AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

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

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

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

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

DAIRY FARM BUSINESS SUMMARY

August 1987 A.E. Ext. 87-20

NEW YORK DAIRY-CASH CROP SUMMARY, 1986

Wayne A. Knoblauch
Linda D. Putnam

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

1986 NEW YORK DAIRY-CASH CROP BUSINESS SUMMARY

INTRODUCTION

Dairy farm business summary (DFBS) projects are an integral part of Cornell Cooperative Extension's agriculture program in New York State. The Department of Agricultural Economics of the New York State College of Agriculture and Life Sciences, and County Extension staff, cooperate in sponsoring DFBS projects. In 1986, more than 500 dairy farmers participated. Business records submitted by dairy farmers from 45 counties in the State provide the basis for continued Extension educational programs, data for applied research studies, and for use in the classroom. Regardless of the use of the data, confidentiality of individual farm data is maintained.

Cooperative Extension agents and specialists enroll the cooperators and collect the records. Each cooperator receives a detailed summary and analysis of his or her business. More than 70 percent of the agents and specialists are using a micro computer in their offices and/or on the farm to process and return the individual farm business reports for immediate use. Regional reports are prepared by Cornell faculty and used by DFBS cooperators and other farmers to compare their farm with regional averages. The DFBS program helps farmers develop managerial skills and solve business management problems.

Accrual procedures have been used to provide the most accurate accounting of farm receipts and farm expenses for measuring farm profits. An explanation of these procedures is found on pages 3-5. Four measures of farm profits are calculated on pages 6 and 7. The balance sheet and cash flow statement are featured on pages 8 through 13. The dairy program analysis includes data on the cost of producing milk (page 17).

This special Dairy-Cash Crop Summary is an average of 22 dairy farm businesses that have crop sales totaling more than 10 percent of their accrual milk receipts. The farm income, financial summary, and business analysis sections of this report include comparisons with average data of 414 owned dairy farms in the State. A more detailed analysis of the 414 dairy farms is contained in Smith, Stuart F., Wayne A. Knoblauch, Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1986, A.E. Res. 87-20, July 1987. This report is prepared in workbook form for farmers to use in the systematic study of their farm business operations.

Business records for 22 farms in Albany, Cayuga, Chautauqua, Columbia, Genesee, Lewis, Niagara, Oneida, Ontario, Orleans, Seneca, Wayne, and Yates Counties are summarized in this publication. These farms do NOT represent the "average" for all dairy-cash crop farms in the State. Participation was on a voluntary basis, therefore, not all areas or types of operations were represented.

Acknowledgement

The preparation of this report and the processing and organization of the data it contains has been successfully completed by our dedicated support staff, Beverly Carcelli and Cindy Farrell.

SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics and Resources Used

Recognition of important business characteristics and identification of the farm resources used is necessary for evaluating management performance. The combination of resources and management practices is known as farm organization. Important farm business characteristics, the number of farms reporting these characteristics, and a listing of the average labor, land, and dairy cattle resources used are presented in the following table.

BUSINESS CHARACTERISTICS AND RESOURCES USED
22 New York Dairy-Cash Crop Farms in Comparison to 414 Dairy Farms, 1986

	Number of Farms	
Type of Business	22 Dairy-Cash Crop	414 Dairy
Single proprietorship	11	295
Partnership	6	100
Corporation	4	18
Other	1	1

	Number of Farms	
Type of Barn	22 Dairy-Cash Crop	414 Dairy
Stanchion	12	259
Freestall	8	144
Other	2	11

	Number of Farms	
Milking System	22 Dairy-Cash Crop	414 Dairy
Bucket & carry	0	3
Dumping station	4	35
Pipeline	10	228
Herringbone parlor	6	135
Other parlor	2	13

	Number of Farms	
Business Records	22 Dairy-Cash Crop	414 Dairy
Account Book	12	191
Agrifax (mail-in only)	3	67
ELFAC	2	36
On-Farm Computer	3	36
Other	2	84

