of his or her farm business in addition to this publication. The information in this report is compiled by averaging data submitted from the region described at the bottom of this page.

Program Objective

The primary objective of the dairy farm business summary, DFBS, is to help farmers improve their management skills through appropriate use of record data and application of modern farm business management decision-making techniques. In short, DFBS identifies the records farmers need and demonstrates how to use them in making business and financial management decisions.

Program Improvements

The 1985 DFBS report features improved accrual accounting procedures, a new measure of farm profitability, a more indepth balance sheet, an annual cash flow statement, and several major improvements in the business analysis format and the analysis measures used. These and other changes are identified in the body of this report.

The revised format provides one full page for the analysis of the farm cropping program and another for complete analysis of the dairy program. Corn and hay crop related expenses are evaluated separately for farmers who submitted the breakdown of expenses by crop. The cost of producing milk per cow and per hundredweight of milk sold has been calculated. An annual cash flow worksheet has been added to the farmer's individual report. The popular Progress of The Farm Business report has been moved to page one of the farmer's report and added to this publication.

Micro DFBS, which allows Cooperative Extension agents and specialists to calculate and print individual farm business reports in their offices, is now being used by more than 50 percent of our dairy farm management field staff. This innovative program provides faster processing of farm record data and increased use of DFBS in farm management programs.

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\*This summary was prepared by Wayne A. Knoblauch with invaluable assistance provided by Cindy Farrell, Beverly Carcelli, Ann Eldred, and especially Linda Putnam, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University. Farm business records were collected by Cooperative Extension Agents Howard Bateman, James Hilson, Robert Todd, and Beth Walldorff. The Central New York Region is comprised of Cayuga, Cortland, Madison, Onondaga, and Oswego Counties.

## SUMMARY OF THE FARM BUSINESS

Business Characteristics

Finding the right management strategies is an important part of farming. 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 farmers reporting these characteristics.

BUSINESS CHARACTERISTICS  
44 Central New York Region Dairy Farms, 1985

<u>Type of Farm</u>	<u>Number</u>	<u>Type of Business</u>	<u>Number</u>
Dairy	39	Single proprietorship	27
Part-time dairy	1	Partnership	14
Dairy cash-crop	4	Corporation	3
Part-time cash-crop dairy	0	Other	0
<u>Type of Ownership</u>	<u>Number</u>	<u>Type of Barn</u>	<u>Number</u>
Owner	40	Stanchion	25
Renter	4	Freestall	18
		Other	1
<u>Milking System</u>	<u>Number</u>	<u>Business Record System</u>	<u>Number</u>
Bucket & carry	0	CAMIS	9
Dumping station	0	Account Book	19
Pipeline	26	Agrifax (mail-in only)	6
Herringbone parlor	16	On-Farm Computer	6
Other parlor	2	Other	4
<u>Dairy Records Service</u>	<u>Number</u>		<u>Number</u>
DHIC	33	Other	5
O.S.	3	None	3
<u>Milk Diversion Program Participants</u>		<u>Number:</u>	3

The averages used in this report were compiled using data from all the participating dairy farms in this region unless noted otherwise. There may be regular dairy farms, part-time farms, dairy cash-crop farms, farm renters, partnerships, and corporations included in the average. These specific classifications are used to separate farms in the State Business Summary.

A part-time farm has less than 12 months of labor from all operators.

A dairy cash-crop farm has income from crop sales that exceed 10 percent of milk sales.

A farm renter owns no farm real estate at the end of the year or owns no tillable land.

Milk Diversion Program Participants are the farmers that were in the 1984-85 federal milk diversion program. These farms have also been included in the regional summary averages.

Income Statement

The accrual income statement begins with an accounting of all farm business expenses.

CASH AND ACCRUAL FARM EXPENSES  
44 Central New York Region Dairy Farms, 1985

Expense Item	Cash Paid +	Change in Inventory* +	Change in Accounts Payable	Accrual = Expenses
<u>Hired Labor</u>	\$ 28,864		\$ 140	\$ 29,004
<u>Feed</u>				
Dairy grain & conc.	47,386	\$-100	-1,648	45,638
Dairy roughage	1,596	0	117	1,713
Other livestock	231	-3	2	230
<u>Machinery</u>				
Mach. hire, rent/lease	1,768		-32	1,736
Machinery repairs/parts	14,142	-24	15	14,133
Auto expense (f.s.)	456		-2	454
Fuel, oil & grease	8,610	123	152	8,885
<u>Livestock</u>				
Replacement livestock	3,811		-20	3,791
Breeding	3,486	9	32	3,527
Vet & medicine	6,108	-15	124	6,217
Milk marketing	11,777		0	11,777
Cattle lease/rent	438		0	438
Other livestock expense	9,595	-32	281	9,844
<u>Crops</u>				
Fertilizer & lime	12,757	909	-153	13,513
Seeds & plants	5,219	197	43	5,459
Spray, other crop exp.	5,900	-162	20	5,758
<u>Real Estate</u>				
Land/bldg./fence repair	3,284		-35	3,249
Taxes	5,619		182	5,801
Insurance	4,097		-44	4,053
Rent & lease	7,481		156	7,637
<u>Other</u>				
Telephone (f.s.)	802		1	803
Electricity (f.s.)	5,988		8	5,996
Interest paid	24,391		0	24,391
Miscellaneous	3,291	6	-62	3,235
Total Operating	\$217,097	\$ 908	\$ -723	\$217,282
Expansion livestock	\$ 6,856		\$ 0	6,856
Machinery depreciation				20,185
Building depreciation				10,372
TOTAL ACCRUAL EXPENSES				\$254,695

\*An increase in inventory is a negative number because it represents inputs that were purchased but not used during the year.

Cash paid is the actual amount of money paid out during the year and does not necessarily represent the cost of goods and services actually used.

Accrual expenses are the costs of inputs actually used in this year's production. The value of feed and supplies used out of inventory are included as are the costs of inputs purchased but not paid for (net increases in accounts payable). Items paid for and not used (net additions to inventory) are excluded from accrual expenses as are payments made on inputs used in a prior year (net decreases in accounts payable).

Worksheets are provided to enable any dairy farmer to compute his or her accrual farm income and compare it with the averages on the opposite page.

## CASH AND ACCRUAL FARM EXPENSES WORKSHEET

Expense Item	Cash Paid +	Change in Inventory +	Change in Accounts Payable	Accrual = Expenses
<u>Hired Labor</u>	\$ _____	\$ _____	\$ _____	\$ _____
<u>Feed</u>				
Dairy grain & conc.	_____	_____	_____	_____
Dairy roughage	_____	_____	_____	_____
Other livestock	_____	_____	_____	_____
<u>Machinery</u>				
Mach. hire, rent/lease	_____	_____	_____	_____
Machinery repairs/parts	_____	_____	_____	_____
Auto expense (f.s.)	_____	_____	_____	_____
Fuel, oil & grease	_____	_____	_____	_____
<u>Livestock</u>				
Replacement livestock	_____	_____	_____	_____
Breeding	_____	_____	_____	_____
Vet & medicine	_____	_____	_____	_____
Milk marketing	_____	_____	_____	_____
Cattle lease/rent	_____	_____	_____	_____
Other livestock expense	_____	_____	_____	_____
<u>Crops</u>				
Fertilizer & lime	_____	_____	_____	_____
Seeds & plants	_____	_____	_____	_____
Spray, other crop exp.	_____	_____	_____	_____
<u>Real Estate</u>				
Land/bldg./fence repair	_____	_____	_____	_____
Taxes	_____	_____	_____	_____
Insurance	_____	_____	_____	_____
Rent & lease	_____	_____	_____	_____
<u>Other</u>				
Telephone (f.s.)	_____	_____	_____	_____
Electricity (f.s.)	_____	_____	_____	_____
Interest paid	_____	_____	_____	_____
Miscellaneous	_____	_____	_____	_____
Total Operating	\$ _____	\$ _____	\$ _____	\$ _____
Expansion livestock	_____	_____	_____	_____
Machinery depreciation	_____	_____	_____	_____
Building depreciation	_____	_____	_____	_____
<b>TOTAL ACCRUAL EXPENSES</b>	<b>\$ _____</b>	<b>\$ _____</b>	<b>\$ _____</b>	<b>\$ _____</b>

Cash paid is the actual amount of money paid out during the year and does not necessarily represent the cost of goods and services actually used.

