

# DAIRY FARM BUSINESS SUMMARY

May 1986

A.E. Ext. 86-18

## WESTERN PLAIN REGION 1985

FARM NO. 38001

JANUARY 30, 1986

INCOME STATEMENT (continued)

Receipts	Cash	Change in Accounts Receivable	Change in Inventory	Accrual Receipts
Milk sales	\$ 151850			\$ 151850
Other livestock	9840			9840
Gov't receipts	400			400
Quarantine machine work	230			230
Gas tax refund	250			250
Other	140			140
TOTAL ACCRUAL RECEIPTS	\$ 16426			\$ 16426

EXPENSES

Expense	Cash	Change in Accounts Payable	Change in Inventory	Accrual Expenses
Hired Labor	\$ 5200			\$ 5200
Feed				
Dairy grain & conc.				
Dairy roughage				
Other livestock				
Machinery				
Mach. hire, rent/lease				
Machinery repairs/parts				
Auto expense (f.e.)				
Fuel, oil & grease				
Livestock				
Replacement livestock				
Breeding				
Veterinary & medicine				
Milk marketing				
Cattle lease/rent				
Other livestock exp.				
Crops				
Fertilizer & lime				
Seeds & plants				
Spray, other crop				
Real Estate				
Land/bldg/fence w/				
Taxes				
Insurance				
Rent & lease				
Other				
Telephone (farm &)				
Electricity (farm &)				
Interest paid				
Miscellaneous				
TOTAL OPERATING EXPENSES	\$ 12489			\$ 12489

RETURN TO OPERATOR(S) & PARTNER(S) UNPAID, NET... & EQUITY CAPITAL

TOTAL ACCRUAL RECEIPTS

- Total Accrual Expenses

- NET FARM INCOME

RETURN TO OPERATOR(S) & PARTNER(S) UNPAID, NET... & EQUITY CAPITAL

Net Farm Income

- Family Labor Unpaid

- RETURN TO OPERATOR(S) & PARTNER(S) UNPAID, NET... & EQUITY CAPITAL

MANAGEMENT & EQUITY CAPITAL

RETURN TO OPERATOR(S) & PARTNER(S) UNPAID, NET... & EQUITY CAPITAL

Return to Operator(s)

Management & Equity Capital

- Real Interest on \$

- Capital \$ 50

- LABOR & MANAGEMENT

LABOR & MANAGEMENT

3.00 OPERATOR

RETURN TO EQUITY CAPITAL

Return to Operator(s)

Management & Equity Capital

- Value of Operation

- Management

- RETURN ON EQUITY CAPITAL

Rate of Return

FARM NO. 38001

JANUARY 30, 1986

1985 DAIRY FARM BUSINESS SUMMARY

PROCESSES OF THE FARM BUSINESS

SELECTED FACTORS	1982	1984	1985
Size of Business			
Avg # of cows	45	67	77
Avg # of heifers	50	80	80
Milk sold, lbs.	910000	964800	1116500
Milk sold, lbs.	2.78	2.75	2.75
Total tillable acres	260	260	260
Rates of Production			
Milk sold per cow, lbs.	14000	14400	14500
Avg # of cows	2.8	2.4	2.7
Corn silage per acre, tons	14	14	14
Labor Efficiency			
Cows per worker	24	34	28
Milk sold per worker, lbs.	330909	350834	404000
Cost Control			
Grain & conc. purch. as % milk sales	288	298	288
Dairy feed & crop exp. per cwt. milk	4.38	4.17	5.48
Labor and mach. costs per cow	788	808	821
Capital Efficiency (average for year)			
Farm capital per cow	\$ 5794	\$ 5719	\$ 5507
Real estate per cow	\$ 2348	\$ 2351	\$ 2500
Machinery and equipment per cow	\$ 1362	\$ 1336	\$ 1175
Capital turnover, years	3.4	2.8	2.3
Profitability			
Net farm income w/o approp.	\$ 1200	\$ -8426	\$ 18557
Net farm income w/ approp.	\$ 19215	\$ -5891	\$ 13402
Labor & management income	\$ -11929	\$ -19844	\$ 2974
Rate return on equity capital w/approp	-5.46	-15.74	-6.56
Financial Summary			
Farm net worth	\$ 234878	\$ 238365	\$ 276867
Farm debt per cow	\$ 0.44	\$ 0.42	\$ 0.38
Cash flow coverage ratio	\$ 8603	\$ 2983	\$ 2212
PARTNERSHIP, ACCT. BOOK, DOP.	1.06	1.14	1.32

