

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.

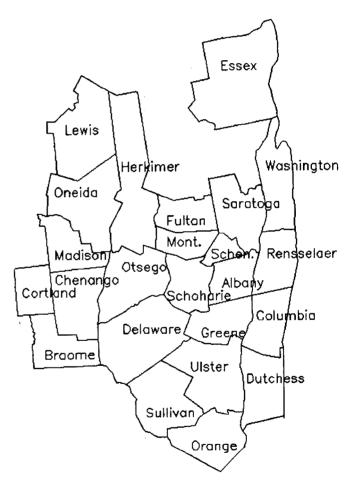
Help ensure our sustainability.

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.

EASTERN NEW YORK RENTER SUMMARY 2000



Wayne A. Knoblauch Linda D. Putnam

Department of Applied Economics and Management College of Agriculture and Life Sciences Cornell University, Ithaca, New York 14853-7801 It is the Policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age or handicap. The University is committed to the maintenance of affirmative action programs which will assure the continuation of such equality of opportunity.

This research was supported (entirely or in part) by the Cornell University Agricultural Experiment Station federal formula funds, Project No. NYC-121446 received from Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

Publication Price Per Copy: \$12.00

For additional copies, contact:

Faye Butts
Dept. of Applied Economics and Management
Agricultural Finance and Management Group
358 Warren Hall
Cornell University
Ithaca, New York 14853-7801

E-mail: fsb1@cornell.edu Fax: 607-255-1589 Phone: 607-254-7412

2000 DAIRY FARM BUSINESS SUMMARY EASTERN NEW YORK RENTERS Table of Contents

	Page
INTRODUCTION	1
Use Comparative Profitability Data With Caution	1
SUMMARY AND ANALYSIS OF THE FARM BUSINESS	3
Business Characteristics and Resources Used	3
Income Statement	4
Profitability Analysis	7
Farm and Family Financial Status.	9
Statement of Owner Equity	
Cash Flow Statement.	
Repayment Analysis	
Cropping Program Analysis	
Dairy Program Analysis	
Capital and Labor Efficiency Analysis	21
COMPARATIVE ANALYSIS OF THE FARM BUSINESS	22
Progress of the Farm Business	22
Regional Farm Business Chart	24
Regional Financial Analysis Chart	25
IDENTIFY AND SET GOALS	26
GLOSSARY AND LOCATION OF COMMON TERMS	28
INDEV	21

2000 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 six 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 4-6. Three measures of farm profits are calculated on pages 7 and 8. The balance sheet, statement of owner equity, and cash flow statement are featured on pages 9-16. The dairy program analysis includes data on the costs of producing milk (pages 19 and 20).

This Eastern New York Dairy Farm Renter Business Summary is an average of 20 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 122 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.

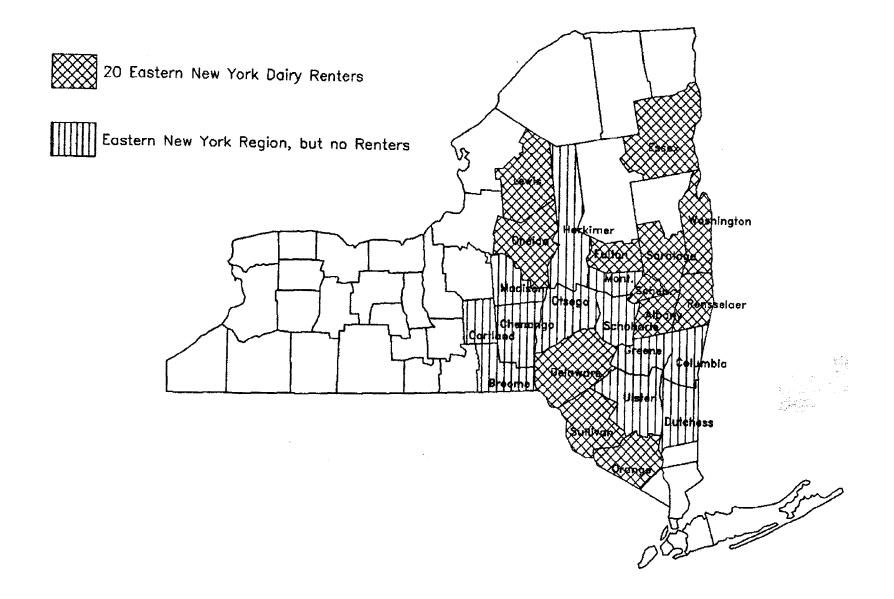
Business records for 20 farms in Albany, Delaware, Essex, Fulton, Lewis, Oneida, Orange, Rensselaer, Saratoga, Schenectady, Sullivan, and Washington Counties are summarized in this publication. The Eastern New York region consists of these counties plus Broome, Chenango, Columbia, Cortland, Dutchess, Greene, Herkimer, Madison, Montgomery, Otsego, Schoharie, and Ulster Counties which do not have dairy farm business summary participants that classify as renters (see Figure 1 on page 2). The 122 owned dairy farms summarized in this publication include farms from the entire region.

