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DAIRY FARM BUSINESS SUMMARY

EASTERN NEW YORK RENTER SUMMARY 1987

**Linda D. Putnam
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**

1987 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 25 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 129 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 25 farms in Albany, Columbia, Delaware, Rensselaer, Schoharie, Sullivan, and Washington Counties are summarized in this publication. The Eastern New York region consists of these counties plus Greene, Herkimer, Montgomery, Otsego, Schenectady, and Ulster Counties which do not have farms that classify as renters. The 129 owned dairy farms summarized in this publication include farms from the entire region.

Use Comparative Profitability Data With Caution

The profitability analysis on pages 6 and 7 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 \$150 per tillable acre on the owned dairy farms compared to only \$104 on the rented farms. This accounts for a \$13,700 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, 1987, A.E. Res. 88-8, July 1988.

Income Statement

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

CASH AND ACCRUAL FARM EXPENSES
25 Eastern New York Dairy Farm Renters, 1987

Expense Item	Cash Paid +	Change in Inventory or Prepaid Expense +	Change in Accounts Payable	Accrual Expenses
<u>Hired Labor</u>	\$ 11,923	\$ 0	\$-121	\$ 11,802
<u>Feed</u>				
Dairy grain & conc.	33,506	-158	-42	33,306
Dairy roughage	3,358	-92	-159	3,107
Other livestock	33	-4	0	29
<u>Machinery</u>				
Mach. hire, rent/lease	896	0	0	896
Machinery repairs/parts	7,151	-34	-99	7,018
Auto expense (farm share)	396	0	0	396
Fuel, oil & grease	4,293	-54	-29	4,210
<u>Livestock</u>				
Replacement livestock	1,329	0	0	1,329
Breeding	2,541	-252	9	2,298
Vet & medicine	2,493	-13	-31	2,449
Milk marketing	10,513	0	0	10,513
Cattle lease/rent	168	0	0	168
Other livestock expense	6,898	-203	-24	6,671
<u>Crops</u>				
Fertilizer & lime	4,704	-228	108	4,584
Seeds & plants	1,926	-193	0	1,733
Spray, other crop exp.	2,132	-36	0	2,096
<u>Real Estate</u>				
Land/bldg./fence repair	756	11	0	767
Taxes	1,406	0	71	1,477
Insurance	1,954	0	0	1,954
Rent & lease	10,501	0	24	10,525
<u>Other</u>				
Telephone (farm share)	541	0	0	541
Electricity (farm share)	4,019	0	-42	3,977
Interest paid	4,702	0	0	4,702
Miscellaneous	<u>1,693</u>	<u>-100</u>	<u>0</u>	<u>1,593</u>
Total Operating	\$119,832	\$-1,356	\$-335	\$118,141
Expansion livestock	\$90	\$0	\$0	90
Machinery depreciation				8,706
Building depreciation				<u>1,236</u>
TOTAL ACCRUAL EXPENSES				\$128,173

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.

CASH AND ACCRUAL FARM RECEIPTS
25 Eastern New York Dairy Farm Renters, 1987

Receipt Item	Cash Receipts	Change in + Inventory	Change in + Accounts Receivable	Accrual - Receipts
Milk sales	\$142,382		\$-30	\$142,353
Dairy cattle	7,507	\$1,508	0	9,014
Dairy calves	2,456		0	2,456
Other livestock	0	65	0	65
Crops	825	-1,414	0	-589
Government receipts	1,900	0*	302	2,202
Custom machine work	562		0	562
Gas tax refund	96		0	96
Other	770		0	770
- Nonfarm noncash capital		(-) 280**		(-) 280
Total Accrual Receipts	\$156,497	\$-121	\$272	\$156,649

*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	\$ _____	\$ _____	\$ _____	\$ _____