Stuart F. Smith

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

1985 DAIRY FARM BUSINESS SUMMARY  
Western Plain 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 cooperating farmers. The cost of producing milk per cow and per hundredweight of milk sold has been compiled. 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 Stuart F. Smith with invaluable assistance from Linda Putnam, Cindy Farrell, Beverly Carcelli, and Mary Chaffee, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University. The individual business records were collected by Cooperative Extension agents Merville Button and David Thorp and regional specialist George Allhusen. The Western Plain Region (with the number of participating farms in parentheses) is comprised of Erie (6), Genesee (5), Livingston (10), Monroe (2), Niagara (4), Orleans (4), and Wyoming Counties (14).

## 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  
45 Western Plain Dairy Farms, 1985

<u>Type of Farm</u>	<u>Number</u>	<u>Type of Business</u>	<u>Number</u>
Dairy	40	Single proprietorship	22
Part-time dairy	0	Partnership	20
Dairy cash-crop	5	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	42	Stanchion	12
Renter	3	Freestall	32
		Other	1
<u>Milking System</u>	<u>Number</u>	<u>Business Record System</u>	<u>Number</u>
Bucket & carry	0	CAMIS	2
Dumping station	2	Account Book	19
Pipeline	12	Agrifax (mail-in only)	16
Herringbone parlor	27	On-Farm Computer	6
Other parlor	4	Other	2
<u>Dairy Records Service</u>	<u>Number</u>		<u>Number</u>
DHIC	32	Other	2
O.S.	11	None	0
<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 revised accrual income statement begins with an accounting of all farm business expenses.

CASH AND ACCRUAL FARM EXPENSES  
45 Western Plain Dairy Farms, 1985

Expense Item	Cash Paid +	Change in Inventory +	Change in Accounts Payable +	Accrual Expenses -
<u>Hired Labor</u>	\$ 46,207		\$-198	\$ 46,009
<u>Feed</u>				
Dairy grain & conc.	69,513	\$ -214	100	69,399
Dairy roughage	1,577	0	-4	1,573
Other livestock	709	-7	0	702
<u>Machinery</u>				
Mach. hire, rent/lease	3,616		-120	3,496
Machinery repairs/parts	18,603	-31	-125	18,447
Auto expense (f.s.)	308		0	308
Fuel, oil & grease	11,937	-77	105	11,965
<u>Livestock</u>				
Replacement livestock	1,957		0	1,957
Breeding	5,170	-153	108	5,125
Vet & medicine	7,958	-58	-180	7,720
Milk marketing	16,661		-7	16,654
Cattle lease/rent	0		0	0
Other livestock expense	14,219	3	95	14,317
<u>Crops</u>				
Fertilizer & lime	17,005	-383	-77	16,545
Seeds & plants	7,396	-236	39	7,199
Spray, other crop exp.	7,771	-284	51	7,538
<u>Real Estate</u>				
Land/bldg./fence repair	3,973		-199	3,774
Taxes	6,666		-171	6,495
Insurance	5,543		-76	5,467
Rent & lease	8,460		31	8,491
<u>Other</u>				
Telephone (f.s.)	640		0	640
Electricity (f.s.)	7,430		69	7,499
Interest paid	35,499		-98	35,401
Miscellaneous	2,981	-365	-70	2,546
Total Operating	\$301,799	\$-1,805	\$-727	\$299,267
Expansion livestock	\$722		\$-95	\$ 628
Machinery depreciation				27,020
Building depreciation				14,660
<b>TOTAL ACCRUAL EXPENSES</b>				<b>\$341,575</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. The values 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  
45 Western Plain Dairy Farms, 1985