Accrual expenses are the costs of inputs actually used in this year's production. Purchased feed and supplies used out of inventory must be included. Beginning of year less end of year purchased feed and supply inventory equals the change in inventory to include in accrual expenses. Feed, supplies, and services used but not paid for must be included by adding the net increase in operating accounts payable. Increases in operating accounts payable are determined by subtracting the balance at the beginning of the year from the end of year balance.

CASH AND ACCRUAL FARM RECEIPTS  
44 Central New York Region Dairy Farms, 1985

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	+	Accrual Receipts
Milk sales	\$240,506				\$ 563		\$241,069
Dairy cattle	14,659		\$ 9,720		27		24,406
Dairy calves	3,503				0		3,503
Other livestock	496		196		0		692
Crops	7,303		939		0		8,242
Government receipts	3,913				-375		3,538
Custom machine work	89				0		89
Gas tax refund	512				0		512
Other	3,767				557		4,324
Total Accrual Receipts	\$274,748		\$10,855		\$ 722		\$286,375

Cash receipts includes the gross value of milk checks received during the year plus all other payments received for the sale of farm products, services, and government programs.

Accrual receipts represent the value of all farm commodities produced and services actually provided by the farmer during the year. Increases in live-stock inventory caused by herd growth and/or quality, are included as accrual receipts. Decreases in inventory caused by herd reduction are deducted. Changes in inventories of crops grown are accounted for in accrual receipts. Changes in accounts receivable include the January milk check for this December's marketings compared with the previous January's check, and other delayed payments.

CASH AND ACCRUAL FARM RECEIPT WORKSHEET

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	+	Accrual Receipts
Milk sales	\$ _____		\$ _____		\$ _____		\$ _____
Dairy cattle	_____		_____		_____		_____
Dairy calves	_____		_____		_____		_____
Other livestock	_____		_____		_____		_____
Crops	_____		_____		_____		_____
Government receipts	_____		_____		_____		_____
Custom machine work	_____		_____		_____		_____
Gas tax refund	_____		_____		_____		_____
Other	_____		_____		_____		_____
Total Accrual Receipts	\$ _____		\$ _____		\$ _____		\$ _____

To calculate the change in inventory to be included in the above worksheet, subtract the beginning of year values from the end of year values excluding appreciation. The changes in inventories caused by increasing or decreasing prices must be excluded from the calculation of accrual receipts. Changes in accounts receivable are also determined by subtracting beginning of year balances from end of year balances.

## Profitability Analysis

Farm owners or operators contribute labor, management, and capital to their businesses and the best combination of these resources produces optimum profits. Farm profits can be measured as the return to all family resources or as the return to one or more individual resources such as labor and management.

Net farm income is the total combined 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 livestock, machinery, and real estate inventory values caused by changes in prices during the year. Appreciation is a major factor contributing to changes in farm net worth and must be considered in the profitability analysis.

### NET FARM INCOME 44 Central New York Region Dairy Farms, 1985

Item	Average	My Farm
Total accrual receipts	\$286,375	\$ _____
Appreciation: Livestock	-11,029	_____
Machinery	6,038	_____
Real Estate	5,961	_____
Total Including Appreciation	\$287,345	\$ _____
Total accrual expenses	254,695	- _____
Net Farm Income (with appreciation)	\$ 32,650	\$ _____
Net Farm Income (without appreciation)	\$ 31,680	\$ _____

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

### RETURN TO OPERATOR'S LABOR, MANAGEMENT, AND EQUITY 44 Central New York Region Dairy Farms, 1985

Item	Average		My Farm	
	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	\$32,650	\$31,680	\$ _____	\$ _____
Family labor unpaid @ \$550 per month	1,100	1,100	- _____	- _____
Return to operator's labor, management, & equity	\$31,550	\$30,580	\$ _____	\$ _____



Labor and management income is the share of net farm income without appreciation returned to the operator's labor and management. Appreciation is not included as part of the return to labor and management. Labor and management income is determined by deducting the cost of using equity capital at a real interest rate of five percent, from the return to operator's labor, management, and equity capital excluding appreciation. The interest charge reflects the long-term average rate of return that a farmer might expect to earn in comparable risk investments in an economy with no inflation.

Labor and management income per operator measures the return to each operator's labor and management.

LABOR AND MANAGEMENT INCOME  
44 Central New York Region Dairy Farms, 1985

Item	Average	My Farm
Return to operator's labor, management, & equity without appreciation	\$30,580	\$ _____
Real interest @ 5% on \$409,125 equity capital	<u>20,456</u>	- _____
Labor & Management Income	\$10,124	\$ _____
Labor & Management Income per 1.42 Operators	\$7,146	\$ _____

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 or value of operator's 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 end of year farm net worth or equity capital.

RETURN ON EQUITY CAPITAL  
44 Central New York Region Dairy Farms, 1985

Item	Average	My Farm
Return to operator's labor, management, & equity capital with appreciation	\$31,550	\$ _____
Value of operator's labor & management	<u>27,696</u>	- _____
Return on equity capital with appreciation	\$ 3,854	\$ _____
Rate of return on equity capital with appreciation	0.9%	_____ %
Return on equity capital without appreciation	\$2,884	\$ _____
Rate of return without appreciation	0.7%	_____ %

### Farm and Family Financial Status

Evaluating the financial status of the farm business and the farm family is an important part of business analysis. The first step is to recognize all the assets and liabilities that make up the balance sheet. The second step is to analyze your filled out balance sheet by evaluating changes made during the year.

#### 1985 FARM BUSINESS & NONFARM BALANCE SHEET 44 Central New York Region Dairy Farms, 1985

Farm Assets			Farm Liabilities & Net Worth		
	Jan. 1	Dec. 31		Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 2,891	\$ 3,401	Accounts payable	\$ 7,681	\$ 6,774
Accounts rec.	20,780	21,863	Operating debt	424	1,186
Feed & supplies	63,634	63,696	Short-term	2,320	2,748
Total	\$ 87,305	\$ 88,960	Total	\$ 10,425	\$ 10,707
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:				\$ 93,113	\$ 92,751
owned	104,370	106,579			
leased	32	23			
Heifers	41,430	37,819			
Bulls/other lvstk.	1,959	2,249			
Mach./eq. owned	120,367	124,646			
Mach./eq. leased	1,658	1,510	Financial lease (cattle/mach.)	1,690	1,533
Coop stock & cert.	6,266	6,128	Total	\$ 94,803	\$ 94,284
Total	\$276,082	\$278,954			
<u>Long-Term</u>			<u>Long-Term</u>		
Land/buildings:				164,117	174,969
owned	\$307,853	\$321,171			
leased	3,607	2,976	Financial lease (structures)	3,607	2,976
Total	\$311,460	\$324,147	Total	\$167,724	\$177,944
Total Farm Assets	\$674,847	\$692,061	Total Farm Liab.	\$272,952	\$282,936
			FARM NET WORTH	\$401,895	\$409,126
(Avg. for 20 farms reporting)			Nonfarm Liabilities & Net Worth		
Nonfarm Assets	Jan. 1	Dec. 31		Jan. 1	Dec. 31
Personal cash, chkg. & savings	\$ 2,131	\$ 710	Nonfarm Liab.	\$ 587	\$ 587
Cash value life ins.	2,950	3,078	NONFARM NET WORTH	28,437	32,194
Nonfarm real estate	6,050	6,000	FARM & NONFARM*	Jan. 1	Dec. 31
Auto (personal sh.)	2,258	2,290	Total Assets	\$703,871	\$724,842
Stocks & bonds	1,229	3,285	Total Liabilities	-273,539	-283,523
Household furn.	6,209	7,349			
All other	8,198	10,069	TOTAL FARM & NON-		
Total Nonfarm	\$29,024	\$32,781	FARM NET WORTH*	\$430,332	\$441,319

\*Assumes that the average nonfarm assets and liabilities on the 24 farms that did not report were the same as those that did report.