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, 1987

Item	25 Dairy Farm Renters	129 Dairy Farm Owners	My Farm
Return to operators' labor, mgmt., & equity without appreciation	\$27,800	\$26,459	\$ _____
- Real interest @ 5% on average equity capital	<u>7,927</u>	<u>18,227</u>	- _____
= Labor & Management Income	\$19,873	\$ 8,232	\$ _____
Labor & Management Income per Operator/Manager	\$15,526	\$ 6,236	\$ _____

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, 1987

Item	25 Dairy Farm Renters	129 Dairy Farm Owners	My Farm
Return to operators' labor, mgmt., & equity capital with apprec.	\$34,105	\$51,268	\$ _____
- Value of operators' labor & mgmt.	<u>21,979</u>	<u>22,705</u>	_____
= Return on equity capital with apprec.	\$12,126	\$28,563	\$ _____
+ Interest paid	<u>4,702</u>	<u>13,284</u>	_____
= Return on total capital with apprec.	\$16,828	\$41,847	\$ _____
Return on equity capital without apprec.	\$5,821	\$3,754	\$ _____
Return on total capital without apprec.	\$10,523	\$17,038	\$ _____
Rate of return on average equity capital:			
with appreciation	7.6%	7.8%	_____ %
without appreciation	3.7%	1.0%	_____ %
Rate of return on average total capital:			
with appreciation	7.5%	7.9%	_____ %
without appreciation	4.7%	3.2%	_____ %

Advanced government receipts are included as current liabilities. Government payments received in 1987 that are for participation in the 1988 program are the end year balance and payments received in 1986 for participation in the 1987 program are the beginning year balance.

Date _____

1987 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>		<u>Intermediate</u>	
Dairy cows:		Adv. govt. rec.	_____
owned	_____	Total	_____
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	_____		_____
Total	_____	Financial lease	_____
		(structures)	_____
		Total	_____
Total Farm Assets	_____	Total Farm Liab.	_____
		FARM NET WORTH	_____

<u>Nonfarm Assets</u>		<u>Nonfarm Liabilities & Net Worth</u>	
Jan. 1	Dec. 31	Jan. 1	Dec. 31
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>	
Total Farm & Nonfarm Assets	_____	<u>Dec. 31</u>	
Less Total Farm & Nonfarm Liabilities	_____	_____	
Farm & Nonfarm Net Worth	_____	_____	

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, 1987

<u>Item</u>	25 Dairy Farm Renters	129 Dairy Farm Owners	My Farm
<u>Cash Inflows</u>			
Beg. farm cash, checking & savings	\$ 4,839	\$ 4,219	\$ _____
Cash farm receipts	156,497	200,504	_____
Sale of assets: Machinery	289	204	_____
Real estate	0	1,474	_____
Other stock & cert.	0	114	_____
Money borrowed (inter. & long-term)	14,206	25,083	_____
Money borrowed (short-term)	368	1,654	_____
Increase in operating debt	0	0	_____
Nonfarm income	2,548	4,297	_____
Cash from nonfarm cap. used in the business	1,883	2,627	_____
Money borrowed - nonfarm	<u>800</u>	<u>466</u>	_____
Total	\$181,429	\$240,642	\$ _____
<u>Cash Outflows</u>			
Cash farm expenses	\$119,831	\$155,315	\$ _____
Capital purchases: Expansion livestock	90	1,393	_____
Machinery	11,952	15,358	_____
Real estate	1,025	8,079	_____
Other stock & cert.	26	643	_____
Principal payments (inter. & long-term)	13,639	26,191	_____
Principal payments (short-term)	734	1,747	_____
Decrease in operating debt	966	97	_____
Nonfarm debt payments	517	605	_____
Personal withdrawals & family exp.	22,373	23,868	_____
Ending farm cash, checking & savings	<u>6,646</u>	<u>6,166</u>	_____
Total	\$177,799	\$239,461	\$ _____
Imbalance (error)	\$ 3,630	\$ 1,180	\$ _____