	Number of Farms	
Dairy Records Service	22 Dairy-Cash Crop	414 Dairy
DHIC	15	299
Owner-Sampler	3	54
Other	3	18
None	1	43

	Average	
Labor Force	22 Dairy-Cash Crop	414 Dairy
Operator 1.	12.00	11.75
Operator 2.	4.45	3.31
Operator 3.	2.18	0.49
Operator 4.	1.09	0.08
Family paid	4.55	4.74
Family unpaid	1.55	3.21
Hired	11.64	13.55
Total	37.46	37.13
Worker Equivalent (Total + 12)	3.12	3.09
Operator/Manager Equivalent (Oper. mo. + 12)	1.64	1.30

	Number of Farms	
Real Estate Ownership	22 Dairy-Cash Crop	414 Dairy
Rents all real estate	5	0
Owns some real estate	17	414

	Average	
Land Use	22 Dairy-Cash Crop	414 Dairy
Total acres owned	247	347
Total tillable acres	397	288
Number of Cows		
Beg. year (owned)	80	94
End year (owned & leased)	80	97
Average for year (owned & leased)	79	95

Total tillable acres on the 22 Dairy-Cash Crop farms ranged from 51 to 869 acres and the average number of cows ranged from 30 to 176.

Income Statement

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

CASH AND ACCRUAL FARM EXPENSES
22 New York Dairy-Cash Crop Farms, 1986

Expense Item	Cash Paid +	Change in Inventory +	Change in Accounts Payable =	Accrual Expenses
Hired Labor	$18,295		$ 16	$18,311
Feed				
Dairy grain & conc.	24,612	$ -456	365	24,521
Dairy roughage	549	-8	0	541
Other livestock	12	32	0	44
Machinery				
Mach. hire, rent/lease	2,116		-146	1,970
Machinery repairs/parts	11,728	10	-133	11,605
Auto expense (farm share)	567		0	567
Fuel, oil & grease	6,662	-53	-74	6,535
Livestock				
Replacement livestock	2,310		0	2,310
Breeding	2,841	-6	-65	2,770
Vet & medicine	3,666	-18	-63	3,585
Milk marketing	10,255		0	10,255
Cattle lease/rent	0		0	0
Other livestock expense	7,573	32	-41	7,564
Crops				
Fertilizer & lime	10,912	-102	-125	10,685
Seeds & plants	6,035	-199	-9	5,827
Spray, other crop exp.	5,453	232	-23	5,662
Real Estate				
Land/bldg./fence repair	2,338	-5	0	2,333
Taxes	3,953		130	4,083
Insurance	3,914		0	3,914
Rent & lease	9,003		23	9,026
Other				
Telephone (farm share)	685		0	685
Electricity (farm share)	4,562		0	4,562
Interest paid	10,334		0	10,334
Miscellaneous	3,423	178	-301	3,300
Total Operating	$151,798	$-363	$-446	$150,989
Expansion livestock	$ 2,837		$ 0	$ 2,837
Machinery depreciation				21,437
Building depreciation				5,933
TOTAL ACCRUAL EXPENSES				$181,196

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 previous page.

CASH AND ACCRUAL FARM EXPENSES WORKSHEET

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

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
22 New York Dairy-Cash Crop Farms, 1986

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accts. Rec.	=	Accrual Receipts
Milk sales	$163,189				$1,063		$164,252
Dairy cattle	11,652		$1,358		0		13,009
Dairy calves	2,283				0		2,283
Other livestock	488		-112		0		376
Crops	28,838		-3,594		307		25,551
Government receipts	5,040				0		5,040
Custom machine work	1,071				127		1,198
Gas tax refund	199				0		199
Other	3,911				-368		3,543
- Nonfarm noncash capital			775				775
Total Accrual Receipts	$216,671		$-3,123		$1,129		$214,676

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 livestock 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 difference between the January milk check for this December's marketings and the previous January's check, and other delayed payments.

Nonfarm noncash capital are gifts and inheritances of cattle and crops received by the farm owner/operator, and included in inventory or used in the business during the year. They are deducted from growth in inventory and reduce accrual receipts because they came from outside the farm business. Gift and inheritances of machinery and real estate are accounted for on page 10.