Financial lease obligations are included in the balance sheet. The present values of all future payments on financial lease obligations are listed as liabilities since the farmer (lessee) is committed to make the payments. The present values are also listed as assets.

Date \_\_\_\_\_

## 1985 FARM BUSINESS &amp; NONFARM BALANCE SHEET

	Jan. 1 or	Dec. 31 or		Jan. 1 or	Dec. 31 or
<u>Farm Assets</u>			<u>Farm Liabilities &amp; Net Worth</u>		
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	_____	_____	Accounts payable	_____	_____
Accounts rec.	_____	_____	Operating debt	_____	_____
Feed & supplies	_____	_____	Short-term:	_____	_____
				_____	_____
Total			Total		
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:					
owned	_____	_____		_____	_____
leased	_____	_____		_____	_____
Heifers	_____	_____		_____	_____
Bulls/other lvstk.	_____	_____		_____	_____
Mach./eq. owned	_____	_____		_____	_____
Mach./eq. leased	_____	_____	Financial lease		
Coop stock & cert.	_____	_____	(cattle/mach.)	_____	_____
Total	_____	_____	Total	_____	_____
<u>Long-Term</u>			<u>Long-Term</u>		
Land/buildings:					
owned	_____	_____		_____	_____
leased	_____	_____		_____	_____
Total	_____	_____	Financial lease		
			(structures)	_____	_____
			Total	_____	_____
Total Farm Assets	_____	_____	Total Farm Liab.	_____	_____
			FARM NET WORTH	_____	_____
<u>Nonfarm Assets</u>			<u>Nonfarm Liabilities &amp; Net Worth</u>		
			<u>Nonfarm Liab.:</u>		
Personal cash, chkg. & savings	_____	_____		_____	_____
Cash value	_____	_____		_____	_____
life ins.	_____	_____		_____	_____
Nonfarm real est.	_____	_____		_____	_____
Auto (pers. share)	_____	_____	Total Nonfarm		
Stocks & bonds	_____	_____	Liabilities	_____	_____
Household furn.	_____	_____			
All other	_____	_____	Nonfarm		
Total Nonfarm	_____	_____	Net Worth	_____	_____
<u>TOTAL FARM &amp; NONFARM</u>					
			Jan. 1 or	Dec. 31 or	
Total Farm & Nonfarm Assets			_____	_____	
Less Total Farm & Nonfarm Liabilities			_____	_____	
Farm & Nonfarm Net Worth			_____	_____	

Balance sheet analysis continues by examining financial and debt ratios and factors measuring levels of debt. Percent equity is calculated by dividing net worth by assets. Equity increases as the value of assets increase more than liabilities. The debt to asset ratio is compiled by dividing total liabilities by total assets. Low debt to asset ratios reflect strength in solvency and the potential capacity to borrow. The debt analysis ratios show how well the debt is structured and managed. Debt levels per unit of production include some old standards that are still useful if used with measures of cash flow and repayment ability.

BALANCE SHEET ANALYSIS  
44 Central New York Region Dairy Farms, 1985

Item	Average	My Farm
<u>Financial Ratios - Farm:</u>		
Percent equity	59%	_____ %
Debt/asset ratio: total	0.41	_____
long-term	0.55	_____
intermediate/current	0.29	_____
<u>Financial Ratios - Farm &amp; Nonfarm:</u>		
Percent equity	60%	_____ %
Total debt/asset ratio	0.40	_____
<u>Farm Debt Analysis:</u>		
Accounts payable as % of total debt	2%	_____ %
Long-term liabilities as a % of total debt	63%	_____ %
Current & inter. liab. as a % of total debt	37%	_____ %
<u>Farm Debt Levels:</u>	Per Cow	Per Tillable Acre Owned
Total farm debt	\$2,210	\$1,225
Long-term debt	1,390	770
Intermediate & current debt	820	455

Balance sheet analysis concludes with a summary of the inventory balancing procedure for farm real estate and machinery and equipment. It is important to account for the value of these 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.

FARM INVENTORY BALANCE  
44 Central New York Region Dairy Farms, 1985

Item	Avg. of Regional Farms		My Farm	
	R.E.	Mach./Eq.	R.E.	Mach./Eq.
Value beg. of year	\$307,853	\$120,367	\$ _____	\$ _____
Purchases	25,827*	19,050	\$ _____	\$ _____
Lost capital	-3,595	--	- _____	- _____
Sales	-4,502	-624	- _____	- _____
Depreciation	-10,372	-20,185	- _____	- _____
Net investment	7,358	-1,759	=+ _____	=+ _____
Appreciation	5,961	6,038	+ _____	+ _____
Value end of year	\$321,171	\$124,646	\$ _____	\$ _____

\* \$6,631 land and \$19,196 buildings and/or depreciable improvements.

Cash Flow Summary and Analysis

Completing an annual cash flow summary and analysis is important to determine how well the cash generated by the business, plus that brought in from outside, met the annual cash needs of the business and the farm family. 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 in the following table is structured to compare all the cash inflows with all the cash outflows for the year. Cash inflows include all the cash farm receipts, receipts from the sale of farm assets, additional funds borrowed, as well as the amount of cash available at the beginning of the year. Cash outflows include all the cash farm expenses, capital purchases, principal payments, money taken out of the business, and the cash balance left at year's end. When all the cash inflows and outflows are correct, the statement will balance. If there is an imbalance or error, inflows, outflows or both have not been recorded accurately.

ANNUAL CASH FLOW STATEMENT  
44 Central New York Region Dairy Farms, 1985

Item	Average	My Farm
<u>Cash Inflows</u>		
Beginning farm cash, checking & savings	\$ 2,891	\$ _____
Cash farm receipts	274,748	_____
Sale of assets: Machinery	624	_____
Real estate	4,639	_____
Money borrowed (intermediate & long-term)	45,244	_____
Money borrowed (short-term)	3,602	_____
Increase in operating debt	762	_____
Nonfarm income	5,836	_____
Money borrowed - nonfarm	0	_____
Total	\$338,346	\$ _____
<u>Cash Outflows</u>		
Cash farm expenses	\$217,097	\$ _____
Capital purchases: Expansion livestock	6,856	_____
Machinery	19,050	_____
Real estate	25,827	_____
Principal payments (intermediate & long-term)	34,755	_____
Principal payments (short-term)	3,175	_____
Decrease in operating debt	0	_____
Nonfarm debt payments	11	_____
Personal withdrawals & family exp.	24,813	_____
Ending farm cash, checking & savings	3,401	_____
Total	\$334,985	\$ _____
Imbalance (error)	\$ 3,361	\$ _____

Repayment Analysis

The second step of cash flow planning is to compare and evaluate debt payments planned and made last year, and estimate the payments required in the current year. It is helpful to compare and evaluate by using debt payments per unit of production and receipt/debt payment ratios.

FARM DEBT PAYMENTS PLANNED  
37 Central New York Dairy Farms, 1985 & 1986  
(These 37 farms were also in the 1984 DFBS)

Debt Payments	Average		Planned 1986	My Farm		Planned 1986
	1985 Payments Planned	Made		1985 Payments Planned	Made	
Long-term	\$20,079	\$22,314	\$23,114	\$ _____	\$ _____	\$ _____
Intermediate-term	33,017	31,920	26,225	_____	_____	_____
Short-term	1,732	2,966	2,875	_____	_____	_____
Operating (net reduction)	0	0	944	_____	_____	_____
Accounts payable (net reduction)	4,199	1,799	1,059	_____	_____	_____
Total	\$59,028	\$58,999	\$54,217	\$ _____	\$ _____	\$ _____
Per cow	\$459	\$468		\$ _____	\$ _____	
Per cwt. 1985 milk	\$2.96	\$2.96		\$ _____	\$ _____	
Percent of total 1985 receipts	20%	20%		_____	_____	
Percent of 1985 milk receipts	24%	24%		_____	_____	

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 planned payments that could have been made with 1985's available cash flow. Farmers that did not participate in DFBS last year will find in their report a cash flow coverage ratio based on planned debt payments for 1986.