Use Comparative Profitability Data With Caution

The profitability analysis on page 8 implies that renting a dairy farm provides a greater return to the operator's labor and management than owning the farm. 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 real estate investment averaged \$153 per tillable acre on the owned dairy farms compared to \$102 on the rented farms. This accounts for a \$42,454 difference in costs between owned and rented farms. Even with this difference in cost structure, the owners had higher rates of return on equity and all capital.

¹Wayne A. Knoblauch, Linda D. Putnam and Jason Karszes, <u>Dairy Farm Management Business Summary</u>, <u>New York</u>, <u>2000</u>, R.B. 2001-06, October 2001.

Figure 1. Location of Eastern New York Dairy Farm Renters, 2000.



SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics and Resources Used

Recognition of important business characteristics and identification of the farm resources used are 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 20 Eastern New York Dairy Farm Renters, 2000

-			
Type of Business	<u>Number</u>	<u>bST Usage</u>	<u>Number</u>
Single proprietorship	13	Used on <25% of herd	5
Partnership	5	Used on 25-75% of herd	2
Subchapter S corporation	1	Used on >75% of herd	0
Subchapter C corporation	1	Stopped using in 2000	0
•		Not used in 2000	13
Milking System	<u>Number</u>		
Dumping station	0	<u>Labor Force*</u>	My Farm Average
Pipeline	12	Operator 1	mo. 13.8
Herringbone parlor	6	Operator 2	mo. 3.6
Other parlor	2	Family paid	mo. 2.1
•		Family unpaid	mo. 2.8
Type of Barn	Number	Hired	mo. <u>5.6</u>
Stanchion	12	Total	${}$ mo. 27.9
Freestall	8	Worker equivalent	
Combination	0	$(total \div 12)$	2.32
		,	
Dairy Records Service	Number	Operator/Manager Equiv.	1.30
Testing service	14	Transfer de la constant de la consta	
On-farm system	2	Land Use	My Farm Average
Other	0	Total acres rented	319
None	4	Tillable acres rented	207
1,0110	•	11114010 40100 101104	
Business Record System	Number	Number of Cows	My Farm Average
Account book	10	Beg. year (owned)	79
Accounting service	0	End year (owned & leased)	84
On-farm computer	9	Average for year (owned & leased)	83
Other	1	Tiverage for year (owned & leased)	
Onici	1		

^{*}Based on hours actually worked by owner/operator, instead of standard 12 months per full-time owner/operator. The standard 12 months is used for operator/manager equivalent when calculating labor and management income per operator.

Predominate business characteristics of the 20 rented farms include the single proprietorship, pipeline milking system, stanchion or conventional stall barn, herd records with a testing service and an account book or on-farm computer record system. Forty-five percent of the renters were using on-farm computers compared to 43 percent of the owners.

The average size of the labor force on the rented farms was 48 percent less than the 4.44 worker equivalent on owned farms. The rented farms averaged 207 tillable acres and 83 cows compared to 417 tillable acres and 156 cows on the 122 owned dairy farms in the same region. The owned farms averaged 35 cows per worker, compared to 36 cows per worker on the rented farms. In 2000, the rented farms used land and labor resources as efficiently as the owned farms.

