

DAIRY FARM BUSINESS SUMMARY

August 1990

A.E. Ext. 90-19



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1989 EASTERN NEW YORK DAIRY FARM RENTER BUSINESS SUMMARY

INTRODUCTION

Dairy farmers throughout New York State submit business records for summarization and analysis through Cornell Cooperative Extension's Farm Business Management Program. Averages from a compilation of the individual farm reports are published in eight regional summaries and in one statewide summary.¹

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 8-13. The dairy program analysis includes data on the costs of producing milk (pages 16 and 17).

This special Eastern New York Dairy Summary is an average of 24 businesses that are renting substantially all of the farm real estate. The farm income, financial summary, and business analysis sections of this report include comparisons with average data on 143 owned dairy farms in the region. This report is prepared in workbook form for farm renters to use in the systematic study of their farm business operations.

Business records for 24 farms in Albany, Columbia, Delaware, Montgomery, Orange, Otsego, Rensselaer, Schoharie, Sullivan, and Washington Counties are summarized in this publication. The Eastern New York region consists of these counties plus Dutchess, Fulton, Greene, Herkimer, Montgomery, Saratoga, Schenectady, and Ulster Counties which do not have dairy farm business summary participants that classify as renters. The 143 owned dairy farms summarized in this publication include farms from the entire region.

Use Comparative Profitability Data With Caution

The profitability analysis on page 7 where labor and management income is calculated implies that renting a dairy farm is more profitable than owning one. Concessionary rental rates set by some land owners is a major factor. The farm owners are often father and mother and other landlords who are willing to accept a very low return for their investment. Total real estate costs including depreciation and interest on equity capital averaged \$156 per tillable acre on the owned dairy farms compared to only \$119 on the rented farms. This accounts for a \$13,800 difference in costs between owned and rented farms.

¹Smith, Stuart F., Wayne A. Knoblauch, and Linda D. Putnam, Dairy Farm Management Business Summary, New York, A.E. Res. 90-11, forthcoming September 1990.

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
24 Eastern New York Dairy Farm Renters, 1989

<u>Type of Business</u>	<u>Number</u>	<u>Labor Force</u>	<u>My Farm</u>	<u>Average</u>
Single proprietorship	19	Operator 1.	_____ mo.	11.29
Partnership	5	Operator 2.	_____ mo.	2.83
		Operator 3.	_____ mo.	1.50
		Family paid	_____ mo.	0.83
		Family unpaid	_____ mo.	3.83
<u>Milking System</u>	<u>Number</u>	Hired	_____ mo.	11.29
Dumping station	1	Total	_____ mo.	31.57
Pipeline	19			
Herringbone parlor	3			
Other parlor	1	Worker equivalent (total + 12)	_____	2.63
<u>Type of Barn</u>	<u>Number</u>	Operator/Manager Equivalent		
Stanchion	18	(Oper. mo. + 12)	_____	1.30
Freestall	4			
Combination	2			
<u>Dairy Records Service</u>	<u>Number</u>	<u>Land Use</u>	<u>My Farm</u>	<u>Average</u>
DHIC	19	Total acres rented	_____	414
DHIC Owner-Sampler	2	Tillable acres rented	_____	248
None	3			
<u>Business Record System</u>	<u>Number</u>	<u>Number of Cows</u>	<u>My Farm</u>	<u>Average</u>
Account Book	4	Beg. year (owned)	_____	69
Agrifax (mail-in only)	7	End year (owned & leased)	_____	73
ELFAC	1	Average for year (owned & leased)	_____	72
Other	10			
On-farm computer	2			

Predominate business characteristics of the 24 rented farms include the single proprietorship, pipeline milking system, stanchion or conventional stall barn, DHIC herd records and an "other" business record system. They are very similar to owned dairy farms in this respect.

The average size of the labor force on the rented farms was eight percent less than the 2.86 worker equivalent on owned farms. The rented farms averaged 248 tillable acres and 72 cows compared to 278 tillable acres and 87 cows on the 143 owned dairy farms in the same region. The owned farms averaged 31 cows per worker compared to 27 on the rented farms. Land resources were being used more efficiently by dairy farm owners when measured as tillable acres per cow.