Receipt Item	Cash Receipts	Change in + Inventory	Change in Accounts + Receivable	Accrual + Receipts
Milk sales	\$339,436		\$ -310	\$339,126
Dairy cattle	21,855	\$8,391	-13	30,233
Dairy calves	3,848		0	3,848
Other livestock	613	82	0	695
Crops	7,599	1,299	-11	8,887
Government receipts	4,361		20	4,381
Custom machine work	348		-66	282
Gas tax refund	262		0	262
Other	5,999		2,390	8,389
Total Accrual Receipts	\$384,321	\$9,772	\$2,010	\$396,103

Cash receipts include 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 declining 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/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 operator(s) 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 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 included in the profitability analysis.

#### NET FARM INCOME 45 Western Plain Dairy Farms, 1985

Item	Average	My Farm
Total accrual receipts	\$396,103	\$ _____
Appreciation: Livestock	-17,180	_____
Machinery	2,619	_____
Real Estate	<u>8,551</u>	_____
Total Including Appreciation	\$390,093	\$ _____
Total accrual expenses	<u>-341,575</u>	- _____
Net Farm Income (with appreciation)	\$ 48,518	\$ _____
Net Farm Income (without appreciation)	\$ 54,528	\$ _____

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 45 Western Plain Dairy Farms, 1985

Item	Average		My Farm	
	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	\$48,518	\$54,528	\$ _____	\$ _____
Family labor unpaid @ \$550 per month	<u>-1,100</u>	<u>-1,100</u>	- _____	- _____
Return to operator(s') labor, management, & equity	\$47,418	\$53,428	\$ _____	\$ _____

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 a low inflation economy.

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

LABOR AND MANAGEMENT INCOME  
45 Western Plain Dairy Farms, 1985

Item	Average	My Farm
Return to operator(s') labor, management, & equity without appreciation	\$53,428	\$ _____
Real interest @ 5% on \$516,419 equity capital	<u>-25,821</u>	- _____
Labor & Management Income	\$27,607	\$ _____
Labor & Management Income per 1.58 Operators	\$17,436	\$ _____

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  
45 Western Plain Dairy Farms, 1985

Item	Average	My Farm
Return to operator(s') labor, management, & equity capital with appreciation	\$47,418	\$ _____
Value of operator(s') labor & management	<u>-30,903</u>	- _____
Return on equity capital with appreciation	\$16,515	\$ _____
Rate of return on equity capital with appreciation	3.2%	_____
Return on equity capital without appreciation	\$22,525	\$ _____
Rate of return without appreciation	4.4%	_____



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  
45 Western Plain 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	\$ 6,621	\$ 5,746	Accounts payable	\$ 8,068	\$ 7,630
Accounts rec.	31,960	30,955	Operating debt	3,385	3,697
Feed & supplies	80,679	83,779	Short-term	7,364	11,402
Total	\$119,260	\$120,480	Total	\$ 18,817	\$ 22,729
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:				\$165,139	\$158,854
owned	\$131,820	\$128,473			
leased	0	0			
Heifers	61,727	56,308			
Bulls/other lvstk.	1,674	1,732			
Mach./eq. owned	170,011	168,127			
Mach./eq. leased	613	495	Financial lease		
Coop stock & cert.	27,667	30,671	(cattle/mach.)	\$ 613	\$ 495
Total	\$393,512	\$385,806	Total	\$165,753	\$159,349
<u>Long-Term</u>			<u>Long-Term</u>		
Land/buildings:				\$164,000	\$159,361
owned	\$348,026	\$351,572			
leased	296	153			
Total	\$348,322	\$351,725	Financial lease		
			(structures)	296	153
			Total	\$164,296	\$159,514
Total Farm Assets	\$861,094	\$858,011	Total Farm Liab.	\$348,865	\$341,592
			FARM NET WORTH	\$512,229	\$516,419
			Nonfarm Liabilities & Net Worth*		
<u>Nonfarm Assets*</u>	Jan. 1	Dec. 31		Jan. 1	Dec. 31
Personal cash, chkg. & savings	\$ 7,136	\$ 6,796			
Cash value life ins.	5,643	6,510	Nonfarm		
Nonfarm real estate	11,087	12,022	Liabilities	\$ 3,100	\$ 4,466
Auto (personal sh.)	3,928	4,548			
Stocks & bonds	1,172	1,974			
Household furn.	8,713	9,204			
All other	2,249	2,694	NONFARM NET		
Total Nonfarm	\$39,930	\$43,748	WORTH	\$36,830	\$39,282