Income Statement

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

CASH AND ACCRUAL FARM EXPENSES 20 Eastern New York Dairy Farm Renters, 2000

Expense Item		Cash Paid	-	Chan Inver or Pro	ntory epaid	+	A	nange in ecounts ayable	=	Accrual Expenses	Percent of Total
Hired Labor	\$ 1	5,741		\$	0	<<	\$	0		\$ 15,741	8
<u>Feed</u>											
Dairy grain & concentrate	5	8,124		-1,	,346			1,219		60,689	31
Dairy roughage	1	0,274		-	-130			-525		9,880	5
Other livestock		108			0			0		108	<1
Machinery											
Machinery, hire, rent & lease		5,324			0	<<		0		5,324	3
Machinery repair & farm veh. exp.		1,292			3			108		11,397	6
Fuel, oil & grease		6,086			-50			0		6,136	3
Livestock											
Replacement livestock		2,601			0	<<		0		2,601	1
Breeding		3,395			-53			-20		3,428	2
Vet & medicine		6,087			51			25		6,061	3
Milk marketing		1,820			0	<<		0		11,820	6
Bedding		1,742			5			0		1,738	1
Milking supplies		6,351			34			167		6,484	3
Cattle lease & rent		0			0	<<		0		0	0
Custom boarding		836			0	<<		0		836	<1
bST expense		1,615			52			0		1,563	1
Other livestock expense Crops		4,248			10			0		4,238	2
Fertilizer & lime		5,160		-	-774			0		5,934	3
Seeds & plants		1,762			-25			0		1,787	1
Spray, other crop expense Real Estate		2,638		-	-242			0		2,880	1
Land, building & fence repair		3,167			5			58		3,220	2
Taxes		2,584			0	<<		0		2,584	1
Rent & lease		4,378			0	<<		150		14,528	7
<u>Other</u>											
Insurance		3,739			0	<<		0		3,739	2
Utilities (farm share)		7,431			0	<<		-30		7,401	4
Interest paid		3,784			0	<<		162		3,946	2
Miscellaneous		2 <u>,765</u>			0			25		2,790	1
Total Operating	\$19	3,052		\$ -2,	,460		\$	1339		\$ 196,852	100
Expansion livestock	\$	381		\$	0	<<	\$	0		\$ 381	
Machinery depreciation										8,947	
Building depreciation										248	
TOTAL ACCRUAL EXPENSES										\$ 206,428	

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

<u>Change in inventory</u>: 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.

<u>Changes in prepaid expenses</u> 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, 2001 rent paid in 2000. A positive change is the amount the prepayment account increased from beginning to end year, a negative change indicates a decline in the account.

<u>Change in accounts payable</u>: 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	= Acce Expe	
<u>Hired Labor</u>	\$	\$	<< !	\$	\$	
Feed						
Dairy grain & concentrate						
Dairy roughage						
Other livestock						
Machinery						
Machinery, hire, rent & lease			<<			
Machinery repair & farm veh. exp.						
Fuel, oil & grease						
<u>Livestock</u>						
Replacement livestock			<<			
Breeding						
Vet & medicine						
Milk marketing			<<			
Bedding						
Milking supplies Cattle lease & rent						
			<< <<			
Custom boarding bST expense						
Other livestock expense						
Crops						
Fertilizer & lime						
Seeds & plants						
Spray, other crop expense						
Real Estate						
Land, building & fence repair						
Taxes			<<			
Rent & lease			<<			
Other						
Insurance			<<			
Utilities (farm share)			<<			
Interest paid			<<			
Miscellaneous						
Total Operating	\$	\$	9	\$	\$	
Expansion livestock	\$	\$	<< !	\$	\$	
Machinery depreciation		·			· .	
Building depreciation						
TOTAL ACCRUAL EXPENSES					\$	

CASH AND ACCRUAL FARM RECEIPTS 20 Eastern New York Dairy Farm Renters, 2000

Receipt Item	Cash Receipts		nge in entory	+	Ac	ange in ecounts eeivable	=	Accrual Expenses
Milk Sales	\$ 209,720				\$	260		\$ 209,980
Dairy cattle	8,691	\$ 4	1,971			0		13,662
Dairy calves	4,072					0		4,072
Other livestock	846		259			0		1,105
Crops	239	-	3213			0		-2,974
Government receipts	13,244		0*			614		13,858
Custom machine work	1,310					0		1,310
Gas tax refund	150					0		150
Other	1,809					0		1,809
- Nonfarm noncash capital**		<u>(-)</u>	0					<u>(-)</u> 0
Total Accrual Receipts	\$ 240,079	\$ 2	2,017		\$	874		\$ 242,971

^{*}Change in advanced government receipts.