ANNUAL CASH FLOW WORKSHEET

Item	25 Dairy	My Farm		Expected Change	1987 Projection
	Farm Renters (per cow)	Total	Per Cow		
Average number of cows	70				
<u>Accrual Oper. Receipts</u>					
Milk	\$2,042	\$	\$		\$
Dairy cattle	129				
Dairy calves	35				
Other livestock	1				
Crops	-8				
Misc. receipts	52				
Total	\$2,251	\$	\$		\$
<u>Accrual Oper. Expenses</u>					
Hired labor	\$ 169	\$	\$		\$
Dairy grain & conc.	478				
Dairy roughage	45				
Other lvstk. feed	0				
Mach. hire/rent/lease	13				
Mach. rpr./parts & auto	106				
Fuel, oil & grease	60				
Replacement lvstk.	19				
Breeding	33				
Vet & medicine	35				
Milk marketing	151				
Cattle lease	2				
Other lvstk. exp.	96				
Fertilizer & lime	66				
Seeds & plants	25				
Spray/other crop exp.	30				
Land, bldg., fence repair	11				
Taxes	21				
Insurance	28				
Real est. rent/lease	151				
Utilities	65				
Miscellaneous	23				
Total Less Int. Paid	\$1,627				\$
<u>Net Accrual Operating Income</u> (total)					
(without interest paid)	\$43,490	\$			\$
- Change in lvstk./crop inv.	-121				
- Change in accts. rec.	272				
+ Change in feed/supply inv.	-1,355				
+ Change in accts. payable*	-336				
NET CASH FLOW	\$41,648	\$			\$
- Net personal withdrawals & family expenditures	19,025				
Available for Farm Debt Payments & Investments	\$22,623	\$			\$
- Farm debt payments	19,917				
Available for Farm Investments	\$ 2,706	\$			\$
- Capital purchases: cattle, machinery & improvements	\$13,093				
Additional Capital Needed		\$			\$

*Excludes change in interest account payable.

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, 1987

Expense	Total/ Till. Acre	Hay Crop		All Corn Per Acre	Corn Sil. Per Ton DM	Corn Grain Per Dry Shell Bu.
		Per Acre	Per Ton DM			
<u>25 Dairy Farm Renters:</u>						
		Average	19 Farms	Reporting	Individual	Crop Costs
Fertilizer & lime	\$19.91	\$ 9.09	\$3.68	\$39.11	\$7.81	\$0.41
Seeds & plants	7.53	3.68	1.49	16.87	3.37	0.18
Spray & other crop expense	<u>9.11</u>	<u>2.60</u>	<u>1.05</u>	<u>19.24</u>	<u>3.84</u>	<u>0.20</u>
Total	\$36.55	\$15.37	\$6.22	\$75.22	\$15.02	\$0.79
<u>129 Dairy Farm Owners:</u>						
		Average	76 Farms	Reporting	Individual	Crop Costs
Fertilizer & lime	\$26.33	\$ 9.32	\$3.58	\$29.63	\$ 6.05	\$0.31
Seeds & plants	9.55	3.15	1.21	12.07	2.46	0.12
Spray & other crop expense	<u>8.43</u>	<u>1.60</u>	<u>0.62</u>	<u>12.73</u>	<u>2.60</u>	<u>0.13</u>
Total	\$44.31	\$14.07	\$5.41	\$54.43	\$11.11	\$0.56
<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, 1987

Item	Average Per Tillable Acre		My Farm	
	25 Dairy Farm Renters	129 Dairy Farm Owners	Total Expenses	Per Til. Acres
Fuel, oil & grease	\$ 18.29	\$ 17.81	\$ _____	\$ _____
Machinery repairs & parts	30.48	37.79	_____	_____
Machine hire, rent & lease	3.89	7.53	_____	_____
Auto expense (farm share)	1.72	2.46	_____	_____
Interest (5%)	16.65	17.91	_____	_____
Depreciation	<u>37.81</u>	<u>44.25</u>	_____	_____
Total	\$108.83	\$127.75	\$ _____	\$ _____