CASH AND ACCRUAL FARM RECEIPT WORKSHEET

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accts. Rec.	=	Accrual Receipts
Milk sales	$_____		$xxxxxxxx		$_____		$_____
Dairy cattle	_____		_____		_____		_____
Dairy calves	_____		_____		_____		_____
Other livestock	_____		_____		_____		_____
Crops	_____		_____		_____		_____
Government receipts	_____		xxxxxxxx		_____		_____
Custom machine work	_____		xxxxxxxx		_____		_____
Gas tax refund	_____		xxxxxxxx		_____		_____
Other	_____		xxxxxxxx		_____		_____
- Nonfarm noncash capital			_____				_____
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. Appreciation is included in crop inventory change, but excluded from livestock categories. 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. 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 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
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Item	22 Dairy-Cash Crop Farms	414 Dairy Farms	My Farm
Total accrual receipts	$214,676	$221,201	$_____
+ Appreciation: Livestock	1,696	1,689	_____
Machinery	2,141	4,165	_____
Real Estate	2,485	10,979	_____
Other Stock/Cert.	19	70	_____
= Total Including Appreciation	$221,017	$238,104	$_____
- Total accrual expenses	181,196	197,348	_____
= Net Farm Income (with appreciation)	$ 39,821	$ 40,756	$_____
Net Farm Income (without appreciation)	$ 33,480	$ 23,853	$_____

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
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Item	22 Dairy-Cash Crop Farms	414 Dairy Farms	My Farm
Net farm income (with appreciation)	$39,821	$40,756	$_____
- Family labor unpaid @ $600 per month	930	1,926	_____
Return to operator(s') labor, management, & equity (with appreciation)	$38,891	$38,830	$_____
- Appreciation	6,341	16,903	_____
Return to operator(s') labor, management, & equity (without appreciation)	$32,550	$21,927	$_____

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 one full-time operator's labor and management. A full-time operator provides 12 months of labor and management.

LABOR AND MANAGEMENT INCOME
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Item	22 Dairy-Cash Crop Farms	414 Dairy Farms	My Farm
Return to operator(s') labor, management, & equity without appreciation	$32,550	$21,927	$_____
- Real interest @ 5% on equity capital	19,179	16,939	-_____
Labor & Management Income	$13,371	$ 4,988	$_____
Labor & Management Income per Operator	$ 8,153	$ 3,837	$_____

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
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Item	22 Dairy-Cash Crop Farms	414 Dairy Farms	My Farm
Return to operator(s') labor, management, & equity capital with appreciation	$38,891	$38,830	$_____
- Value of operator(s') labor & management	29,208	24,116	_____
Return on equity capital with appreciation	$ 9,683	$14,714	$_____
Rate of return on equity capital with appreciation	2.5%	4.3%	_____%
Return on equity capital without apprec.	$3,342	$-2,189	$_____
Rate of return without appreciation	0.9%	-0.6%	_____%

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 inventory all the assets, determine all the liabilities, and fill out the balance sheet. The second step is to analyze the completed balance sheet by evaluating the relationships between assets and liabilities and changes made during the year.

1986 FARM BUSINESS & NONFARM BALANCE SHEET
22 New York Dairy-Cash Crop Farms, 1986

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 6,421	$ 5,837	Accounts payable	$ 2,835	$ 2,391
Accounts rec.	14,204	15,697	Operating debt	1,889	1,385
Feed & supplies	55,641	52,411	Short-term	5,186	5,645
Total	$76,266	$73,945	Total	$ 9,910	$ 9,421
Intermediate			Intermediate		
Dairy cows:			Structured debt		
owned	$ 65,227	$ 66,068	1-10 years	$53,275	$54,855
leased	0	0			
Heifers	23,777	25,971	Financial lease		
Bulls/other lvstk.	476	382	(cattle/mach.)	1,496	8,478
Mach./eq. owned	116,438	123,499	FLB & PCA stock	2,731	2,587
Mach./eq. leased	1,496	8,478	Total	$57,502	$65,920
FLB & PCA stock	2,731	2,587			
Coop stock & cert.	6,751	6,959	Long-Term		
Total	$216,896	$233,944	Structured debt		
Long-Term			≥10 years	$ 60,717	$ 54,267
Land/buildings:			Financial lease		
owned	$211,108	$212,756	(structures)	597	364
leased	597	364	Total	$ 61,314	$ 54,631
Total	$211,705	$213,120			
			Total Farm Liab.	$128,726	$129,971
Total Farm Assets	$504,867	$521,009			
			FARM NET WORTH	$376,141	$391,037