Income Statement

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

CASH AND ACCRUAL FARM EXPENSES
24 Eastern New York Dairy Farm Renters, 1989

<u>Expense Item</u>	<u>Cash</u> <u>Paid</u>	<u>Change in</u> <u>Inventory</u> <u>or Prepaid</u> <u>Expense</u>	<u>Change in</u> <u>Accounts Payable</u>	<u>Accrual</u> <u>Expenses</u>
<u>Hired Labor</u>	\$ 14,788	\$ 66	\$ -67	\$ 14,787
<u>Feed</u>				
Dairy grain & conc.	43,012	-217	872	43,667
Dairy roughage	1,675	-159	0	1,516
Other livestock	97	0	0	97
<u>Machinery</u>				
Mach. hire, rent/lease	1,040	0	0	1,040
Machinery repairs/parts	7,873	89	4	7,966
Auto expense (farm share)	476	0	0	476
Fuel, oil & grease	4,936	6	23	4,965
<u>Livestock</u>				
Replacement livestock	1,859	0	-83	1,776
Breeding	2,946	-90	-3	2,853
Vet & medicine	3,965	10	17	3,992
Milk marketing	9,066	0	15	9,081
Cattle lease/rent	706	0	0	706
Other livestock expense	7,215	-9	-6	7,200
<u>Crops</u>				
Fertilizer & lime	8,425	-93	0	8,332
Seeds & plants	2,887	-463	39	2,463
Spray, other crop exp.	1,614	-202	0	1,412
<u>Real Estate</u>				
Land/bldg./fence repair	2,963	2	0	2,965
Taxes	2,548	0	0	2,548
Rent & lease	13,705	0	0	13,705
<u>Other</u>				
Insurance	2,804	0	0	2,804
Telephone (farm share)	577	0	-1	576
Electricity (farm share)	4,653	0	-1	4,652
Interest paid	6,018	-31	0	5,987
Miscellaneous	2,583	-5	-2	2,576
Total Operating	\$148,431	\$-1,096	\$807	\$148,142
Expansion livestock	\$0	\$0	\$0	\$0
Machinery depreciation				\$9,414
Building depreciation				\$1,179
TOTAL ACCRUAL EXPENSES				\$158,735

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.

Change in inventory: An increase in inventory is subtracted in computing accrual expenses because it represents purchased inputs not actually used during the year. A decrease in inventory is added to expenses because it represents the cost of inputs purchased in a prior year and used this year.

Changes in prepaid expenses apply to non-inventory categories (noted by * in the tables). Include any expenses that have been paid for in advance of their use, for example, 1990 rent paid in 1989. A positive change is the amount the prepayment account declined from beginning to end year, a negative change indicates an increase in the account.

Change in accounts payable: An increase in payables is added and a decrease is subtracted when calculating accrual expenses.

Accrual expenses are the costs of inputs actually used in this year's production.

Worksheets are provided to enable any dairy farmer to compute his or her accrual farm expenses and compare them with the averages on the previous page.

CASH AND ACCRUAL FARM EXPENSES WORKSHEET

Expense Item	Cash Paid +	Change in Inventory or Prepaid Expense +	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 (farm share)	_____	_____ *	_____	_____
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	_____	_____ *	_____	_____
Rent & lease	_____	_____ *	_____	_____
<u>Other</u>				
Insurance	_____	_____ *	_____	_____
Telephone (farm share)	_____	_____ *	_____	_____
Electricity (farm share)	_____	_____ *	_____	_____
Interest paid	_____	_____ *	_____	_____
Miscellaneous	_____	_____	_____	_____
Total Operating	\$ _____	\$ _____	\$ _____	\$ _____
Expansion livestock	_____	_____ *	_____	_____
Machinery depreciation	_____	_____	_____	_____
Building depreciation	_____	_____	_____	_____
TOTAL ACCRUAL EXPENSES				\$ _____

CASH AND ACCRUAL FARM RECEIPTS
24 Eastern New York Dairy Farm Renters, 1989

Receipt Item	Cash Receipts	Change in + Inventory	Change in Accounts + Receivable	Accrual - Receipts
Milk sales	\$174,840		\$1,581	\$176,420
Dairy cattle	9,434	\$1,776	0	11,210
Dairy calves	2,277		0	2,277
Other livestock	14	127	0	141
Crops	1,652	1,886	0	3,538
Government receipts	1,376	0*	0	1,376
Custom machine work	92		0	92
Gas tax refund	282		0	282
Other	1,207		0	1,207
- Nonfarm noncash capital		(-) 0**		(-) 0
Total Accrual Receipts	\$191,174	\$3,789	\$1,581	\$196,544

*Change in advanced government receipts.

**Gifts or inheritances of cattle or crops included in inventory.

Cash receipts include the gross value of milk checks received during the year plus all other payments received from the sale of farm products, services, and government programs. Nonfarm income is not included in calculating farm profitability.

Changes in inventory are calculated by subtracting beginning of year values from end of year values excluding appreciation. Increases in livestock inventory caused by herd growth and/or quality are added and decreases caused by herd reduction and for quality are subtracted. Changes in inventories of crops grown are also calculated. Changes in advanced government receipts are calculated by subtracting the end year balance from the beginning year balance (balances are listed with the current liabilities on the Balance Sheet).

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. The January milk check for this December's marketings compared with the previous January's check is included as a change in accounts receivable.

Accrual receipts represent the value of all farm commodities produced and services actually generated by the farmer during the year.