<u>Cash receipts</u> 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.

<u>Changes in inventory</u> are calculated by subtracting beginning of year values from end of year values <u>excluding</u> <u>appreciation</u>. 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).

<u>Changes in accounts receivable</u> 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.

<u>Accrual receipts</u> 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 Expenses
Milk Sales	\$				\$		\$
Dairy cattle			\$				
Dairy calves							
Other livestock							
Crops							
Government receipts							
Custom machine work							
Gas tax refund							
Other							
- Nonfarm noncash capital**			(-)				(-)
Total Accrual Receipts	\$ 		\$		\$		\$

^{**}Gifts or inheritances of cattle or crops included in inventory.

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 Farm Credit stock). 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, 2000

Item	20 Dairy Farm Renters	122 Dairy Farm Owners	My Farm
Total accrual receipts	\$ 242,971	\$ 526,741	\$
+ Appreciation: Livestock	3,039	8,367	
Machinery	755	2,363	
Real Estate	78	8,088	
Other Stock & Certificates	1,042	<u>-451</u>	
= Total Including Appreciation	\$ 247,885	\$ 545,108	\$
- Total accrual expenses	206,428	478,986	
= Net Farm Income (with appreciation)	\$ 41,457	\$ 66,122	\$
Per cow	\$ 499	\$ 424	\$
Net Farm Income (without appreciation)	\$ 36,543	\$ 47,755	\$
Per cow	\$ 440	\$ 306	\$

<u>Labor and management income</u> 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 from net farm income excluding appreciation a charge for unpaid family labor and the opportunity cost of using equity capital at a 5 percent interest rate. The interest charge of 5 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, 2000

Item	20 Dairy Farm Renters	122 Dairy Farm Owners	My Farm
Net farm income without appreciation	\$ 36,543	\$ 47,755	\$
- Family labor unpaid @ \$1,900 per month	- 5,320	- 6,080	
- Interest on average equity capital @ 5% real rate	<u>- 12,578</u>	<u>- 35,995</u>	
= Labor & Management Income	\$ 18,645	\$ 5,680	\$
Labor & Management Income per Operator/Manager	\$ 14,342	\$ 3,156	\$

Return to equity capital measures the net return remaining for the farmer's equity or owned capital after a charge has been made for unpaid family labor and 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 to 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 to all capital is calculated by adding interest paid to the return to equity capital and then dividing by average farm assets to calculate the rate of return on average total capital. Net farm income from operations ratio is net farm income (without appreciation) divided by total accrual receipts.

RETURN TO EQUITY CAPITAL AND RETURN TO ALL CAPITAL Eastern New York Dairy Farm Renters and Owners, 2000

Item	20 Dairy Farm Renters	122 Dairy Farm Owners	My Farm
Net farm income with appreciation	\$ 41,457	\$ 66,122	\$
- Family labor unpaid @ \$1,900 per month	\$ 5,320	\$ 6,080	\$
- Value of operators' labor & management	33,275	45,524	
= Return to equity capital with appreciation	\$ 2,862	\$ 14,518	\$
+ Interest paid	3,946	28,029	
= Return to all capital with appreciation	\$ 6,808	\$ 42,547	\$
Return to equity capital without appreciation	\$ -2,052	\$ -3,849	\$
Return to all capital without appreciation	\$ 1,894	\$ 24,180	\$
Rate of return on average equity capital: with appreciation without appreciation	1.1% -0.8%	2.0% -0.5%	
Rate of return on all capital: with appreciation without appreciation Net farm income from operations ratio	2.1% 0.6% 0.15	3.9% 2.2% 0.09	%

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.