\*Average of 23 farms reporting.

Financial lease obligations are included in the balance sheet. The present values of all future payments are listed as liabilities since the farmer (lessee) is committed to make the payments. The present values are also listed as assets, representing the future value the item has to the business.

## 1985 FARM BUSINESS &amp; NONFARM BALANCE SHEET

Farm Assets			Farm Liabilities & Net Worth		
	Jan. 1	Dec. 31		Jan. 1	Dec. 31
<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		
Nonfarm Assets			Nonfarm Liabilities & Net Worth		
	Jan. 1	Dec. 31		Jan. 1	Dec. 31
			Nonfarm Liab.:		
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>			<u>Jan. 1      Dec. 31</u>		
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 liabilities by 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  
45 Western Plain Dairy Farms, 1985

Item	Average	My Farm
<u>Financial Ratios - Farm:</u>		
Percent equity	60%	_____ %
Debt/asset ratio: total	0.40	_____
long-term	0.45	_____
intermediate/current	0.36	_____
<u>Financial Ratios - Farm &amp; Nonfarm:</u>		
Percent equity	61%	_____ %
Total debt/asset ratio	0.39	_____
<u>Farm Debt Analysis:</u>		
Accounts payable as % of total debt	2%	_____ %
Long-term liabilities as a % of total debt	47%	_____ %
Current & inter. liab. as a % of total debt	53%	_____ %
<u>Farm Debt Levels:</u>	<u>Per Cow</u>	<u>Per Tillable Acre Owned</u>
Total farm debt	\$2,190	\$1,275
Long-term debt	1,023	595
Intermediate & current debt	1,167	679

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  
45 Western Plain Dairy Farms, 1985

Item	Avg. of Regional Farms		My Farm	
	R.E.	Mach./Eq.	R.E.	Mach./Eq.
Value beg. of year	\$348,026	\$170,011	\$ _____	\$ _____
Purchases	\$13,552*	\$23,631	\$ _____	\$ _____
Lost capital	-1,760	0	- _____	- _____
Sales	-2,137	-1,114	- _____	- _____
Depreciation	-14,660	-27,020	- _____	- _____
Net investment	\$-5,005	\$-4,503	=+ _____	=+ _____
Appreciation	+8,551	+2,619	+ _____	+ _____
Value end of year	\$351,572	\$168,127	\$ _____	\$ _____

\* \$5,001 land and \$8,551 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 the imbalance (error) amount is positive, recorded cash inflows exceed outflows by this amount. If it is negative, cash outflows are too high in relation to inflows.

#### ANNUAL CASH FLOW STATEMENT 45 Western Plain Dairy Farms, 1985

<u>Item</u>	<u>Average</u>	<u>My Farm</u>
<u>Cash Inflows</u>		
Beginning farm cash, checking & savings	\$ 6,621	\$ _____
Cash farm receipts	384,321	_____
Sale of assets: Machinery	1,114	_____
Real estate	2,578	_____
Money borrowed (intermediate & long-term)	28,720	_____
Money borrowed (short-term)	10,768	_____
Increase in operating debt	312	_____
Nonfarm income	2,880	_____
Money borrowed - nonfarm	940	_____
Total	\$438,255	\$ _____
<u>Cash Outflows</u>		
Cash farm expenses	\$301,799	\$ _____
Capital purchases: Expansion livestock	722	_____
Machinery	23,631	_____
Real estate	13,552	_____
Principal payments (intermediate & long-term)	39,644	_____
Principal payments (short-term)	6,730	_____
Decrease in operating debt	0	_____
Nonfarm debt payments	521	_____
Personal withdrawals & family exp.	29,940	_____
Ending farm cash, checking & savings	5,746	_____
Total	\$422,284	\$ _____
Imbalance (error)	\$ 15,970	\$ _____