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	_____	_____	_____	_____
Less gifts of cattle & crops		(-) _____		(-) _____
Total Accrual Receipts	\$ _____	\$ _____	\$ _____	\$ _____

Profitability Analysis

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

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 values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than FLB and PCA). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

NET FARM INCOME Eastern New York Dairy Farm Renters and Owners, 1989

Item	24 Dairy Farm Renters	143 Dairy Farm Owners	My Farm
Total accrual receipts	\$196,544	\$244,704	\$ _____
+ Appreciation: Livestock	10,079	10,498	_____
Machinery	608	1,568	_____
Real Estate	513	12,703	_____
Other Stock/Cert.	69	164	_____
- Total Including Appreciation	\$207,813	\$269,637	\$ _____
- Total accrual expenses	158,735	207,380	_____
- Net Farm Income (with appreciation)	\$ 49,078	\$ 62,257	\$ _____
Net Farm Income (without appreciation)	\$ 37,809	\$ 37,324	\$ _____

Return to operators' labor, management, and equity capital measures the total business profits for the farm operator(s). It is calculated by deducting a charge for unpaid family labor from net farm income. Operators' labor is not included in unpaid family labor. Return to operators' labor, management, and equity capital has been calculated 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 Eastern New York Dairy Farm Renters and Owners, 1989

Item	24 Dairy Farm Renters	143 Dairy Farm Owners	My Farm
Net farm income (with appreciation)	\$49,078	\$62,257	\$ _____
- Family labor unpaid @ \$750 per month	2,875	2,334	_____
- Return to operators' labor, management, & equity (with appreciation)	\$46,203	\$59,923	\$ _____
- Appreciation	11,269	24,933	_____
- Return to operators' labor, management, & equity (without appreciation)	\$34,934	\$34,990	\$ _____

Labor and management income is the return which farm operators receive for their labor and management used in operating the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and management income is calculated by deducting the opportunity cost of using equity capital at a real interest rate of five percent, from the return to operators' labor, management, and equity capital excluding appreciation. The interest charge of five percent reflects the long-term average rate of return that a farmer might expect to earn in comparable risk investments in a low inflation economy.

LABOR AND MANAGEMENT INCOME
Eastern New York Dairy Farm Renters and Owners, 1989

Item	24 Dairy Farm Renters	143 Dairy Farm Owners	My Farm
Return to operators' labor, mgmt., & equity without appreciation	\$34,934	\$34,990	\$ _____
- Real interest @ 5% on average equity capital	<u>9,232</u>	<u>22,451</u>	- _____
= Labor & Management Income	\$25,702	\$12,539	\$ _____
Labor & Management Income per Operator/Manager	\$19,770	\$ 9,021	\$ _____

Return on equity capital measures the net return remaining for the farmer's equity or owned capital after a charge has been made for the owner-operator's labor and management. The earnings or amount of net farm income allocated to labor and management is the opportunity cost of operators' labor and management estimated by the cooperators. Return on equity capital is calculated with and without appreciation. The rate of return on equity capital is determined by dividing the amount returned by the average farm net worth or equity capital. Return on total capital is calculated by adding interest paid to the return on equity capital and then dividing by average farm assets to calculate the rate of return on total capital.

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
Eastern New York Dairy Farm Renters and Owners, 1989

Item	24 Dairy Farm Renters	143 Dairy Farm Owners	My Farm
Return to operators' labor, mgmt., & equity capital with apprec.	\$46,203	\$59,923	\$ _____
- Value of operators' labor & mgmt.	<u>26,177</u>	<u>27,705</u>	_____
= Return on equity capital with apprec.	\$20,026	\$32,218	\$ _____
+ Interest paid	<u>5,987</u>	<u>15,665</u>	_____
= Return on total capital with apprec.	\$26,013	\$47,883	\$ _____
Return on equity capital without apprec.	\$ 8,757	\$ 7,285	\$ _____
Return on total capital without apprec.	\$14,744	\$22,950	\$ _____
Rate of return on average equity capital:			
with appreciation	10.8%	7.2%	_____ %
without appreciation	4.7%	1.6%	_____ %
Rate of return on average total capital:			
with appreciation	10.0%	7.5%	_____ %
without appreciation	5.7%	3.6%	_____ %

Farm and Family Financial Status

The first step in evaluating the financial status of the farm is to construct a balance sheet which identifies all the assets and liabilities of the business. The second step is to evaluate the relationship between assets, liabilities, and net worth and changes that occurred during the year.