CASHFLOW COVERAGE RATIO  
Same 37 Central New York Region Dairy Farms, 1985

Item	Average	My Farm
Cash farm receipts	\$282,710	\$ _____
- Cash farm expenses	224,898	_____
+ Interest paid	25,636	_____
- Net personal withdrawals from farm*	19,669	_____
(A) = Amount Available for Debt Service	\$ 63,779	\$ _____
(B) = Debt Payments Planned for 1985	\$ 59,028	\$ _____
(A ÷ B) = Cash Flow Coverage Ratio for 1985	1.08	_____

\*Personal withdrawals and family expenditures less nonfarm income. If family withdrawals are excluded the cash flow coverage ratio will be incorrect.

## ANALYSIS OF THE FARM BUSINESS

The farm business has been divided into three parts to allow a more indepth analysis of the cropping program, the dairy program, and the factors affecting capital and labor efficiency.

Cropping Program Analysis

The cropping program is an important part of the dairy farm business that sometimes is overlooked and neglected. A complete evaluation of available land resources, how they are being used, how well crops are producing and what it costs to produce them, is required to evaluate alternative cropping and feed purchasing choices.

LAND RESOURCES AND CROP PRODUCTION  
44 Central New York Region Dairy Farms, 1985

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	231	137	368			
Nontillable	25	13	38			
Other nontillable	87	10	97			
Total	343	160	503			
	<u>Farms Reporting</u>		<u>All Farms</u>			
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres</u>	<u>Acres</u>	<u>Prod/Acre</u>	<u>Acres</u>	<u>Prod/Acre</u>
Hay crop	43	144	141	2.9 tn DM		tn DM
Corn silage	43	94	92	15.2 tn		tn
				5.4 tn DM		tn DM
Other forage	3	13	1	1.1 tn DM		tn DM
Total forage	43	240	234	3.9 tn DM		tn DM
Corn grain	35	120	95	97.0 bu		bu
Oats	16	38	14	94.0 bu		bu
Wheat	8	35	6	50.4 bu		bu
Other crops	6	25	3			
Tillable pasture	14	25	8			
Idle	15	21	7			
Total Tillable Acres			368			

Average crop acres and yields compiled for the region are for the number of 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 measures of crop management measure how efficiently the land resource is being used and how well total forage requirements are being met.

CROP MANAGEMENT FACTORS  
44 Central New York Region Dairy Farms, 1985

Item	Average	My Farm
Total tillable acres per cow	3.03	
Total forage acres per cow	1.93	
Harvested forage dry matter, tons per cow	7.45	

Cropping Program Analysis (continued)

A substantial number of cooperators have allocated crop expenses to hay crop, corn, and other crop production. This additional data has been compiled to show the traditional crop expenses per acre and per production unit for these crops. Corn production has been converted to corn silage equivalent using 5.88 bushels of dry shell equivalent to equal one ton of corn silage as fed.

CROP RELATED ACCRUAL EXPENSES\*  
Central New York Dairy Farms, 1985

Expense	Total Per Till. Acre	Hay Crop		Corn Per Acre	Per Ton Corn Silage Equiv.**	Other Crops Per Acre
		Per Acre	Per Ton DM			
Fertilizer & lime	\$36.72	\$25.58	<del>\$5.85</del> \$9.62	\$51.65	<del>\$2.45</del> \$3.28	\$37.67
Seeds & plants	14.84	8.27	<del>1.89</del> 3.11	20.66	<del>0.98</del> 1.31	14.42
Spray & other crop expense	15.64	3.23	<del>0.74</del> 1.22	27.62	<del>1.31</del> 1.75	5.86
Total	\$67.20	\$37.09	<del>\$8.48</del> \$13.95	\$99.93	<del>\$4.75</del> \$6.35	\$57.96

My Farm:

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

\*Hay: 30 farms reporting, 136 average acres; corn: 31 farms reporting, 201 average acres; other crops: 18 farms reporting, 41 average acres.

\*\*Corn grain converted to silage equivalent using 5.88 bushels equals one ton silage as fed.

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 per total tillable acre.

ACCRUAL MACHINERY EXPENSES  
44 Central New York Region Dairy Farms, 1985

Machinery Expense Item	Average		My Farm	
	Total Expenses	Per Till. Acre	Total Expenses	Per Till. Acre
Fuel, oil & grease	\$ 8,885	\$ 24.15	\$ _____	\$ _____
Machinery repairs & parts	14,133	38.41	_____	_____
Machine hire, rent & lease	1,736	4.72	_____	_____
Auto expense (farm share)	454	1.23	_____	_____
Interest (5%)	6,125	16.65	_____	_____
Depreciation	20,185	54.85	_____	_____
Total	\$51,518	\$140.00	\$ _____	\$ _____



Dairy Program Analysis

Analysis of the dairy enterprise can tell a great deal about the strengths and weaknesses of the dairy farm business. 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. This increase in inventory, because it is under the manager's control, has been included as an accrual farm receipt on page 5.

DAIRY HERD INVENTORY  
44 Central New York Region Dairy Farms, 1985

Item	Dairy Cows		Heifers	
	Number	Value	Number	Value
Beginning of year (owned)	118	\$104,370	95	\$41,430
+ Change without appreciation		9,468		252
+ Appreciation		<u>-7,259</u>		<u>-3,863</u>
End of year (owned)	127	\$106,579	96	\$37,819
End including leased	128			
Average number	121		93	

My Farm:

Beginning of year (owned)	_____	\$ _____	_____	\$ _____
+ Change without appreciation	_____	_____	_____	_____
+ Appreciation	_____	_____	_____	_____
End of year (owned)	_____	_____	_____	_____
End including leased	_____	_____	_____	_____
Average number	_____	\$ _____	_____	\$ _____

Total milk sold and milk production per cow are extremely valuable measures of productivity on the dairy farm. These measures of milk output are based on pounds of milk marketed during the year.

MILK PRODUCTION  
44 Central New York Region Dairy Farms, 1985

Item	Average	My Farm
Total milk sold, lbs.	1,933,438	_____
Milk sold per cow, lbs.	15,919	_____
Average milk plant test, percent butterfat	3.44%	_____

The cost of producing milk has been computed 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. Total costs of producing milk include the operating costs plus expansion livestock purchased, depreciation on machinery and buildings, the value of operator's labor and management, and the interest charge for using equity capital. Note that the cost of labor, management, and equity capital has been excluded in the intermediate calculation.

ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK  
44 Central New York Region Dairy Farms, 1985

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Receipts</u>						
Milk	\$241,070	\$1,985	\$12.47	\$ _____	\$ _____	\$ _____
Dairy cattle	24,406	201	1.26	_____	_____	_____
Dairy calves	3,503	29	0.18	_____	_____	_____
Total	\$268,979	\$2,215	\$13.91	\$ _____	\$ _____	\$ _____
<u>Accrual Costs of Producing Milk</u>						
Operating cost	\$171,945	\$1,416	\$ 8.89	\$ _____	\$ _____	\$ _____
Total cost with-						
out op(s') labor,						
mgmt. & capital	\$210,489	\$1,733	\$10.89	\$ _____	\$ _____	\$ _____
Total Cost of						
Producing Milk	\$258,641	\$2,130	\$13.38	\$ _____	\$ _____	\$ _____

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 the comparison of different size dairy farms.

DAIRY RELATED ACCRUAL EXPENSES  
44 Central New York Region Dairy Farms, 1985

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrates	\$45,638	\$2.36	\$ _____	\$ _____
Purchased dairy roughage	1,682	0.09	_____	_____
Total Purchased Dairy Feed	\$47,320	\$2.45	\$ _____	\$ _____
Purchased grain & conc. as % of milk receipts		19%		____%
Purchased feed & crop exp.	\$72,049	\$3.73	\$ _____	\$ _____
Purchased feed & crop exp. as % of milk receipts		30%		____%
Breeding	\$ 3,527	\$0.18	\$ _____	\$ _____
Veterinary & medicine	6,218	0.32	_____	_____
Milk marketing	11,777	0.61	_____	_____
Cattle lease	438	0.02	_____	_____
Other livestock expense	9,844	0.51	_____	_____

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.