2000 FARM BUSINESS & NONFARM BALANCE SHEET 20 Eastern New York Dairy Farm Renters

				Farm Liabilities				
Farm Assets		Jan. 1	Dec. 31	& Net Worth		Jan. 1		Dec. 31
Current				Current				
Farm cash, checking				Accounts payable	\$	2,941	\$	4,281
& savings	\$	21,746	\$ 20,034	Operating debt		6,082		4,241
Accounts receivable		18,102	18,977	Short term		256		161
Prepaid expenses		0	0	Advanced gov't. receipt		0		0
Feed & supplies		43,477	37,804	Current portion:				
Total Current	\$	83,325	\$ 76,815	Intermediate		10,052		11,047
				Long term		648		1,198
				Total Current	\$	19,979	\$	20,928
<u>Intermediate</u>				<u>Intermediate</u>				
Dairy Cows:				Structured debt				
owned	\$	85,140	\$ 89,553	1-10 years	\$	29,161	\$	23,855
leased		0	0	Financial lease				
Heifers		39,125	42,723	(cattle & machinery)		3,403		1,754
Bulls & other livestock		965	1,224	Farm Credit stock		515		463
Mach. & equip. owned		87,361	92,733	Total Intermediate	\$	33,079	\$	26,072
Mach. & equip. leased		3,403	1,754					
Farm Credit stock		515	463	Long Term				
Other stock & cert.		3,295	 4,506	Structured debt				
Total Intermediate	\$	219,804	\$ 232,956	≥ 10 years	\$	13,733	\$	19,734
Long Term				Financial lease				
Land & buildings:				(structures)		0		0
owned	\$	9,383	\$ 14,351	Total Long Term	\$	13,733	\$	19,734
leased		0	 0					
Total Long Term	\$	9,383	\$ 14,351	Total Farm Liabilities	\$	66,791	\$	66,734
Total Farm Assets	\$	312,512	\$ 324,122	FARM NET WORTH	\$	245,721	\$	257,388
(Average for 9 farms repo	rting)			Nonfarm Liabilities*				
Nonfarm Assets*	-	Jan.1	Dec. 31	& Net Worth	J	an. 1	I	Dec. 31
Personal cash, checking				Nonfarm Liabilities	\$	11,564	\$	10,732
& savings	\$	4,452	\$ 4,612	NONFARM NET WORTH	\$	22,903	\$	24,545
Cash value life ins.		1,333	3,053					
Nonfarm real estate		10,556	10,556	FARM & NONFARM**	J	an. 1	I	Dec. 21
Auto (personal share)		2,667	3,222	Total Assets	\$	346,979	\$	359,399
Stocks & bonds		682	1,667	Total Liabilities	•	78,355	•	77,466
Household furn.		8,333	10,389					<u> </u>
All other		6,444	1,778	TOTAL FARM & NON-				
Total Nonfarm	\$	34,467	\$ 35,277	FARM NET WORTH	\$	268,624	\$	281,933

^{*}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.

Advance government receipts are included as current liabilities. Government payments received in 2000 that are for participation in the 2001 program are the end year balance and payments received in 1999 for participation in the 2000 program are the beginning year balance.

2000 FARM BUSINESS & NONFARM BALANCE SHEET

			Farm Liabilities		
Farm Assets	Jan. 1	Dec. 31	& Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking			Accounts payable		
& savings			Operating debt		
<i>8</i> -					
Accounts receivable			Short term		
110000000000000000000000000000000000000					
Prepaid expenses			Advanced gov't. receipt		
Feed & supplies			Current portion:		
Total Current			Intermediate		
Total Cullent			Long term		
			Total Current		
Intermediate			Intermediate		
<u>Intermediate</u>			mtermediate		
Dairy Cows:					
owned			F' '11		
leased			Financial lease		
Heifers			(cattle & machinery)		
Bulls & other livestock			Farm Credit stock		
Mach. & equip. owned			Total Intermediate		
Mach. & equip. leased			-		
Farm Credit stock			Long Term		
Other stock & cert.			<u> </u>		
Total Intermediate					
Long Term			Financial lease		
Land & buildings:			(structures)		
owned			Total Long Term		
leased			·		
Total Long Term			Total Farm Liabilities		
Total Farm Assets			FARM NET WORTH		
			27 0 7:17:		
NT 0 4		D 41	Nonfarm Liabilities	T 1	D 41
Nonfarm Assets	Jan.1	Dec. 31	& Net Worth	Jan. 1	Dec. 31
Personal cash, checking			Nonfarm Liabilities		
& savings					
Cash value life ins.					
Nonfarm real estate			.		
Auto (personal share)			-		
Stocks & bonds			Total Nonfarm Liabilities		
Household furn.					
All other			Nonfarm Net Worth		
Total Nonfarm					
TOTAL FARM & NONFA				Jan. 1	Dec. 31
Total Farm and Nonfarm As					
Less Total Farm & Nonfarm					
Farm & Nonfarm Net Worth	n				