1989 FARM BUSINESS & NONFARM BALANCE SHEET
24 Eastern New York Dairy Farm Renters

<u>Farm Assets</u>			<u>Farm Liabilities & Net Worth</u>		
	Jan. 1	Dec. 31		Jan. 1	Dec. 31
<u>Current</u>			<u>Current</u>		
Farm cash, checking & savings	\$ 5,743	\$ 6,624	Accounts payable	\$ 1,443	\$ 2,250
Accounts rec.	15,443	17,024	Operating debt	5,410	4,780
Prepaid exp.	66	31	Short-term	529	1,058
Feed & supplies	34,416	37,431	Advanced govt. rec.	0	0
Total	\$ 55,668	\$ 61,110	Total	\$ 7,382	\$ 8,088
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows: owned	\$ 63,305	\$ 71,046	Structured debt		
leased	770	532	1-10 years	\$ 55,392	\$ 52,606
Heifers	24,554	28,648	Financial lease		
Bulls/other lvstk.	343	492	(cattle/mach.)	770	758
Mach./eq. owned	83,031	88,838	FLB/PCA stock	1,291	683
Mach./eq. leased	0	227	Total	\$ 57,453	\$ 54,047
FLB/PCA stock	1,291	683			
Other stock/cert.	3,097	3,264	<u>Long Term</u>		
Total	\$176,391	\$193,729	Structured debt		
<u>Long-Term</u>			≥10 years	\$ 11,911	\$ 10,636
Land/buildings:			Financial lease		
owned	\$ 15,357	\$ 16,557	(structures)	0	0
leased	0	0	Total	\$ 11,911	\$ 10,636
Total	\$ 15,357	\$ 16,557	Total Farm Liab.	\$ 76,746	\$ 72,771
Total Farm Assets	\$247,416	\$271,396	FARM NET WORTH	\$170,670	\$198,625
(Average for 12 farms reporting)			<u>Nonfarm Liabilities*</u>		
<u>Nonfarm Assets*</u>	Jan. 1	Dec. 31	<u>& Net Worth</u>	Jan. 1	Dec. 31
Personal cash, chkg. & savings	\$ 909	\$ 2,069	Nonfarm Liab.	\$ 7,697	\$10,247
Cash value life ins.	13,854	14,193	NONFARM NET WORTH	\$37,925	\$45,424
Nonfarm real estate	17,708	22,958			
Auto (personal sh.)	1,605	3,808	<u>FARM & NONFARM*</u>	Jan. 1	Dec. 31
Stocks & bonds	1,950	1,667	Total Assets	\$293,038	\$327,067
Household furn.	9,367	10,742	Total Liabilities	84,443	83,018
All other	230	233			
Total Nonfarm	\$45,622	\$55,671	TOTAL FARM & NON-FARM NET WORTH	\$208,595	\$244,049

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

Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business.

1989 FARM BUSINESS & 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:		
Prepaid expense					
Feed & supplies			Short Term:		
Total					
<u>Intermediate</u>			Adv. govt. rec.		
Dairy cows:			Total		
owned			<u>Intermediate</u>		
leased					
Heifers					
Bulls/other lvstk.					
Mach./eq. owned					
Mach./eq. leased					
FLB/PCA stock			Financial lease		
Other stock/cert.			(cattle/mach.)		
Total			FLB/PCA stock		
			Total		
<u>Long-Term</u>			<u>Long-Term</u>		
Land/buildings:					
owned					
leased					
			Financial lease		
Total			(structures)		
			Total		
Total Farm Assets			Total Farm Liab.		
			FARM NET WORTH		
<u>Nonfarm Assets</u>	<u>Jan. 1</u>	<u>Dec. 31</u>	<u>Nonfarm Liabilities & Net Worth</u>	<u>Jan. 1</u>	<u>Dec. 31</u>
Personal cash, chkg. & savings			Nonfarm Liab.:		
Cash val. life ins.					
Nonfarm real est.					
Auto (pres. share)					
Stocks & bonds			Total Nonfarm		
Household furn.			Liabilities		
All other			Nonfarm		
Total Nonfarm			Net Worth		
<u>TOTAL FARM & NONFARM</u>	<u>Jan. 1</u>	<u>Dec. 31</u>			
Total Farm & Nonfarm Assets					
Less Total Farm & Nonfarm Liabilities					
Farm & Nonfarm Net Worth					

Balance sheet analysis requires an examination of financial and debt ratios measuring levels of debt. Percent equity is calculated by dividing end of year net worth by end of year assets. 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. Debt levels per unit of production include some old standards that are still useful if used with measures of cash flow and repayment ability. The change in farm net worth without appreciation is an excellent indicator of financial progress.

BALANCE SHEET ANALYSIS
Eastern New York Dairy Farm Renters and Owners, 1989

Item	24 Dairy Farm Renters	143 Dairy Farm Owners	My Farm
<u>Financial Ratios - Farm:</u>			
Percent equity	73%	71%	_____ %
Debt/asset ratio: total	0.27	0.29	_____
long-term	0.64	0.32	_____
intermediate/current	0.24	0.26	_____
<u>Change in Net Worth:</u>			
Without appreciation	\$16,686	\$11,531	\$ _____
With appreciation	\$27,955	\$36,464	_____
<u>Farm Debt Analysis:</u>			
Accounts payable as % of total debt	3%	3%	_____ %
Long-term liabilities as a % of total debt	15%	55%	_____ %
Current & inter. liab. as a % of total debt	85%	45%	_____ %
<u>Farm Debt Levels Per Cow:</u>			
Total farm debt	\$997	\$2,130	\$ _____
Long-term debt	146	1,181	_____
Intermediate & current debt	851	948	_____

Farm inventory balance is an accounting of the value of machinery and equipment used on the balance sheet and the changes that occur from the beginning to end of year. Changes in the livestock inventory are included in the dairy analysis. Net investment indicates whether the capital stock is being expanded (positive) or depleted (negative).

FARM MACHINERY AND EQUIPMENT INVENTORY BALANCE
Eastern New York Dairy Farm Renters and Owners, 1989

Item	24 Dairy Farm Renters	143 Dairy Farm Owners	My Farm
Value beg. of year	\$83,031	\$102,849	\$ _____
Purchases	\$14,405	\$19,922	\$ _____
+ Nonfarm noncash transfer	313	0	+ _____
- Sales	104	661	- _____
- Depreciation	<u>9,414</u>	<u>12,550</u>	- _____
= Net investment	5,200	6,711	=+ _____
+ Appreciation	<u>608</u>	<u>1,568</u>	+ _____
= Value end of year	\$88,838	\$111,130	\$ _____

Cash Flow Statement

Completing an annual cash flow statement is an important step in understanding the sources and uses of funds for the business. Understanding last year's cash flow is the first step toward planning and managing cash flow for the current and future years.