CAPITAL EFFICIENCY  
44 Central New York Region Dairy Farms, 1985

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$190,731	\$5,627	\$1,857	\$2,959
Real estate	--	2,617	--	1,376
Machinery & equipment	34,630	1,022	337	--
Capital turnover, years	2.29			
My Farm:				
Farm capital	\$ _____	\$ _____	\$ _____	\$ _____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
Capital turnover, years	_____			

LABOR FORCE INVENTORY AND ANALYSIS  
44 Central New York Region Dairy Farms, 1985

Labor Force	Months	Age	Years of of Educ.	Value of Labor & Mgmt.
Operator number 1	12	46	13	\$20,174
Operator number 2	5	38	13	\$6,727
Family paid	8			
Family unpaid	2			
Hired	<u>16</u>			
Total	43	÷ 12 = 3.58 Worker Equivalent		
		1.42 Operator/Manager Equiv.		
 <u>My Farm</u> : Total				
	_____	÷ 12 = _____	Worker Equivalent	
Operator's	_____	÷ 12 = _____	Operator/Manager Equiv.	

Labor Efficiency	Average		My Farm	
	Total	Per Worker	Total	Per Worker
Cows, average number	121	34	_____	_____
Milk sold, pounds	1,933,438	539,564	_____	_____
Tillable acres	368	103	_____	_____
Work units	1,269	354	_____	_____

Labor Costs	Total	Average		Total	My Farm	
		Per Cow	Per Til. Acre		Per Cow	Per Til. Acre
Value of operator(s)						
labor (\$800/month)	\$13,600	\$112	\$ 36.96	\$ _____	\$ _____	\$ _____
Family unpd. (\$550/mo.)	1,100	9	2.99	_____	_____	_____
Hired	29,004	239	78.82	_____	_____	_____
Total Labor	\$43,704	\$360	\$118.77	\$ _____	\$ _____	\$ _____
Machinery Cost	51,518	424	140.00	_____	_____	_____
Total Labor & Mach.	\$95,222	\$784	\$258.77	\$ _____	\$ _____	\$ _____

## ANNUAL CASH FLOW WORKSHEET

Item	Regional Average (per cow)	My Farm		Expected Change	1986 Projection
		Total	Per Cow		
Average number of cows	121				
<u>Accrual Oper. Receipts</u>					
Milk	\$1,985	\$	\$		\$
Dairy cattle	201				
Dairy calves	29				
Other livestock	6				
Crops	68				
Misc. receipts	70				
Total	\$2,358	\$	\$		\$
<u>Accrual Oper. Expenses</u>					
Hired labor	\$239	\$	\$		\$
Dairy grain & conc.	376				
Dairy roughage	14				
Other lvstk. feed	2				
Mach. hire/rent/lease	14				
Mach. rpr./parts & auto	121				
Fuel, oil & grease	73				
Replacement lvstk.	31				
Breeding	29				
Vet & medicine	51				
Milk marketing	97				
Cattle lease	4				
Other lvstk. exp.	81				
Fertilizer & lime	112				
Seeds & plants	45				
Spray/other crop exp.	48				
Land, bldg., fence repair	27				
Taxes	48				
Insurance	33				
Real est. rent/lease	63				
Utilities	56				
Miscellaneous	27				
Total Less Int. Paid	\$1,594				\$
<u>Net Accrual Operating Income</u>	(total)				
(without interest paid)	\$93,485	\$			\$
- Change in lvstk./crop inv.	10,855				
- Change in accts. rec.	772				
+ Change in feed/supply inv.	908				
+ Change in accts. payable	-723				
NET CASH FLOW	\$82,011	\$			\$
- Personal withdrawals & family expenditures	24,813				
Available for Debt Payments, Investments & Savings	\$57,198	\$			\$
- Farm Debt Payments	64,060				
Available for Investment & Savings	\$-6,862	\$			\$
- Capital Purchases: cattle, machinery & improvements	51,733				
Additional Capital Needed		\$			\$

## PROGRESS OF THE FARM BUSINESS

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

PROGRESS OF THE FARM BUSINESS  
Same 37 Central New York Farms, 1984 & 1985

Selected Factors	Average		My Farm		Goal
	1984	1985	1984	1985	
<u>Size of Business</u>					
Average number of cows	119	126			
Average number of heifers	97	98			
Milk sold, lbs.	1,831,686	1,991,994			
Worker equivalent	3.55	3.67			
Total tillable acres	348	370			
<u>Rates of Production</u>					
Milk sold per cow, lbs.	15,350	15,813			
Hay DM per acre, tons	3.2	3.0			
Corn silage per acre, tons	16	15			
<u>Labor Efficiency</u>					
Cows per worker	34	34			
Milk sold per worker, lbs.	516,689	543,271			
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	21%	19%			
Dairy feed & crop exp. per cwt. milk	\$4.20	\$3.77	\$	\$	\$
Labor & mach. costs/cow	\$780	\$780	\$	\$	\$
<u>Capital Efficiency*</u>					
Farm capital per cow	\$5,694	\$5,600	\$	\$	\$
Real estate per cow	\$2,648	\$2,630	\$	\$	\$
Mach. & equip. per cow	\$1,024	\$997	\$	\$	\$
Capital turnover, years	2.4	2.4			
<u>Profitability</u>					
Net farm inc. w/o apprec.	\$39,169	\$33,880	\$	\$	\$
Net farm inc. w/apprec.	\$43,363	\$34,982	\$	\$	\$
Labor & mgmt. income	\$17,812	\$11,205	\$	\$	\$
Rate of return on eq. capital w/apprec.	4.2%	1.7%			
<u>Financial Summary</u>					
Farm net worth	\$410,113	\$431,507	\$	\$	\$
Debt to asset ratio	0.40	0.40	\$	\$	\$
Farm debt per cow	\$2,279	\$2,160	\$	\$	\$

\*Average for the year.

### Farm Business Chart

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 458 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.

#### FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS 458 New York Dairy Farms, 1984

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
6.8	255	4,211,900	18,800	4.7	20	45	697,300
4.3	138	2,118,100	17,300	3.7	18	36	560,900
3.6	100	1,551,500	16,500	3.3	16	33	503,900
3.1	83	1,287,200	15,900	2.9	15	30	456,100
2.8	72	1,090,400	15,300	2.7	14	28	423,300
2.5	63	950,300	14,800	2.5	13	26	392,200
2.2	56	818,600	14,200	2.3	12	25	361,400
2.0	49	691,500	13,400	2.0	12	23	328,000
1.7	43	577,800	12,200	1.7	10	20	275,500
1.4	33	395,200	10,000	1.3	8	16	191,300

Feed Bought Per Cow	% Feed is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cwt. Milk
\$214	11%	\$205	\$ 511	\$2.75
306	16	286	610	3.47
369	19	337	662	3.87
432	22	379	713	4.21
474	25	408	771	4.45
523	27	445	818	4.68
574	28	481	873	4.97
624	31	519	928	5.31
685	33	580	1,004	5.72
809	40	765	1,201	6.73

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.

### Financial Analysis Chart

The farm financial analysis chart is designed just like the Farm Business Chart and may be used to measure the financial health of the farm business. Most of the financial measures used in the chart are presented on pages 7, 10, 12, and 17 of this publication.