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  
Same 38 Western Plain Dairy Farms, 1984 and 1985

Debt Payments	Average			My Farm		
	1985 Payments		Planned 1986	1985 Payments		Planned 1986
	Planned	Made		Planned	Made	
Long-term	\$25,413	\$24,267	\$20,751	\$_____	\$_____	\$_____
Intermediate-term	47,669	49,343	49,244	_____	_____	_____
Short-term	8,587	5,832	6,281	_____	_____	_____
Operating (net reduction)	0	0	1,048	_____	_____	_____
Accounts payable (net reduction)	2,492	2,656	2,321	_____	_____	_____
Total	\$84,162	\$82,097	\$79,644	\$_____	\$_____	\$_____
(98% planned were made)						
Per cow	\$547	\$534		\$_____	\$_____	
Per cwt. 1985 milk	\$3.18	\$3.11		\$_____	\$_____	
Percent of total 1985 receipts	21%	21%		_____	_____	
Percent of 1985 milk receipts	25%	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 last year'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 this year's planned debt payments.

CASH FLOW COVERAGE RATIO  
Same 38 Western Plain Dairy Farms, 1984 and 1985

Item	Average	My Farm
Cash farm receipts	\$383,731	\$_____
- Cash farm expenses	301,989	_____
+ Interest paid	34,669	_____
- Net personal withdrawals from farm*	25,662	_____
(A) = Amount Available for Debt Service	\$90,749	\$_____
(B) = Debt Payments Planned for 1985	\$84,162	\$_____
(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 and sometimes it 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  
45 Western Plain 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	268	211	478	_____	_____	_____
Nontillable	22	19	40	_____	_____	_____
Other nontillable	83	15	98	_____	_____	_____
Total	373	245	616	_____	_____	_____
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres</u>	<u>Prod/Acre</u>	<u>Acres</u>	<u>Prod/Acre</u>	
Hay crop	45	180	3.35 tn DM	_____	_____	tn DM
Corn silage	44	141	15.16 tn	_____	_____	tn
			5.11 tn DM	_____	_____	tn DM
Other forage	7	13	1.18 tn DM	_____	_____	tn DM
Total forage	45	320	4.10 tn DM	_____	_____	tn DM
Corn grain	37	115	98.24 bu	_____	_____	bu
Oats	19	32	94.70 bu	_____	_____	bu
Wheat	18	42	63.46 bu	_____	_____	bu
Other crops	12	29		_____	_____	
Tillable pasture	17	22		_____	_____	
Idle	19	42		_____	_____	
Total Tillable Acres	45	478		_____	_____	

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  
45 Western Plain Dairy Farms, 1985

Item	Average	My Farm
Total tillable acres per cow	3.15	_____
Total forage acres per cow	2.11	_____
Harvested forage dry matter, tons per cow	8.62	_____

ERRATA SHEET  
A.E. Ext. 86-18, page 14  
Crop and Related Accrual Expenses

Expense	Hay crop per ton DM	Per ton corn silage equiv.
Fertilizer & lime	\$ 6.53	\$3.31
Seeds & plants	2.20	1.45
Spray & other crop expense	<u>1.53</u>	<u>1.65</u>
Total	\$10.25	\$6.41