The annual cash flow statement is structured to compare all the cash inflows with all the cash outflows for the year. A complete list of cash inflows and cash outflows are identified in the following table. By definition, total cash inflows must equal total cash outflows when beginning and ending balances are included. Any imbalance is, therefore, the error from incorrect accounting of cash inflows and cash outflows.

ANNUAL CASH FLOW STATEMENT
Eastern New York Dairy Farm Renters and Owners, 1989

Item	24 Dairy Farm Renters	143 Dairy Farm Owners	My Farm
<u>Cash Inflows</u>			
Beg. farm cash, checking & savings	\$ 5,743	\$ 6,358	\$ _____
Cash farm receipts	191,174	237,993	_____
Sale of assets: Machinery	104	661	_____
Real estate	0	1,748	_____
Other stock & cert.	0	292	_____
Money borrowed (inter. & long-term)	12,767	32,058	_____
Money borrowed (short-term)	2,440	798	_____
Increase in operating debt	0	0	_____
Nonfarm income	3,833	5,093	_____
Cash from nonfarm cap. used in the business	5,947	3,002	_____
Money borrowed - nonfarm	<u>1,955</u>	<u>1,169</u>	_____
Total	\$223,963	\$289,172	\$ _____
<u>Cash Outflows</u>			
Cash farm expenses	\$148,426	\$188,599	\$ _____
Capital purchases: Expansion livestock	0	1,352	_____
Machinery	14,405	19,922	_____
Real estate	2,601	13,050	_____
Other stock & cert.	98	188	_____
Principal payments (inter. & long-term)	16,828	24,548	_____
Principal payments (short-term)	1,911	1,387	_____
Decrease in operating debt	630	16	_____
Personal withdrawals & family expenditures,			_____
including nonfarm debt payments	32,021	31,605	_____
Ending farm cash, checking & savings	<u>6,624</u>	<u>8,173</u>	_____
Total	\$223,544	\$288,840	\$ _____
Imbalance (error)	\$ 419	\$ 332	\$ _____

Repayment Analysis

The second step in cash flow analysis is to compare the debt payments planned for the last year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business. However, the critical question to many farmers and lenders is whether planned payments can be made in 1990. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1990 debt payments shown below.

FARM DEBT PAYMENTS PLANNED Same 19 Eastern New York Dairy Farm Renters, 1989*

Debt Payments	Average		Planned 1990	My Farm		Planned 1990
	1989 Payments Planned	Made		1989 Payments Planned	Made	
Long-term	\$ 1,571	\$ 1,300	\$ 1,089	\$ _____	\$ _____	\$ _____
Intermediate-term	12,177	13,879	12,285	_____	_____	_____
Short-term	671	2,633	1,081	_____	_____	_____
Operating (net red.)	579	0	1,315	_____	_____	_____
Accounts payable (net reduction)	0	0	688	_____	_____	_____
Total	\$14,998	\$17,812	\$16,458	\$ _____	\$ _____	\$ _____
Per cow	\$235	\$279		\$ _____	\$ _____	
Per cwt. 1989 milk	\$1.46	\$1.74		\$ _____	\$ _____	
Percent of total 1989 receipts	9%	11%		_____	_____	
Percent of 1989 milk receipts	10%	12%		_____	_____	

*Farms that completed Dairy Farm Business Summaries for both 1988 and 1989.

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 planned debt payments for 1989.

CASH FLOW COVERAGE RATIO Eastern New York Dairy Farm Renters and Owners, 1989

Item	Same 19 Farm Renters	Same 117 Farm Owners	My Farm
Cash farm receipts	\$162,408	\$238,801	\$ _____
- Cash farm expenses	126,979	189,265	_____
+ Interest paid	4,583	15,448	_____
- Net personal withdrawals from farm*	24,860	26,822	_____
(A) = Amount Available for Debt Service	\$ 15,152	\$ 38,162	\$ _____
(B) = Debt Payments Planned for 1989 (as of December 31, 1988)	\$14,998	\$34,307	\$ _____
(A + B) = Cash Flow Coverage Ratio for 1989	1.01	1.11	_____