#### FINANCIAL ANALYSIS CHART 458 New York Dairy Farms, 1984

Liquidity (Repayment)				
Debt Payments Per Cow	Available for Debt Service Per Cow	Cash Flow Coverage Ratio	Debt Payments as Percent of Milk Sales	Debt Per Cow
\$ 36	\$909	7.67	2	\$ 104
176	640	2.16	9	638
277	537	1.41	14	1,142
362	469	1.10	19	1,625
438	411	.91	22	1,930
500	357	.75	26	2,377
571	279	.58	30	2,688
656	216	.46	35	3,161
752	126	.28	40	3,770
971	-95	-.56	52	5,072

Solvency				Efficiency & Profitability		
Leverage Ratio <sup>1</sup>	Percent Equity	Debt/Asset Ratio		Capital Turnover (years)	Rate of Return on	
		Long Term	Intermediate & Current		Equity	Investment <sup>2</sup>
.02	99	.00	.00	1.60	18%	13%
.12	90	.02	.04	1.90	8	9
.24	81	.14	.11	2.06	5	7
.37	73	.30	.16	2.20	3	6
.51	67	.41	.23	2.34	1	4
.70	60	.51	.29	2.51	-1	3
.94	53	.62	.37	2.66	-3	1
1.22	46	.73	.45	2.95	-6	0
1.72	38	.85	.55	3.25	-11	-3
5.04	20	1.27	.80	4.54	-37	-8

<sup>1</sup>Dollars of debt per dollar of equity, computed by dividing total liabilities by total equity.

<sup>2</sup>Return on all farm capital (no deduction for interest paid) divided by total farm assets.

FARM BUSINESS SUMMARY BY HERD SIZE  
458 New York Dairy Farms, 1984

Item	Farms with:	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows
<u>Capital Investment (end of year)</u>					
Livestock		\$ 39,803	\$ 58,991	\$ 81,180	\$100,136
Feed & supplies		11,239	17,653	26,056	34,432
Machinery & equipment		40,402	53,984	76,669	97,951
Land & buildings		<u>120,967</u>	<u>142,160</u>	<u>193,710</u>	<u>225,287</u>
TOTAL INVESTMENT		\$212,411	\$272,788	\$377,615	\$457,806
<u>Receipts</u>					
Milk sales		\$ 58,562	\$ 89,405	\$123,086	\$155,027
Dairy cattle sold		4,531	5,287	8,630	10,295
Other livestock sales		1,004	1,626	2,110	1,890
Crop sales		425	738	1,411	2,271
Miscellaneous receipts		<u>3,791</u>	<u>3,991</u>	<u>5,448</u>	<u>5,640</u>
Total Cash Receipts		\$ 68,313	\$101,047	\$140,685	\$175,123
Increase in livestock		-589	687	889	3,018
Increase in feed & supplies		501	10	2,085	435
Appreciation		<u>1,609</u>	<u>3,371</u>	<u>6,243</u>	<u>5,188</u>
TOTAL FARM RECEIPTS		\$ 69,834	\$105,115	\$149,902	\$183,764
TOTAL FARM REC. EXCL. APPREC.		\$ 68,225	\$101,744	\$143,659	\$178,576
<u>Expenses</u>					
Hired labor		\$ 2,503	\$ 5,326	\$ 8,539	\$ 13,584
Dairy grain & concentrate		16,993	23,274	30,095	36,692
Other feed		1,632	1,422	2,227	1,486
Machine hire		764	949	1,494	1,501
Machinery repair		3,072	4,013	5,929	7,527
Auto expense (farm share)		446	415	502	485
Gas & oil		2,072	3,157	4,494	6,131
Replacement animals		549	766	1,692	1,116
Breeding fees		875	1,238	2,062	2,548
Veterinary & medicine		1,072	1,617	2,641	3,098
Milk marketing		4,893	7,345	9,676	12,223
Cattle lease		0	55	87	125
Other livestock expense		2,362	3,650	5,511	6,278
Fertilizer & lime		2,355	3,446	6,291	8,000
Seeds & plants		697	1,081	1,933	2,602
Spray & other crop expense		693	813	1,438	1,988
Land, bldg., fence repair		936	1,190	1,971	2,339
Taxes & insurance		3,292	4,120	5,922	7,203
Elec. & phone (farm share)		2,018	2,879	3,875	4,700
Interest paid		5,789	9,300	12,660	14,845
Misc. expenses (incl. rent)		<u>1,441</u>	<u>3,088</u>	<u>4,125</u>	<u>5,609</u>
Total Cash Expenses		\$ 54,454	\$ 79,144	\$113,164	\$140,080
Expansion livestock		60	238	702	1,062
Machinery depreciation		6,475	7,623	11,531	15,287
Building depreciation		2,001	3,166	5,605	5,742
Unpaid family labor		1,844	1,750	1,821	1,805
Interest on equity @ 5%		<u>7,433</u>	<u>9,162</u>	<u>12,678</u>	<u>15,771</u>
TOTAL FARM EXPENSES		\$ 72,267	\$101,083	\$145,501	\$179,747
<u>Financial Summary</u>					
NET CASH FARM INCOME		\$13,859	\$21,903	\$27,521	\$35,043
Labor & Management Income		\$-4,042	\$661	\$-1,842	\$-1,171
Number of Operators		1.07	1.18	1.32	1.34
LABOR & MGT. INCOME/OPER.		\$-3,778	\$560	\$-1,395	\$-874
LABOR, MGT. & OWNSHP. INC./OPER.		\$4,673	\$11,181	\$12,939	\$14,767



FARM BUSINESS SUMMARY BY HERD SIZE  
458 New York Dairy Farms, 1984

Item	Farms with:	85 to 99 Cows	100 to 149 Cows	150 to 199 Cows	200 to 249 Cows	250 or More Cows
<u>Capital Investment</u> (end of year)						
Livestock		\$124,747	\$166,776	\$223,343	\$ 317,993	\$ 470,722
Feed & supplies		41,199	60,934	81,393	113,736	189,321
Machinery & equipment		111,838	134,403	183,205	190,946	259,528
Land & buildings		<u>242,050</u>	<u>348,070</u>	<u>415,970</u>	<u>581,058</u>	<u>879,980</u>
TOTAL INVESTMENT		\$519,834	\$710,183	\$903,911	\$1,203,733	\$1,799,551
<u>Receipts</u>						
Milk sales		\$189,618	\$256,245	\$343,599	\$505,975	\$ 838,467
Dairy cattle sold		12,783	16,560	24,102	37,420	48,329
Other livestock sales		2,448	3,855	5,448	8,275	9,101
Crop sales		1,066	2,528	5,851	4,013	14,125
Miscellaneous receipts		<u>4,509</u>	<u>9,564</u>	<u>18,177</u>	<u>19,824</u>	<u>11,764</u>
Total Cash Receipts		\$210,424	\$288,752	\$397,177	\$575,507	\$ 921,786
Increase in livestock		5,264	2,971	7,534	4,471	51,943
Increase in feed & supplies		281	7,022	6,856	4,218	14,687
Appreciation		<u>2,746</u>	<u>10,566</u>	<u>11,658</u>	<u>24,903</u>	<u>12,861</u>
TOTAL FARM RECEIPTS		\$218,715	\$309,311	\$423,225	\$609,099	\$1,001,277
TOTAL FARM REC. EXCL. APPR.		\$215,969	\$298,745	\$411,567	\$584,196	\$988,416
<u>Expenses</u>						
Hired labor		\$ 16,688	\$ 27,852	\$ 46,503	\$ 77,411	\$117,236
Dairy grain & concentrate		49,523	61,297	78,388	115,416	201,481
Other feed		1,616	3,305	3,705	4,065	10,626
Machine hire		1,049	1,539	2,704	3,679	4,676
Machinery repair		10,347	14,395	20,231	27,963	38,467
Auto expense (farm share)		608	307	534	696	329
Gas & oil		7,220	10,651	13,739	19,720	24,792
Replacement animals		1,045	1,673	4,834	1,189	1,354
Breeding fees		2,715	3,811	5,028	8,061	12,013
Veterinary & medicine		3,776	5,339	6,729	12,980	20,847
Milk marketing		15,285	19,404	26,629	39,971	52,277
Cattle lease		150	104	0	0	732
Other livestock expense		8,091	9,643	15,299	17,745	32,245
Fertilizer & lime		9,363	13,360	21,445	26,273	32,100
Seeds & plants		3,122	4,101	7,169	9,889	12,436
Spray & other crop expense		2,126	4,726	7,328	6,131	15,530
Land, bldg., fence repair		2,697	3,860	3,746	6,384	9,185
Taxes & insurance		7,346	10,300	13,188	16,264	18,689
Elec. & phone (farm share)		5,464	6,851	8,877	11,927	15,604
Interest paid		19,120	27,319	39,003	50,300	87,833
Misc. expenses (incl. rent)		<u>5,312</u>	<u>8,375</u>	<u>10,210</u>	<u>20,000</u>	<u>23,600</u>
Total Cash Expenses		\$172,663	\$238,212	\$335,289	\$476,064	\$732,052
Expansion livestock		1,040	729	3,596	7,173	20,888
Machinery depreciation		16,720	21,513	29,514	32,577	48,605
Building depreciation		7,497	10,826	11,453	22,077	31,860
Unpaid family labor		1,698	1,348	760	938	1,433
Interest on equity @ 5%		<u>16,884</u>	<u>22,692</u>	<u>29,569</u>	<u>38,653</u>	<u>59,533</u>
TOTAL FARM EXPENSES		\$216,502	\$295,320	\$410,181	\$577,482	\$894,371
<u>Financial Summary</u>						
NET CASH FARM INCOME		\$37,761	\$50,540	\$61,888	\$99,443	\$189,734
Labor & Management Income		\$-533	\$3,425	\$1,386	\$6,714	\$94,045
Number of Operators		1.37	1.41	1.52	1.44	1.80
LABOR & MGT. INCOME/OPER.		\$-389	\$2,429	\$912	\$4,663	\$52,247
LABOR, MGT. & OWNSHP. INC./OP.		\$13,939	\$26,016	\$28,035	\$48,799	\$92,466