(Average for 13 farms reporting)

Nonfarm Assets*	Jan. 1	Dec. 31	Nonfarm Liabilities* & Net Worth	Jan. 1	Dec. 31
Personal cash, chkg. & savings	$45,174	$ 52,482	Nonfarm Liab.	$2,756	$3,355
Cash value life ins.	6,076	6,594	NONFARM NET WORTH	$88,599	101,115
Nonfarm real estate	21,000	22,031	FARM & NONFARM*	Jan. 1	Dec. 31
Auto (personal sh.)	3,992	4,477	Total Assets	$596,222	$625,479
Stocks & bonds	6,084	8,980	Total Liabilities	131,482	133,326
Household furn.	5,923	6,346			
All other	3,105	3,560			
Total Nonfarm	$91,355	$104,470	TOTAL FARM & NON-FARM NET WORTH	$464,740	$492,153

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

1986 FARM BUSINESS & NONFARM BALANCE SHEET

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			**Current**		
Farm cash, checking & savings	$	$	Accounts payable	$	$
Accounts rec.			Operating debt		
Feed & supplies			Short-term:		
Total	$	$	Total	$	$
Intermediate			**Intermediate**		
Dairy cows:				$	$
owned	$	$			
leased					
Heifers					
Bulls/other lvstk.					
Mach./eq. owned					
Mach./eq. leased			Financial lease (cattle/mach.)		
FLB & PCA stock			FLB & PCA stock		
Coop stock & cert.					
Total	$	$	Total	$	$
Long-Term			**Long-Term**		
Land/buildings:				$	$
owned	$	$			
leased					
Total	$	$	Financial lease (structures)		
			Total	$	$
Total Farm Assets	$	$	Total Farm Liab.	$	$
			FARM NET WORTH	$	$

Nonfarm Assets	Jan. 1	Dec. 31	Nonfarm Liabilities & Net Worth	Jan. 1	Dec. 31
			Nonfarm Liab.:		
Personal cash, chkg. & savings	$	$		$	$
Cash value life ins.					
Nonfarm real est.					
Auto (pers. share)			Total Nonfarm Liabilities	$	$
Stocks & bonds					
Household furn.					
All other			Nonfarm Net Worth	$	$
Total Nonfarm	$	$			

TOTAL FARM & NONFARM	Jan. 1	Dec. 31
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
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Item	22 Dairy-Cash Crop Farms	414 Dairy Farms	My Farm
Financial Ratios - Farm:			
Percent equity	75%	62%	_____%
Debt/asset ratio: total	0.25	0.38	_____
long-term	0.26	0.43	_____
intermediate/current	0.24	0.33	_____
Change in Net Worth:			
Without appreciation	$8,555	$3,372	$_____
With appreciation	$14,896	$20,275	$_____
Farm Debt Analysis:			
Accounts payable as % of total debt	2%	3%	_____%
Long-term liabilities as a % of total debt	42%	54%	_____%
Current & inter. liab. as a % of total debt	58%	46%	_____%
Farm Debt Levels Per Cow:			
Total farm debt	$1,625	$2,171	$_____
Long-term debt	683	1,183	_____
Intermediate & current debt	942	988	_____

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
22 New York Dairy-Cash Crop Farms, 1986

Item	Average		My Farm	
	R.E.	Mach./Eq.	R.E.	Mach./Eq.
Value beg. of year	$211,108	$116,438	$_____	$_____
Purchases	$ 6,888*	$25,351	$_____	$_____
+ Nonfarm noncash transfer**	0	1,350	+_____	+_____
- Lost capital	397	--	-_____	-_____
- Sales	818	344	-_____	-_____
- Depreciation	5,933	21,437	-_____	-_____
= Net investment	$ -260	$ 4,920	=+_____	=+_____
+ Appreciation	1,908***	2,141	+_____	+_____
Value end of year	$212,756	$123,499	$_____	$_____

*$3,182 land and $3,706 buildings and/or depreciable improvements. **Gifts and inheritances of property transferred into the farm business. ***Excludes $577 of appreciation on assets sold during the year.