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  
Western Plain Dairy Farms Reporting\*, 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	\$34.57	\$12.84	\$3.83	\$27.49	\$1.74	\$13.93
Seeds & plants	15.04	4.01	1.20	11.85	0.75	8.20
Spray & other crop expense	<u>15.75</u>	<u>2.80</u>	<u>0.83</u>	<u>14.35</u>	<u>0.91</u>	<u>8.13</u>
Total	\$65.36	\$19.65	\$5.86	\$53.69	\$3.40	\$30.26
<u>My Farm:</u>						
Fertilizer & lime	\$_____	\$_____	\$_____	\$_____	\$_____	\$_____
Seeds & plants	_____	_____	_____	_____	_____	_____
Spray & other crop expense	_____	_____	_____	_____	_____	_____
Total	\$_____	\$_____	\$_____	\$_____	\$_____	\$_____

\*Hay crop expense breakdown reported by 29 farms, 279 acres per farm. Corn - 29 farms reporting average 361 acres. Other crops - 21 farms average 85 acres.

\*\*Corn grain converted to silage; 5.88 bushels dry shelled equals one ton silage.

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  
45 Western Plain Dairy Farms, 1985

Machinery Expense Item	Average		My Farm	
	Total Expenses	Per Til. Acre	Total Expenses	Per Til. Acre
Fuel, oil & grease	\$11,964	\$ 25.00	\$_____	\$_____
Machinery repairs & parts	18,448	38.55	_____	_____
Machine hire, rent & lease	3,496	7.30	_____	_____
Auto expense (farm share)	308	0.64	_____	_____
Interest (5%)	8,453	17.66	_____	_____
Depreciation	<u>27,020</u>	<u>56.46</u>	_____	_____
Total	\$69,689	\$145.62	\$_____	\$_____



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 real increase in inventory has been included as an accrual farm receipt on page 5.

DAIRY HERD INVENTORY  
45 Western Plain Dairy Farms, 1985

Item	Dairy Cows		Heifers	
	Number	Value	Number	Value
Beginning of year (owned)	147	\$131,820	129	\$61,727
+ Change without appreciation		7,287		1,104
+ Appreciation		<u>-10,634</u>		<u>-6,523</u>
End of year (owned)	156	\$128,473	131	\$56,308
End including leased	156			
Average number	152		129	

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  
45 Western Plain Dairy Farms, 1985

Item	Average	My Farm
Total milk sold, lbs.	2,643,119	_____
Milk sold per cow, lbs.	17,404	_____
Average milk plant test, percent butterfat	3.51	_____

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. 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 compilation.

ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK  
45 Western Plain Dairy Farms, 1985

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
<u>Accrual Receipts</u>						
Milk	\$339,126	\$2,233	\$12.83	\$_____	\$_____	\$_____
Dairy cattle	30,233	199	1.14	_____	_____	_____
Dairy calves	3,848	25	0.15	_____	_____	_____
Total	\$373,207	\$2,457	\$14.12	\$_____	\$_____	\$_____
<u>Accrual Costs of Producing Milk</u>						
Operating costs	\$242,292	\$1,595	\$ 9.17	\$_____	\$_____	\$_____
Total costs without op(s') labor, mgmt. & capital	285,696	1,881	10.81	_____	_____	_____
Total Costs	\$342,420	\$2,255	\$12.96	\$_____	\$_____	\$_____

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  
45 Western Plain Dairy Farms, 1985

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrates	\$457	\$2.63	\$_____	\$_____
Purchased dairy roughage	10	.06	_____	_____
Total Purchased Dairy Feed	\$467	\$2.69	\$_____	\$_____
Purchased grain & conc. as % of milk receipts		20%		%
Purchased feed & crop exp.	\$673	\$3.87	\$_____	\$_____
Purchased feed & crop exp. as % of milk receipts		30%		%
Breeding	\$ 34	\$0.19	\$_____	\$_____
Veterinary & medicine	51	0.29	_____	_____
Milk marketing	110	0.63	_____	_____
Cattle lease	0	0.00	_____	_____
Other livestock expense	\$ 94	\$0.54	_____	_____

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  
45 Western Plain Dairy Farms, 1985