SELECTED BUSINESS FACTORS BY HERD SIZE  
458 New York Dairy Farms, 1984

Item	Farms with:	Less Than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows
Number of farms		45	100	94	64
<u>Size of Business</u>					
Number of cows		33	47	61	77
Number of heifers		27	38	52	67
Pounds of milk sold		443,000	664,700	919,900	1,159,400
Worker equivalent		1.75	2.08	2.50	2.92
Total work units		366	526	694	870
Total tillable acres		112	164	213	271
(Tillable acres rented)*		(26)	(50)	(71)	(80)
<u>Rates of Production</u>					
Milk sold per cow		13,424	14,143	15,080	15,057
Tons hay crop dry matter per acre		2.2	2.3	2.4	2.7
Tons corn silage per acre		12.9	13.0	12.8	12.9
Bushels of oats per acre		39.8	51.7	56.8	49.5
<u>Labor Efficiency</u>					
Cows per worker		19	23	24	26
Pounds milk sold per worker		253,143	319,567	367,960	397,055
Work units per worker		209	253	278	298
<u>Feed Costs</u>					
Feed purchased per cow		\$515	\$495	\$493	\$477
Crop expense per cow		\$113	\$114	\$158	\$164
Feed cost per cwt. milk		\$3.84	\$3.50	\$3.27	\$3.16
Feed & crop exp. per cwt. milk		\$5.05	\$4.52	\$4.56	\$4.38
% feed is of milk receipts		29%	26%	24%	24%
Tons forage dry matter per cow		7.6	7.7	7.8	8.0
Tillable acres per cow		3.4	3.5	3.5	3.5
Fertilizer & lime per crop acre		\$21	\$21	\$30	\$30
<u>Machinery &amp; Labor Costs</u>					
Total machinery costs		\$14,820	\$18,829	\$27,749	\$35,813
Machinery cost per cow		\$449	\$401	\$455	\$465
Machinery cost per cwt. milk		\$3.35	\$2.83	\$3.02	\$3.09
Labor cost per cow		\$425	\$376	\$364	\$358
Labor cost per cwt. milk		\$3.17	\$2.66	\$2.42	\$2.38
<u>Capital Efficiency</u>					
Investment per worker		\$121,378	\$131,148	\$151,046	\$156,783
Investment per cow		\$6,247	\$5,683	\$6,190	\$5,795
Investment per cwt. milk		\$48	\$41	\$41	\$39
Land & buildings per cow		\$3,558	\$2,962	\$3,176	\$2,852
Machinery investment per cow		\$1,188	\$1,125	\$1,257	\$1,240
Capital turnover		3.0	2.6	2.5	2.5
<u>Other</u>					
Price per cwt. milk sold		\$13.22	\$13.45	\$13.38	\$13.37
Acres hay crops*		77	104	125	140
Acres corn silage*		17	28	41	53

\*Average of all farms.

SELECTED BUSINESS FACTORS BY HERD SIZE  
458 New York Dairy Farms, 1984

Item	Farms with:	85 to 99 Cows	100 to 149 Cows	150 to 199 Cows	200 to 249 Cows	250 or More Cows
Number of farms		43	56	25	16	15
<u>Size of Business</u>						
Number of cows		91	124	170	229	359
Number of heifers		83	111	134	200	285
Pounds of milk sold		1,399,400	1,878,500	2,553,000	3,692,600	6,247,600
Worker equivalent		3.08	3.92	4.67	6.17	8.58
Total work units		1,030	1,398	1,907	2,541	3,801
Total tillable acres		290	383	549	622	790
(Tillable acres rented)*		(101)	(136)	(220)	(222)	(260)
<u>Rates of Production</u>						
Milk sold per cow		15,378	15,149	15,018	16,125	17,403
Tons hay crop dry matter/acre		2.7	2.9	3.0	3.3	4.0
Tons corn silage per acre		13.4	13.8	14.4	15.4	16.3
Bushels of oats per acre		53.0	45.8	50.1	57.1	80.0
<u>Labor Efficiency</u>						
Cows per worker		30	32	36	37	42
Pounds milk sold/worker		454,351	479,209	546,681	598,476	728,159
Work units per worker		334	357	408	412	443
<u>Feed Costs</u>						
Feed purchased per cow		\$544	\$494	\$461	\$504	\$561
Crop expense per cow		\$161	\$179	\$211	\$185	\$167
Feed cost per cwt. milk		\$3.54	\$3.26	\$3.07	\$3.13	\$3.22
Feed & crop exp./cwt. milk		\$4.70	\$4.62	\$4.62	\$4.38	\$4.36
% feed is of milk receipts		26%	24%	23%	23%	24%
Tons forage dry matter/cow		8.1	8.0	8.7	8.5	8.0
Tillable acres per cow		3.2	3.1	3.2	2.7	2.2
Fertilizer & lime/crop acre		\$32	\$35	\$39	\$42	\$41
<u>Machinery &amp; Labor Costs</u>						
Total machinery costs		\$41,499	\$54,991	\$75,651	\$94,090	\$129,309
Machinery cost per cow		\$456	\$443	\$445	\$411	\$360
Machinery cost per cwt. milk		\$2.97	\$2.93	\$2.96	\$2.55	\$2.07
Labor cost per cow		\$337	\$338	\$360	\$399	\$375
Labor cost per cwt. milk		\$2.19	\$2.23	\$2.39	\$2.47	\$2.15
<u>Capital Efficiency</u>						
Investment per worker		\$168,777	\$181,169	\$193,557	\$195,094	\$209,738
Investment per cow		\$5,590	\$5,636	\$5,165	\$5,144	\$4,699
Investment per cwt. milk		\$37	\$38	\$35	\$33	\$29
Land & buildings per cow		\$2,603	\$2,762	\$2,377	\$2,483	\$2,298
Machinery investment per cow		\$1,203	\$1,067	\$1,047	\$816	\$678
Capital turnover		2.4	2.3	2.1	2.0	1.8
<u>Other</u>						
Price per cwt. milk sold		\$13.55	\$13.64	\$13.46	\$13.70	\$13.42
Acres hay crops*		154	176	258	237	245
Acres corn silage*		71	102	144	235	326

\*Average of all farms.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE  
458 New York Dairy Farms, January 1, 1985