*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 WORKSHEET

Item	24 Dairy	My Farm		Expected	1990
	Farm Renters	Total	Per Cow	Change	Projection
	(per cow)				
Average number of cows	72				
<u>Accrual Oper. Receipts</u>					
Milk	\$2,445	\$	\$		\$
Dairy cattle	155				
Dairy calves	31				
Other livestock	2				
Crops	49				
Misc. receipts	41				
Total	\$2,723	\$	\$		\$
<u>Accrual Oper. Expenses</u>					
Hired labor	\$ 205	\$	\$		\$
Dairy grain & conc.	605				
Dairy roughage	21				
Other lvstk. feed	1				
Mach. hire/rent/lease	14				
Mach. repair/parts & auto	117				
Fuel, oil & grease	69				
Replacement lvstk.	25				
Breeding	40				
Vet & medicine	55				
Milk marketing	126				
Cattle lease	10				
Other lvstk. exp.	100				
Fertilizer & lime	115				
Seeds & plants	34				
Spray/other crop exp.	20				
Land, bldg., fence repair	41				
Taxes	35				
Real est. rent/lease	190				
Insurance	39				
Utilities	72				
Miscellaneous	36				
Total Less Int. Paid	\$1,970				\$
<u>Net Accrual Operating Income</u>	(total)				
(without interest paid)	\$54,389	\$			\$
- Change in lvstk./crop inv.	3,789				
- Change in accts. rec.	1,581				
+ Change in feed/supply inv.*	-1,096				
+ Change in accts. payable**	807				
NET CASH FLOW	\$48,730	\$			\$
- Net personal withdrawals & family expenditures	26,233				
Available for Farm Debt Payments & Investments	\$22,497	\$			\$
- Farm debt payments	24,972				
Available for Farm Investments	\$-2,475	\$			\$
- Capital purchases: cattle, machinery & improvements	\$17,104				
Additional Capital Needed		\$			\$

*Includes change in prepaid expenses.

**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 24 Eastern New York Dairy Farm Renters, 1989

Item	Average of Farms Reporting			My Farm	
<u>Crop Yields</u>	<u>Farms</u>	<u>Acres</u>	<u>Prod/Acre*</u>	<u>Acres</u>	<u>Prod/Acre</u>
Hay crop	24	147	2.56 tn DM	_____	_____ tn DM
Corn silage	24	50	13.22 tn	_____	_____ tn
			4.42 tn DM	_____	_____ tn DM
Other forage	2	16	2.52 tn DM	_____	_____ tn DM
Total forage	24	198	3.03 tn DM	_____	_____ tn DM
Corn grain	10	60	94.31 bu	_____	_____ bu
Oats	3	13	50.00 bu	_____	_____ bu
Wheat	0	0	0.0 bu	_____	_____ bu
Other crops	4	17		_____	
Tillable pasture	5	48		_____	
Idle	6	42		_____	
Total Tillable Acres	24	248		_____	

*1989 average yields for 143 dairy farm owners in Eastern New York included: all hay crops, 2.6 tons dry matter per acre; corn silage, 13.6 tons per acre.

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 indicate how efficiently the land resource is being used and how well total forage requirements are being met.

Total tillable acres per cow	3.44	3.18	_____
Total forage acres per cow	2.75	2.60	_____
Harvested forage dry matter, tons per cow	8.32	8.18	_____

A substantial number of cooperators have allocated crop expenses to hay crop, corn, and other crop production. Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per acre and per production unit for hay and corn. Additional expense items such as fuels, labor, and machinery repairs are not included.

CROP RELATED ACCRUAL EXPENSES
Eastern New York Dairy Farm Renters and Owners, 1989

	Total/ Till.	Hay Crop		All Corn	Corn Sil. Per Ton	Corn Grain Per Dry
Expense	Acre	Per Acre	Per Ton DM	Per Acre	DM	Shell Bu.
<u>24 Dairy Farm Renters:</u> Average 12 Farms Reporting Individual Crop Costs						
Fertilizer & lime	\$33.57	\$15.82	\$6.03	\$42.65	\$ 9.89	\$0.44
Seeds & plants	9.92	4.38	1.67	26.41	6.13	0.28
Spray & other crop expense	5.69	1.42	0.54	15.34	3.56	0.16
Total	\$49.18	\$21.62	\$8.24	\$84.40	\$19.58	\$0.88
<u>143 Dairy Farm Owners:</u> Average 57 Farms Reporting Individual Crop Costs						
Fertilizer & lime	\$28.61	\$16.39	\$6.30	\$50.35	\$11.27	\$0.54
Seeds & plants	10.72	5.74	2.21	25.22	5.64	0.27
Spray & other crop expense	10.23	3.11	1.20	23.61	5.28	0.25
Total	\$49.56	\$25.24	\$9.71	\$99.18	\$22.19	\$1.06
<u>My Farm:</u>						
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. Although machinery costs have not been allocated to individual crops, they are shown below per total tillable acre.

ACCRUAL MACHINERY EXPENSES
Eastern New York Dairy Farm Renters and Owners, 1989

Item	Average Per Tillable Acre		My Farm	
	24 Dairy Farm Renters	143 Dairy Farm Owners	Total Expenses	Per Til. Acres
Fuel, oil & grease	\$ 20.00	\$ 19.27	\$_____	\$_____
Machinery repairs & parts	32.10	39.83	_____	_____
Machine hire, rent & lease	4.19	8.37	_____	_____
Auto expense (farm share)	1.92	3.04	_____	_____
Interest (5%)	17.31	19.24	_____	_____
Depreciation	37.93	45.15	_____	_____
Total	\$113.46	\$134.90	\$_____	\$_____

Dairy Program Analysis

Analysis of the dairy enterprise can tell a great deal about the strengths and weaknesses of the dairy farm business. Information on this page should be used in conjunction with DHI and other dairy production information. Changes in dairy herd size and market values that occur during the year are identified in the table below. The change in inventory value without appreciation is attributed to physical changes in herd size and quality. This increase in inventory is included as an accrual farm receipt when calculating profitability without appreciation impacts.