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	\$187,539	\$5,660	\$1,796	\$3,207
Real estate		2,305		1,306
Machinery & equipment	37,009	1,117	354	
Capital turnover, years 2.17				
<u>My Farm:</u>				
Farm capital	\$ _____	\$ _____	\$ _____	\$ _____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
Capital turnover, years	_____	_____	_____	_____

LABOR FORCE INVENTORY AND ANALYSIS  
45 Western Plain Dairy Farms, 1985

Labor Force	Months	Age	Years of of Educ.	Value of Labor & Mgmt.
Operator number 1	12	45	13	\$20,424
Operators 2 & 3	7	38	14	10,479
Family paid	5			
Family unpaid	2			
Hired	<u>29</u>			
Total	55	+ 12 = 4.58 Worker Equivalent 1.58 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	152	33	_____	_____
Milk sold, pounds	2,643,119	576,681	_____	_____
Tillable acres	479	104	_____	_____
Work units	1,695	370	_____	_____

Labor Costs	Total	Average		Total	My Farm	
		Per Cow	Per Til. Acre		Per Cow	Per Til. Acre
Value of operator(s)						
labor (\$800/month)	\$15,200	\$100	\$31.76	\$ _____	\$ _____	\$ _____
Family unpd. (\$550/mo.)	1,100	7	2.30	_____	_____	_____
Hired	<u>46,009</u>	<u>303</u>	<u>96.14</u>	_____	_____	_____
Total Labor	\$62,309	\$410	\$130.20	\$ _____	\$ _____	\$ _____
Machinery Cost	\$69,689	\$459	\$145.62	\$ _____	\$ _____	\$ _____
Total Labor & Mach.	\$131,998	\$869	\$275.81	\$ _____	\$ _____	\$ _____

## ANNUAL CASH FLOW WORKSHEET

Item	Regional Average (per cow)	My Farm		Expected Change	1986 Projection
		Total	Per Cow		
Average number of cows	152				
<u>Accrual Oper. Receipts</u>					
Milk	\$2,233	\$	\$		\$
Dairy cattle	199				
Dairy calves	25				
Other livestock	5				
Crops	59				
Misc. receipts	88				
Total	\$2,608	\$	\$		\$
<u>Accrual Oper. Expenses</u>					
Hired labor	\$ 393	\$	\$		\$
Dairy grain & conc.	457				
Dairy roughage	10				
Other lvstk. feed	5				
Mach. hire/rent/lease	23				
Mach. rpr./parts & auto	123				
Fuel, oil & grease	79				
Replacement lvstk.	13				
Breeding	34				
Vet & medicine	51				
Milk marketing	110				
Cattle lease	0				
Other lvstk. exp.	94				
Fertilizer & lime	109				
Seeds & plants	47				
Spray/other crop exp.	50				
Land, bldg., fence repair	25				
Taxes	43				
Insurance	36				
Real est. rent/lease	56				
Utilities	54				
Miscellaneous	17				
Total Less Int. Paid	\$1,736				\$
<u>Net Accrual Operating Income</u>	(total)	(total)			
(without interest paid)	\$132,238	\$			\$
- Change in lvstk./crop inv.	9,773				
- Change in accts. rec.	2,010				
+ Change in feed/supply inv.	-1,805				
+ Change in accts. payable	-727				
NET CASH FLOW	\$117,929	\$			\$
- Personal withdrawals & family expenditures	29,940				
Available for Debt Payments, Investments & Savings	\$ 87,989	\$			\$
- Farm Debt Payments	84,175				
Available for Investment & Savings	\$ 3,814	\$			\$
- Capital Purchases: cattle, machinery & improvements	37,811				
Additional Capital Needed		\$			\$