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, cash used in the business from the sale of nonfarm capital, 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. The positive imbalance of $100 indicates that on average, the dairy-cash crop farms had more inflows than were accounted for by outflows.

ANNUAL CASH FLOW STATEMENT
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Item	22 Dairy-Cash Crop Farms	414 Dairy Farms	My Farm
Cash Inflows			
Beginning farm cash, checking & savings	$ 6,421	$ 3,283	$
Cash farm receipts	216,671	216,312	
Sale of assets: Machinery	344	539	
Real estate	1,336	1,208	
Other stock & certificates	1,034	621	
Money borrowed (inter. & long-term)	21,989	33,294	
Money borrowed (short-term)	4,953	2,397	
Increase in operating debt	0	816	
Nonfarm income	5,663	4,859	
Cash from nonfarm capital	909	1,688	
Money borrowed - nonfarm	1,032	375	
Total	$260,351	$265,392	$
Cash Outflows			
Cash farm expenses	$151,800	$172,511	$
Capital purchases: Expansion livestock	2,837	1,218	
Machinery	25,351	12,891	
Real estate	6,888	10,915	
Other stock & cert.	1,223	2,129	
Principal payments (inter. & long-term)	26,858	33,902	
Principal payments (short-term)	4,494	1,759	
Decrease in operating debt	504	0	
Nonfarm debt payments	953	574	
Personal withdrawals & family expenditures	33,506	19,634	
Ending farm cash, checking & savings	5,837	4,120	
Total	$260,251	$259,653	$
Imbalance (error)	$100	$5,739	$

Repayment Analysis

The second step in 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 a farm's repayment position by using debt payments per unit of production and receipt/debt payment ratios.

FARM DEBT PAYMENTS PLANNED
Same 17 New York Dairy-Cash Crop Farms, 1986*

	Average			My Farm		
	1986 Payments		Planned	1986 Payments		Planned
Debt Payments	Planned	Made	1987	Planned	Made	1987
Long-term	$10,348	$13,358	$ 7,655	$_____	$_____	$_____
Intermediate-term	14,752	15,014	18,176	_____	_____	_____
Short-term	4,913	6,138	5,148	_____	_____	_____
Operating (net reduc.)	259	387	1,676	_____	_____	_____
Accounts payable (net reduction)	960	670	1,181	_____	_____	_____
Total	$31,231	$35,568	$33,837	$_____	$_____	$_____
Per cow	$423	$482		$_____	$_____	
Per cwt. 1986 milk	$2.64	$3.01		$_____	$_____	
Percent of total 1986 receipts	16%	18%		_____	_____	
Percent of 1986 milk receipts	21%	24%		_____	_____	

*Farms that completed Dairy Farm Business Summaries for both 1985 and 1986.

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 last year's 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
New York Dairy-Cash Crop Farms and New York Dairy Farms, 1986

Item	Same 17 Dairy-Cash Crop Farms	Same 293 Dairy Farms	My Farm
Cash farm receipts	$198,775	$234,850	$_____
- Cash farm expenses	139,198	187,145	_____
+ Interest paid	9,999	19,054	_____
- Net personal withdrawals from farm*	26,319	15,973	_____
(A) = Amount Available for Debt Service	$43,257	$50,786	$_____
(B) = Debt Payments Planned for 1986	$31,231	$43,484	$_____
(A + B) = Cash Flow Coverage Ratio for 1986	1.39	1.17	_____