DAIRY HERD INVENTORY
Eastern New York Dairy Farm Renters and Owners, 1989

	<u>Dairy Cows</u>		<u>Heifers</u>					
			<u>Bred</u>		<u>Open</u>		<u>Calves</u>	
<u>Item</u>	<u>No.</u>	<u>Value</u>	<u>No.</u>	<u>Value</u>	<u>No.</u>	<u>Value</u>	<u>No.</u>	<u>Value</u>
<u>24 Dairy Farm Renters:</u>								
Beg. year (owned)	69	\$63,305	16	\$12,069	19	\$8,428	19	\$4,057
+ Change w/o apprec.		285		1,328		-150		314
+ Appreciation		<u>7,456</u>		<u>1,326</u>		<u>770</u>		<u>506</u>
End year (owned)	69	\$71,046	18	\$14,723	18	\$9,048	20	\$4,877
End incl. leased	73							
Average number	72		55 (all age groups)					
<u>143 Dairy Farm Owners:</u>								
Beg. year (owned)	88	\$80,429	25	\$18,158	22	\$ 9,527	21	\$4,609
+ Change w/o apprec.		2,335		-751		586		365
+ Appreciation		<u>7,294</u>		<u>1,774</u>		<u>952</u>		<u>410</u>
End year (owned)	89	\$90,058	23	\$19,181	22	\$11,065	23	\$5,384
End incl. leased	89							
Average number	87		68 (all age groups)					
<u>My Farm:</u>								
Beg. of year (owned)	—	\$ —	—	\$ —	—	\$ —	—	\$ —
+ Change w/o apprec.		—		—		—		—
+ Appreciation		—		—		—		—
End of year (owned)	—	\$ —	—	\$ —	—	\$ —	—	\$ —
End including leased	—							
Average number	—		— (all age groups)					

Total milk sold and milk sold per cow are extremely valuable measures of productivity on the dairy farm. These measures of milk output are based on pounds of milk marketed during the year. Farm managers on DHI should compare milk sold per cow with rolling herd average on the test date nearest December 31.

MILK PRODUCTION
Eastern New York Dairy Farm Renters and Owners, 1989

Item	24 Dairy Farm Renters	143 Dairy Farm Owners	My Farm
Total milk sold, lbs.	1,199,842	1,448,306	—
Milk sold per cow, lbs.	16,626	16,555	—
Average milk plant test, % butterfat	3.55	3.64	—

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 plus expansion livestock purchased. Total costs of producing milk include the operating costs plus 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
Eastern New York Dairy Farm Renters and Owners, 1989

Item	24 Renters		143 Owners		My Farm	
	Total	Per Cwt.	Total	Per Cwt.	Total	Per Cwt.
<u>Accrual Costs of Producing Milk</u>						
Operating costs	\$128,018	\$10.67	\$159,816	\$11.03	\$_____	\$_____
Total costs with- out op(s') labor, mgmt. & capital	\$141,486	\$11.79	\$181,449	\$12.53	\$_____	\$_____
Total Costs	\$176,895	\$14.74	\$231,605	\$15.99	\$_____	\$_____
<u>Accrual Receipts from Milk</u>						
	\$176,420	\$14.70	\$216,439	\$14.94	\$_____	\$_____

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
Eastern New York Dairy Farm Renters and Owners, 1989

Item	Average Per Cwt. Milk		My Farm Per Cwt.
	24 Renters	143 Owners	
Purchased dairy grain & conc.	\$3.64	\$4.07	\$_____
Purchased dairy roughage	0.13	0.12	_____
Total Purchased Dairy Feed	\$3.77	\$4.19	\$_____
Purchased grain & conc. as % of milk receipts	25%	27%	_____%
Purchased feed & crop exp.	\$4.78	\$5.15	\$_____
Purchased feed & crop exp. as % of milk receipts	33%	34%	_____%
Breeding	\$0.24	\$0.21	\$_____
Veterinary & medicine	0.33	0.29	_____
Milk marketing	0.76	0.77	_____
Cattle lease	0.06	0.01	_____
Other livestock expense	0.60	0.61	_____

Capital and Labor Efficiency Analysis

Capital efficiency factors measure how intensively the capital is being used in the farm business. Measures of labor efficiency are key indicators of management's success in generating products per unit of labor input.