Balance sheet analysis involves examination of relative asset and debt levels for the business. 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 business solvency and the potential capacity to borrow. The leverage ratio is the dollars of debt per dollar of equity, computed by dividing total farm liabilities by farm net worth. Debt levels per productive unit represent old standards that are still useful if used with measures of cash flow and repayment ability. A current ratio of less than 1.5 or that has been falling warrants additional evaluation. The amount of working capital that is adequate must be related to the size of the farm business.

BALANCE SHEET ANALYSIS
Eastern New York Dairy Farm Renters and Owners, 2000

Item	20 Dairy Farm Renters	122 Dairy Farm Owners	My Farm
Financial Ratios - Farm:			
Percent equity	79%	65%	%
Debt/asset ratio: total	0.21	0.35	
long term	1.38	0.38	
intermediate & current	0.15	0.33	
Leverage ratio	0.26	0.54	
Current ratio	3.67	1.83	
Working capital \$55,887 as % of total expenses	27% (\$64,135) 13%	
Farm Debt Analysis:			
Accounts payable as % of total debt	6%	3%	0/0
Long term liabilities as a % of total debt	30%	46%	
Current & intermediate liabilities as a % of total debt	70%	54%	
Cost of term debt (weighted average)	7.8%	7.3%	
Farm Debt Levels Per Cow:			
Total farm debt	\$ 794	\$ 2,467	\$
Long term debt	\$ 235	\$ 1,145	\$
Intermediate & long term debt	\$ 545	\$ 1,990	\$
Intermediate & current debt	\$ 560	\$ 1,322	\$

<u>Farm inventory balance</u> 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, 2000

Item		Dairy Renters		Dairy Owners	N	Лу Farm
Value beginning of year		\$ 87,361		\$ 204,888		\$
Purchases	\$ 13,566		\$ 41,455		\$	-
+ Nonfarm noncash transfer	440		114			-
- Net Sales	443		2,755			
- Depreciation	8,947		23,065			-
= Net investment		4,617		15,749		
+ Appreciation		<u>755</u>		2,363		
= Value end of year		\$ 92,733		\$ 223,000		\$

The Statement of Owner Equity has two purposes. It allows (1) verification that the accrual income statement and market value balance sheet are interrelated and consistent (in accountants' terms, they reconcile) and (2) identification of the causes of change in equity that occurred on the farm during the year. The Statement of Owner Equity allows the farmer to determine to what degree the change in equity was caused by (1) earnings from the business, and nonfarm income, in excess of withdrawals being retained in the business (called retained earnings), (2) outside capital being invested in the business or farm capital being removed from the business (called contributed/withdrawn capital) and (3) increases or decreases in the value (price) of assets owned by the business (called change in valuation equity).

The change in farm net worth without appreciation is an excellent indicator of farm generated financial progress.