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

ANNUAL CASH FLOW WORKSHEEET

Item	22 Dairy-Cash Crop Farms	My Farm Total	My Farm Per Cow	Expected Change	1987 Projection
Other livestock	5				
Crops	322				
Misc. receipts	126				
Total	$2,715	$	$		$
Accrual Oper. Expenses					
Hired labor	$ 231	$	$		$
Dairy grain & conc.	309				
Dairy roughage	7				
Other lvstk. feed	1				
Mach. hire/rent/lease	25				
Mach. repair/parts & auto	153				
Fuel, oil & grease	82				
Replacement lvstk.	29				
Breeding	35				
Vet & medicine	45				
Milk marketing	129				
Cattle lease	0				
Other lvstk. exp.	95				
Fertilizer & lime	135				
Seeds & plants	73				
Spray/other crop exp.	71				
Land, bldg.,fence repair	29				
Taxes	52				
Insurance	49				
Real est. rent/lease	114				
Utilities	66				
Miscellaneous	42				
Total Less Int. Paid	$1,772				$
Net Accrual Operating Income	(total)				
(without interest paid)	$74,796	$			$
- Change in lvstk./crop inv.	-3,123				
- Change in accts. rec.	1,129				
+ Change in feed/supply inv.	-363				
+ Change in accts. payable*	-446				
NET CASH FLOW	$75,983	$			$
- Net personal withdrawals & family expenditures	26,812				
Available for Farm Debt Payments & Investments	$49,172	$			$
- Farm debt payments	42,922				
Available for Farm Investments	$ 6,249	$			$
- Capital purchases: cattle, machinery & improvements	$36,299				
Additional Capital Needed		$			$

*Excludes change in interest account payable.

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

Hay crop	22	147	3.2 tn DM	_____	_____	tn DM
Corn silage	18	39	15.1 tn	_____	_____	tn
			5.4 tn DM	_____	_____	tn DM
Other forage	2	7	1.6 tn DM	_____	_____	tn DM
Total forage	22	179	3.6 tn DM	_____	_____	tn DM
Corn grain	18	160	107.5 bu	_____	_____	bu
Oats	9	47	72.1 bu	_____	_____	bu
Wheat	11	34	52.3 bu	_____	_____	bu
Other crops	9	35		_____		
Tillable pasture	10	34		_____		
Idle	11	42		_____		
Total Tillable Acres	22	397		_____		

*1986 average yields for 414 dairy farms in New York included: all hay crops, 2.8 tons dry matter per acre; corn silage, 14.3 tons per acre; corn grain, 99.8 bushels per acre.

Crop acres and yields compiled for the average represent only 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.

The following measures of crop management indicate how efficiently the land resource is being used and how well total forage requirements are being met.

CROP MANAGEMENT FACTORS
22 New York Dairy Cash-Crop Farms and 414 New York Dairy Farms, 1986

Item	22 Dairy-Cash Crop Farms	414 Dairy Farms	My Farm
Total tillable acres per cow	5.0	3.0	_____
Total forage acres per cow	2.3	2.3	_____
Harvested forage dry matter, tons per cow	8.0	7.7	_____

A number of cooperators have allocated crop expenses to hay crop, corn, and other crop production. This data has been compiled to show 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
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Expense	Total/ Till. Acre	Hay Crop Per Acre	Hay Crop Per Ton DM	Corn Per Acre	Per Ton Corn Sil. Equiv.	Other Crops Per Acre
22 Dairy-Cash Crop Farms:		------ Average of 16 farms reporting data ------				
Fertilizer & lime	$26.92	$13.15	$4.46	$46.37	$2.74	$20.83
Seeds & plants	14.68	6.40	2.17	23.13	1.37	8.78
Spray & other crop expense	14.27	2.90	0.99	24.96	1.47	22.67
Total	$55.87	$22.45	$7.62	$94.46	$5.58	$52.28
414 Dairy Farms:		----- Average of 249 farms reporting data ------				
Fertilizer & lime	$26.18	$16.81	$6.12	$43.47	$2.85	$29.11
Seeds & plants	11.37	6.48	2.36	19.52	1.28	15.48
Spray & other crop expense	10.56	3.93	1.43	23.14	1.52	9.97
Total	$48.11	$27.22	$9.91	$86.13	$5.65	$54.56
My Farm:						
Fertilizer & lime	$_____	$_____	$_____	$_____	$_____	$_____
Seeds & plants	_____	_____	_____	_____	_____	_____
Spray & other crop expense	_____	_____	_____	_____	_____	_____
Total	$_____	$_____	$_____	$_____	$_____	$_____