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, 1987

Item	25 Renters		129 Owners		My Farm	
	Total	Per Cwt.	Total	Per Cwt.	Total	Per Cwt.
<u>Accrual Costs of Producing Milk</u>						
Operating costs	\$103,935	\$9.73	\$133,553	\$10.08	\$_____	\$_____
Total costs without op(s') labor, mgmt. & capital	\$114,553	\$10.73	\$151,713	\$11.45	\$_____	\$_____
Total Costs	\$144,459	\$13.53	\$192,645	\$14.53	\$_____	\$_____
<u>Accrual Receipts from Milk</u>						
	\$142,353	\$13.33	\$178,172	\$13.44	\$_____	\$_____

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, 1987

Item	Average Per Cwt. Milk		My Farm Per Cwt.
	25 Renters	129 Owners	
Purchased dairy grain & conc.	\$3.12	\$3.30	\$_____
Purchased dairy roughage	0.29	0.08	_____
Total Purchased Dairy Feed	\$3.41	\$3.38	\$_____
Purchased grain & conc. as % of milk receipts	23%	25%	_____%
Purchased feed & crop exp.	\$4.20	\$4.22	\$_____
Purchased feed & crop exp. as % of milk receipts	31%	31%	_____%
Breeding	\$0.22	\$0.20	\$_____
Veterinary & medicine	0.23	0.24	_____
Milk marketing	0.98	1.07	_____
Cattle lease	0.02	0.01	_____
Other livestock expense	0.62	0.53	_____

PROGRESS OF THE FARM BUSINESS

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

PROGRESS OF THE FARM BUSINESS

Same 15 Eastern New York Dairy Farm Renters, 1986 and 1987

Selected Factors	Average		My Farm		
	1986	1987	1986	1987	Goal
<u>Size of Business</u>					
Average number of cows	72	74	_____	_____	_____
Average number of heifers	57	61	_____	_____	_____
Milk sold, lbs.	1,099,403	1,143,658	_____	_____	_____
Worker equivalent	2.74	2.85	_____	_____	_____
Total tillable acres	242	243	_____	_____	_____
<u>Rates of Production</u>					
Milk sold per cow, lbs.	15,355	15,497	_____	_____	_____
Hay DM per acre, tons	2.6	2.6	_____	_____	_____
Corn silage per acre, tons	13	14	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	26	26	_____	_____	_____
Milk sold per worker, lbs.	401,405	401,284	_____	_____	_____
<u>Cost Control</u>					
Grain & conc. purchased as % of milk sales	23%	23%	_____ %	_____ %	_____ %
Dairy feed & crop exp. per cwt. milk	\$4.15	\$4.16	\$ _____	\$ _____	\$ _____
Labor & mach. costs/cow	\$759	\$759	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency*</u>					
Farm capital per cow	\$3,083	\$3,254	\$ _____	\$ _____	\$ _____
Mach. & equip. per cow	\$1,074	\$1,054	\$ _____	\$ _____	\$ _____
Capital turnover, years	1.3	1.4	_____	_____	_____
<u>Profitability</u>					
Net farm inc. w/o apprec.	\$30,126	\$29,796	\$ _____	\$ _____	\$ _____
Net farm inc. w/apprec.	\$34,391	\$36,285	\$ _____	\$ _____	\$ _____
Labor & mgmt. income	\$20,465	\$19,539	\$ _____	\$ _____	\$ _____
Rate of return on eq. capital w/apprec.	5.8%	5.6%	_____ %	_____ %	_____ %
Rate of return on all capital w/apprec.	5.2%	6.3%	_____ %	_____ %	_____ %
<u>Financial Summary</u>					
Farm net worth	\$180,802	\$191,273	\$ _____	\$ _____	\$ _____
Debt to asset ratio	0.21	0.21	_____	_____	_____
Farm debt per cow	\$658	\$735	\$ _____	\$ _____	\$ _____

*Average for the year.