# PROGRESS OF THE FARM BUSINESS

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

## PROGRESS OF THE FARM BUSINESS 45 Western Plain Dairy Farms, 1985

Selected Factors	Average		My Farm		Goal
	1984	1985	1984	1985	
<u>Size of Business</u>					
Average number of cows	144	154			
Average number of heifers	128	129			
Milk sold, lbs.	2,483,942	2,643,451			
Worker equivalent	4.32	4.67			
Total tillable acres	471	482			
<u>Rates of Production</u>					
Milk sold per cow, lbs.	17,300	17,186			
Hay DM per acre, tons	3.3	3.4			
Corn silage per acre, tons	15	15			
<u>Labor Efficiency</u>					
Cows per worker	33	33			
Milk sold per worker, lbs.	575,255	566,454			
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	21%	20%	\$	\$	\$
Dairy feed & crop exp. per cwt. milk	\$4.06	\$3.82	\$	\$	\$
Labor & mach. costs/cow	\$906	\$862	\$	\$	\$
<u>Capital Efficiency*</u>					
Farm capital per cow	\$5,905	\$5,610	\$	\$	\$
Real estate per cow	\$2,431	\$2,296	\$	\$	\$
Mach. & equip. per cow	\$1,146	\$1,108	\$	\$	\$
Capital turnover, years	2.2	2.2			
<u>Profitability</u>					
Net farm inc. w/o apprec.	\$50,612	\$55,777	\$	\$	\$
Net farm inc. w/apprec.	\$68,373	\$50,360	\$	\$	\$
Labor & mgmt. income	\$23,224	\$27,938	\$	\$	\$
Rate of return on eq. capital w/apprec.	7.0%	3.4%			
<u>Financial Summary</u>					
Farm net worth	\$527,749	\$534,771	\$	\$	\$
Debt to asset ratio	0.39	0.38	\$	\$	\$
Farm debt per cow	\$2,275	\$2,065	\$	\$	\$

\*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

<u>Size of Business</u>			<u>Rates of Production</u>			<u>Labor Efficiency</u>	
Worker Equiv- alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
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

<u>Feed Bought Per Cow</u>	<u>% Feed is of Milk Receipts</u>	<u>Machinery Costs Per Cow</u>	<u>Labor &amp; Machinery Costs Per Cow</u>	<u>Feed &amp; Crop Expenses Per Cwt. Milk</u>
\$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</u> (end of year)					
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		242,050	348,070	415,970	581,058	879,980
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		4,509	9,564	18,177	19,824	11,764
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		2,746	10,566	11,658	24,903	12,861
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)		5,312	8,375	10,210	20,000	23,600
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%		16,884	22,692	29,569	38,653	59,533
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	\$ 59,013	\$ 81,180	\$100,161	\$124,747
Feed & supplies		(0)	(22)	(0)	(25)	(0)
Machinery & equip (includes discounted lease payments)		11,239	17,653	26,056	34,432	41,199
Land & buildings (includes discounted lease payments)		40,617	55,212	77,650	98,722	112,637
Co-op investment		(215)	(1,228)	(981)	(771)	(799)
Accounts receivable		121,757	144,453	194,790	227,936	246,366
Cash & checking accounts		(608)	(2,293)	(1,080)	(2,649)	(4,316)
Total Farm Assets		950	2,842	3,971	4,747	7,902
Savings accounts		5,903	8,170	11,281	14,229	17,314
Cash value life insurance		1,084	1,664	2,028	3,492	2,463
Stocks & bonds		\$221,171	\$289,007	\$396,956	\$483,719	\$552,628
Nonfarm real estate		2,892	3,025	2,751	4,773	3,694
Auto (personal share)		2,071	2,119	3,115	2,670	1,908
All other		990	2,082	2,195	3,755	2,155
Total Nonfarm Assets		3,853	2,905	8,897	5,656	3,616
TOTAL ASSETS		1,464	1,903	2,005	1,806	1,979
		7,871	9,212	6,298	6,887	5,231
<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		2,414	3,526	4,311	5,789	5,209
Total Farm Liabilities		\$ 72,507	\$105,772	\$143,395	\$168,296	\$214,949
Total Nonfarm Liabilities		190	830	856	1,816	570
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:

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NEED IMPROVEMENT:

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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?