Item	Farms with:	Less Than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows	85 to 99 Cows
Number of farms		45	100	94	64	43
<u>Assets</u>						
Livestock (includes discounted lease payments)		\$ 39,803 (0)	\$ 59,013 (22)	\$ 81,180 (0)	\$100,161 (25)	\$124,747 (0)
Feed & supplies		11,239	17,653	26,056	34,432	41,199
Machinery & equip (includes discounted lease payments)		40,617 (215)	55,212 (1,228)	77,650 (981)	98,722 (771)	112,637 (799)
Land & buildings (includes discounted lease payments)		121,757 (608)	144,453 (2,293)	194,790 (1,080)	227,936 (2,649)	246,366 (4,316)
Co-op investment		950	2,842	3,971	4,747	7,902
Accounts receivable		5,903	8,170	11,281	14,229	17,314
Cash & checking accounts		<u>1,084</u>	<u>1,664</u>	<u>2,028</u>	<u>3,492</u>	<u>2,463</u>
Total Farm Assets		\$221,171	\$289,007	\$396,956	\$483,719	\$552,628
Savings accounts		2,892	3,025	2,751	4,773	3,694
Cash value life insurance		2,071	2,119	3,115	2,670	1,908
Stocks & bonds		990	2,082	2,195	3,755	2,155
Nonfarm real estate		3,853	2,905	8,897	5,656	3,616
Auto (personal share)		1,464	1,903	2,005	1,806	1,979
All other		<u>7,871</u>	<u>9,212</u>	<u>6,298</u>	<u>6,887</u>	<u>5,231</u>
Total Nonfarm Assets		\$ 19,141	\$ 21,246	\$ 25,261	\$ 25,547	\$ 18,583
TOTAL ASSETS		\$240,312	\$310,253	\$422,217	\$509,266	\$571,211
<u>Liabilities</u>						
Long-term		\$ 48,126	\$ 61,437	\$ 80,274	\$ 97,144	\$130,575
Intermediate		20,644	35,075	54,202	59,859	68,539
Financial lease		823	3,543	2,061	3,445	5,115
Short-term		500	2,191	2,547	2,059	5,511
Other farm accounts		<u>2,414</u>	<u>3,526</u>	<u>4,311</u>	<u>5,789</u>	<u>5,209</u>
Total Farm Liabilities		\$ 72,507	\$105,772	\$143,395	\$168,296	\$214,949
Total Nonfarm Liabilities		<u>190</u>	<u>830</u>	<u>856</u>	<u>1,816</u>	<u>570</u>
TOTAL LIABILITIES		\$ 72,697	\$106,602	\$144,251	\$170,112	\$215,519
Farm Net Worth (Eq. Cap.)		\$148,664	\$183,235	\$253,561	\$315,423	\$337,679
FAMILY NET WORTH		\$167,615	\$203,651	\$277,966	\$339,154	\$355,692
<u>Financial Measures</u>						
Percent equity		70%	66%	66%	67%	62%
Farm debt per cow		\$2,133	\$2,204	\$2,351	\$2,130	\$2,311
Available for debt service & living		\$22,264	\$33,907	\$43,287	\$50,678	\$57,557
Scheduled annual debt pymt.		\$13,695	\$21,704	\$29,930	\$35,772	\$45,664
Scheduled debt pymts./cow		\$398	\$447	\$486	\$450	\$487
Payment as % of milk check		23%	24%	24%	23%	24%
Debt/Asset ratio - long-term		0.40	0.43	0.41	0.43	0.53
Debt/Asset ratio - intermediate & short-term		0.22	0.28	0.29	0.26	0.26
Cash flow coverage ratio		0.57	0.78	0.78	0.81	0.75

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE  
458 New York Dairy Farms, January 1, 1985

Item	Farms with:	100 to 149 Cows	150 to 199 Cows	200 to 249 Cows	250 or More Cows
Number of farms		56	25	16	15
<u>Assets</u>					
Livestock (includes discounted lease payments)		\$166,776 (0)	\$ 223,343 (0)	\$ 317,993 (0)	\$ 470,722 (0)
Feed & supplies		60,934	81,393	113,736	189,321
Machinery & equip (includes discounted lease payments)		135,106 (703)	184,455 (1,250)	196,961 (6,015)	260,222 (694)
Land & buildings (includes discounted lease payments)		348,754 (684)	415,970 (0)	581,058 (0)	879,980 (0)
Co-op investment		14,180	28,568	32,536	41,442
Accounts receivable		23,033	31,420	50,181	76,619
Cash & checking accounts		5,401	4,236	9,117	6,807
Total Farm Assets		\$754,184	\$ 969,385	\$1,301,582	\$1,925,113
Savings accounts		3,921	8,721	3,796	9,126
Cash value life insurance		3,560	6,789	3,796	9,126
Stocks & bonds		5,664	8,108	2,455	4,079
Nonfarm real estate		7,632	13,880	0	6,867
Auto (personal share)		1,817	3,173	1,063	667
All other		8,148	7,340	7,019	4,411
Total Nonfarm Assets		\$ 30,742	\$ 48,000	\$ 16,029	\$ 27,500
TOTAL ASSETS		\$784,926	\$1,017,385	\$1,317,611	\$1,9523,613
<u>Liabilities</u>					
Long-term		\$164,375	\$218,110	\$272,541	\$399,185
Intermediate		116,134	135,883	228,449	298,210
Financial lease		1,387	1,250	6,015	694
Short-term		7,550	10,275	5,801	13,752
Other farm accounts		10,893	12,494	15,708	22,605
Total Farm Liabilities		\$300,339	\$378,012	\$528,514	\$734,446
Total Nonfarm Liabilities		742	1,578	250	400
TOTAL LIABILITIES		\$301,081	\$379,590	\$528,764	\$734,846
Farm Net Worth (Eq. Cap.)		\$453,845	\$591,373	\$773,068	\$1,190,667
FAMILY NET WORTH		\$483,845	\$637,795	\$788,847	\$1,217,767
<u>Financial Measures</u>					
Percent equity		62%	63%	60%	62%
Farm debt per cow		\$2,384	\$2,160	\$2,259	\$1,918
Available for debt service & living		\$79,761	\$103,180	\$150,134	\$277,674
Scheduled annual debt pymt.		\$67,136	\$92,504	\$118,968	\$186,887
Scheduled debt pymts./cow		\$531	\$526	\$508	\$488
Payment as % of milk check		26%	27%	34%	22%
Debt/Asset ratio - long-term		0.47	0.52	0.47	0.45
Debt/Asset ratio - intermediate & short-term		0.31	0.27	0.33	0.30
Cash flow coverage ratio		0.78	0.76	0.94	1.18

## MEASURE YOUR PERFORMANCE

After you have entered your farm business data on the pages of this workbook, categorize your farm business performance into three groups. List the strong points, those which indicate average performance, and those areas which need improvement. Your business factors that exceed the regional average should be listed as strong points, factors that are close to the regional average should be identified as average, and factors that are below average should be listed under need improvement.

The Farm Business Chart on page 20 and the Financial Analysis Chart on page 21 can be used to identify strengths and weaknesses by comparing your business with a large number of New York dairy farms summarized for the previous year. It is recommended that you use more than one standard for comparison when analyzing the farm business.

## STRONG POINTS:

## AVERAGE:

_____	_____
_____	_____
_____	_____
_____	_____

## NEED IMPROVEMENT:

_____
_____
_____

After identifying opportunities for improvement, consider alternative ways of solving each problem. List each alternative and analyze the consequences in detail. Cooperative Extension conducts many schools, meetings, and provides many printed materials that should be of assistance. Local agribusinesses often provide helpful information and assistance. Seek out information related to the problem under consideration.

Another way to measure your management performance is to compare your current business factors with those from previous years. Page 19 is provided for this purpose. Answering the following questions may also help evaluate your farm business progress.

1. Do livestock number, labor force, and crop acres make up a well balanced unit of resources?
2. Have rates of production shown a steady increase?
3. When will milk output per worker reach 700,000 pounds?
4. Have some costs of production declined over the last two years?
5. Is net farm income improving fast enough to meet your needs?
6. Is growth in net worth keeping up with increased capital investment?
7. Have you reached the business goals set for 1985 and have you set new goals for 1986?