Most machinery costs are associated with crop production and should be analyzed with the crop enterprise. Total machinery expenses include the major fixed costs (interest and depreciation), as well as the accrual operating costs.

ACCRUAL MACHINERY EXPENSES
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Item	Average Per Tillable Acre: 22 Dairy-Cash Crop Farms	Average Per Tillable Acre: 414 Dairy Farms	My Farm: Total Expenses	My Farm: Per Til. Acres
Fuel, oil & grease	$16.47	$ 18.35	$_____	$_____
Machinery repairs & parts	29.24	33.56	_____	_____
Machine hire, rent & lease	4.96	6.39	_____	_____
Auto expense (farm share)	1.43	1.96	_____	_____
Interest (5%)	15.11	17.35	_____	_____
Depreciation	54.02	54.00	_____	_____
Total	$121.23	$131.61	$_____	$_____

Dairy Program Analysis

An analysis of the dairy enterprise can identify and explain the strengths and weaknesses of the dairy farm business. Changes in dairy herd size and market values that occurred 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 for the profitability calculations shown on page 6.

DAIRY HERD INVENTORY
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

	Dairy Cows		Heifers	
Item	Number	Value	Number	Value
22 Dairy-Cash Crop Farms:				
Beginning of year (owned)	80	$65,227	59	$23,777
+ Change without appreciation		-234		1,591
+ Appreciation		1,075		603
End of year (owned)	80	$66,068	61	$25,971
End including leased	80			
Average number	79		61	
414 Dairy Farms:				
Beginning of year (owned)	94	$76,901	77	$31,276
+ Change without appreciation		2,528		809
+ Appreciation		921		732
End of year (owned)	97	$80,350	78	$32,817
End including leased	97			
Average number	95		77	
My Farm:				
Beginning of year (owned)	_____	$_____	_____	$_____
+ Change without appreciation		_____		_____
+ Appreciation		_____		_____
End of year (owned)	_____	$_____	_____	$_____
End including leased	_____		_____	
Average number	_____		_____	

Total milk sold and milk sold 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
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Item	22 Dairy-Cash Crop Farms	414 Dairy Farms	My Farm
Total milk sold, lbs.	1,305,286	1,537,444	_____
Milk sold per cow, lbs.	16,447	16,237	_____
Average milk plant test, percent butterfat	3.58	3.61	_____

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 are compared with the accrual costs of producing milk 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 an 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
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

	22 Dairy-Cash Crop		414 Dairy		My Farm	
Item	Total	Per Cwt.	Total	Per Cwt.	Total	Per Cwt.
Accrual Costs of Producing Milk						
Operating costs	$100,565	$ 7.70	$145,761	$ 9.48	$_____	$_____
Total costs without op(s') labor, mgmt. & capital	$131,699	$10.09	$172,595	$11.23	$_____	$_____
Total Costs	$180,087	$13.80	$213,650	$13.90	$_____	$_____
Accrual Receipts from Milk	$164,252	$12.58	$194,522	$12.65	$_____	$_____

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 for strengths and areas for improvement.

DAIRY RELATED ACCRUAL EXPENSES
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

	Average Per Cwt. Milk		My Farm
Item	22 Dairy-Cash Crop	414 Dairy	Per Cwt.
Purchased dairy grain & conc.	$1.88	$2.98	$_____
Purchased dairy roughage	0.04	0.12	_____
Total Purchased Dairy Feed	$1.92	$3.10	$_____
Purchased grain & conc. as % of milk receipts	15%	24%	_____%
Purchased feed & crop exp.	$3.62	$4.00	$_____
Purchased feed & crop exp. as % of milk receipts	29%	32%	_____%
Breeding	$0.21	$0.19	$_____
Veterinary & medicine	0.27	0.28	_____
Milk marketing	0.79	0.84	_____
Cattle lease	--	0.01	_____
Other livestock expense	0.58	0.52	_____

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 the amount of work each worker has accomplished.