CAPITAL EFFICIENCY
 Eastern New York Dairy Farm Renters and Owners, 1989

<u>Item</u>	<u>Per Worker</u>	<u>Per Cow</u>	<u>Per Tillable Acre</u>
<u>24 Dairy Farm Renters:</u>			
Farm capital	\$98,561	\$3,595	\$1,045
Machinery & equipment	32,694	1,192	347
Capital turnover, years	1.25		
<u>143 Dairy Farm Owners:</u>			
Farm capital	\$222,733	\$7,270	\$2,288
Machinery & equipment	37,992	1,240	390
Capital turnover, years	2.36		
<u>My Farm:</u>			
Farm capital	\$_____	\$_____	\$_____
Machinery & equipment	_____	_____	_____
Capital turnover, years	_____		

LABOR FORCE ANALYSIS
 Eastern New York Dairy Farm Renters and Owners, 1989

<u>Efficiency</u>	<u>24 Renters</u>		<u>143 Owners</u>		<u>My Farm</u>	
	<u>Total</u>	<u>Per Worker</u>	<u>Total</u>	<u>Per Worker</u>	<u>Total</u>	<u>Per Worker</u>
Cows, average number	72	27	87	31	_____	_____
Milk sold, pounds	1,199,842	455,877	1,448,306	507,203	_____	_____
Tillable acres	248	94	278	97	_____	_____
Work units	761	289	921	323	_____	_____
<hr/>						
<u>Labor Costs</u>	<u>24 Renters</u>		<u>143 Owners</u>		<u>My Farm</u>	
	<u>Total</u>	<u>Per Cow</u>	<u>Total</u>	<u>Per Cow</u>	<u>Total</u>	<u>Per Cow</u>
Value of operator(s)						
labor (\$1,050/month)	\$16,406	\$227	\$17,520	\$200	\$_____	\$_____
Family unpd. (\$750/mo.)	2,875	40	2,334	27	_____	_____
Hired	14,787	205	20,190	231	_____	_____
Total Labor	\$34,068	\$472	\$40,043	\$458	\$_____	\$_____
Machinery Cost	\$28,157	\$390	\$37,499	\$429	\$_____	\$_____
Total Labor & Mach.	\$62,225	\$862	\$77,543	\$886	\$_____	\$_____

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

Same 19 Eastern New York Dairy Farm Renters, 1988 and 1989

Selected Factors	Average		My Farm		Goal
	1988	1989	1988	1989	
<u>Size of Business</u>					
Average number of cows	65	64			
Average number of heifers	47	46			
Milk sold, lbs.	1,030,931	1,026,617			
Worker equivalent	2.41	2.42			
Total tillable acres	218	218			
<u>Rates of Production</u>					
Milk sold per cow, lbs.	15,938	16,097			
Hay DM per acre, tons	2.4	2.5			
Corn silage per acre, tons	12	12			
<u>Labor Efficiency</u>					
Cows per worker	27	26			
Milk sold per worker, lbs.	427,368	423,995			
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	28%	28%			
Dairy feed & crop exp. per cwt. milk	\$4.53	\$4.94	\$	\$	\$
Labor & mach. costs/cow	\$782	\$858	\$	\$	\$
<u>Capital Efficiency*</u>					
Farm capital per cow	\$3,538	\$3,681	\$	\$	\$
Mach. & equip. per cow	\$1,273	\$1,259	\$	\$	\$
Capital turnover, years	1.5	1.3			
<u>Profitability</u>					
Net farm inc. w/o apprec.	\$23,333	\$28,356	\$	\$	\$
Net farm inc. w/apprec.	\$23,706	\$38,415	\$	\$	\$
Labor & mgmt. income per operator/manager	\$10,253	\$13,726	\$	\$	\$
Rate of return on eq. capital w/apprec.	-1.3%	6.4%			
Rate of return on all capital w/apprec.	4.5%	6.8%			
<u>Financial Summary</u>					
Farm net worth	\$170,643	\$189,876	\$	\$	\$
Debt to asset ratio	0.28	0.22			
Farm debt per cow	\$994	\$8.45	\$	\$	\$

*Average for the year.

Other Agricultural Economics Extension Publications

No. 90-7	The U.S. Dairy Situation and Outlook for 1990	Andrew M. Novakovic
No. 90-8	Dairy Farm Business Summary, Northern New York, 1989	Stuart F. Smith Linda D. Putnam
No. 90-9	Dairy Farm Business Summary, Western Plain Region, 1989	Stuart F. Smith Linda D. Putnam
No. 90-10	Dairy Farm Business Summary, Central New York and Central Plain Regions, 1989	Wayne A. Knoblauch Linda D. Putnam
No. 90-11	Dairy Farm Business Summary, Eastern Plateau Region, 1989	Robert A. Milligan Linda D. Putnam Carl A. Crispell William H. Gengenbach Gerald A. LeClar
No. 90-12	National and State Trends in Milk Production	Andrew Novakovic Kevin Jack Maura Keniston
No. 90-13	Dairy Farm Business Summary, Oneida-Mohawk Region, 1989	Eddy L. LaDue Mark E. Anibal Jacqueline M. Mierek
No. 90-14	Dairy Farm Business Summary, Western Plateau Region, 1989	George L. Casler
No. 90-15	Dairy Farm Business Summary, Northern Hudson Region, 1989	Stuart F. Smith Linda D. Putnam
No. 90-16	Dairy Farm Business Summary, Southeastern New York, 1989	Stuart F. Smith
No. 90-17	Present Value, Future Value and Amortization Formulas and Tables	Eddy L. LaDue
No. 90-18	The Milkfat Issue: Production, Processing, and Marketing	Tom Cosgrove Andrew Novakovic