CAPITAL EFFICIENCY
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

Item	Per Worker		Per Cow	Per Tillable Acre
22 Dairy-Cash Crop Farms:				
Farm capital	$164,403		$6,463	$1,292
Real estate			2,676	
Machinery & equipment	40,050		1,574	315
Capital turnover, years		2.32		
414 Dairy Farms:				
Farm capital	$177,500		$5,792	$1,905
Real estate			2,758	
Machinery & equipment	32,555		1,062	349
Capital turnover, years		2.30		
My Farm:				
Farm capital	$_____		$_____	$_____
Real estate			_____	
Machinery & equipment	_____		_____	_____
Capital turnover, years		_____		

LABOR EFFICIENCY
22 New York Dairy-Cash Crop Farms and 414 New York Dairy Farms, 1986

	22 Dairy-Cash Crop		414 Dairy		My Farm	
Efficiency	Total	Per Worker	Total	Per Worker	Total	Per Worker
Cows, average number	79	25	95	31	_____	_____
Milk sold, pounds	1,305,286	418,361	1,537,444	497,555	_____	_____
Tillable acres	397	127	288	93	_____	_____
Labor Costs	Total	Per Cow	Total	Per Cow	Total	Per Cow
Value of operator(s) labor ($850/month)	$16,762	$211	$13,286	$140	$_____	$_____
Family unpd. ($600/mo.)	930	12	1,926	20	_____	_____
Hired	18,311	231	21,281	225	_____	_____
Total Labor	$36,003	$454	$36,493	$385	$_____	$_____
Machinery Cost	$48,112	$606	$37,884	$400	$_____	$_____
Total Labor & Mach.	$84,115	$1,060	$74,377	$785	$_____	$_____

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.

Size of Business					
Average number of cows	72	74	_____	_____	_____
Average number of heifers	55	56	_____	_____	_____
Milk sold, lbs.	1,097,847	1,181,317	_____	_____	_____
Worker equivalent	2.90	2.89	_____	_____	_____
Total tillable acres	372	361	_____	_____	_____
Rates of Production					
Milk sold per cow, lbs.	15,161	16,015	_____	_____	_____
Hay DM per acre, tons	2.8	3.0	_____	_____	_____
Corn silage per acre, tons	15	15	_____	_____	_____
Labor Efficiency					
Cows per worker	25	26	_____	_____	_____
Milk sold per worker, lbs.	378,952	409,149	_____	_____	_____
Cost Control					
Grain & conc. purchased as % of milk sales	15%	16%	_____%	_____%	_____%
Dairy feed & crop exp. per cwt. milk	$3.96	$3.79	$_____	$_____	$_____
Labor & mach. costs/cow	$1,056	$1,018	$_____	$_____	$_____
Capital Efficiency*					
Farm capital per cow	$6,918	$6,426	$_____	$_____	$_____
Real estate per cow	$3,061	$2,615	$_____	$_____	$_____
Mach. & equip. per cow	$1,636	$1,605	$_____	$_____	$_____
Capital turnover, years	2.6	2.3	_____	_____	_____
Profitability					
Net farm inc. w/o apprec.	$32,056	$34,101	$_____	$_____	$_____
Net farm inc. w/apprec.	$37,408	$39,879	$_____	$_____	$_____
Labor & mgmt. income	$12,903	$15,702	$_____	$_____	$_____
Rate of return on eq. capital w/apprec.	2.4%	3.0%	_____%	_____%	_____%
Financial Summary					
Farm net worth	$368,161	$351,769	$_____	$_____	$_____
Debt to asset ratio	0.26	0.26	_____	_____	_____
Farm debt per cow	$1,694	$1,757	$_____	$_____	$_____

*Average investment for the year.