STATEMENT OF OWNER EQUITY (RECONCILIATION) 20 Eastern New York Dairy Farm Renters, 2000

Item	Average	My Farm
Beginning of year farm net worth	\$ 245,721	\$
Net farm income without appreciation	\$ 36,543	\$
+ Nonfarm cash income	+ 2,506	+
- Personal withdrawals & family expenditures excluding nonfarm borrowings	<u>- 32,619</u>	
RETAINED EARNINGS	+\$ 6,430	+ \$
Nonfarm noncash transfers to farm	\$ 440	\$
+ Cash used in business from nonfarm capital	+ 2,100	+
- Note/mortgage from farm real estate sold (nonfarm)	<u> </u>	
CONTRIBUTED/WITHDRAWN CAPITAL	+\$ 2,540	+ \$
Appreciation	\$ 4,914	\$
- Lost capital	<u>- 953</u>	
CHANGE IN VALUATION EQUITY	+\$ 3,961	+ \$
IMBALANCE/ERROR	<u>- \$ 1264</u>	- \$
End of year farm net worth*	= \$ 257,388	= \$
Change in net worth with appreciation.	\$ 11,667	\$
Change in Net Worth		
Without appreciation	\$ 6,753	\$
With appreciation	\$ 11,667	\$

^{*}May not add due to rounding.

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 <u>annual cash flow statement</u> is structured to show net cash provided by operating activities, investing activities, financing activities and from reserves. All cash inflows and outflows including beginning and end balances are included. Therefore, the sum of net cash provided from all four activities should be zero. Any imbalance is the error from incorrect accounting of cash inflows/outflows.

ANNUAL CASH FLOW STATEMENT 20 Eastern New York Dairy Farm Renters, 2000

Item		Average	
Cash Flow from Operating Activities			
Cash farm receipts	\$ 240,079		
- Cash farm expenses	193,052		
= Net cash farm income	175,052	\$ 47,027	
Personal withdrawals & family expenses including nonfarm debt payments	\$ 32,619	Ψ .,,,,,,,	
- Nonfarm income	2,506		
- Net cash withdrawals from the farm		\$ 30,113	
= Net Provided by Operating Activities			\$ 16,914
Cash Flow From Investing Activities			
Sale of assets: Machinery	\$ 443		
+ real estate	0		
+ other stock & certificates	0		
= Total asset sales		\$ 443	
Capital purchases: expansion livestock	\$ 381		
+ machinery	13,566		
+ real estate	6,091		
+ other stock & certificates	169		
- Total invested in farm assets		\$ 20,207	.
= Net Provided by Investment Activities			\$ -19,764
Cash Flow From Financing Activities			
Money borrowed (intermediate & long term)	\$ 15,830		
+ Money borrowed (short term)	400		
+ Increase in operating debt	0		
+ Cash from nonfarm capital used in business	2,100		
+ Money borrowed - nonfarm	0		
= Cash inflow from financing		\$ 18,330	
Principal payments (intermediate & long term)	\$ 13,592		
+ Principal payments (short term)	495		
+ Decrease in operating debt	1,840		
- Cash outflow for financing		\$ 15,927	
= Net Provided by Financing Activities			\$ 2,403
Cash Flow From Reserves			
Beginning farm cash, checking & savings		\$ 21,746	
- Ending farm cash, checking & savings		20,034	
= Net Provided from Reserves			\$ 1,712
Imbalance (error)			\$ 1,265
			÷ 1,200

ANNUAL CASH FLOW STATEMENT

Item		My Farm	
Cash Flow from Operating Activities	¢.		
Cash farm receipts	\$		
- Cash farm expenses		¢	
= Net cash farm income		\$	
Personal withdrawals & family expenses including nonfarm debt payments	\$		
- Nonfarm income	Ψ		
- Net cash withdrawals from the farm		\$	
= Net Provided by Operating Activities			\$
Cash Flow From Investing Activities			
Sale of assets: Machinery	\$		
+ real estate	-		
+ other stock & certificates			
= Total asset sales		\$	
10001 00000 00000		<u> </u>	
Capital purchases: expansion livestock	\$		
+ machinery			
+ real estate			
+ other stock & certificates			
- Total invested in farm assets		\$	
= Net Provided by Investment Activities			\$
Cash Flow From Financing Activities			
Money borrowed (intermediate & long term)	\$		
+ Money borrowed (short term)			
+ Increase in operating debt			
+ Cash from nonfarm capital used in business			
+ Money borrowed - nonfarm			
= Cash inflow from financing		\$	
•			
Principal payments (intermediate & long term)	\$		
+ Principal payments (short term)			
+ Decrease in operating debt			
- Cash outflow for financing		\$	
= Net Provided by Financing Activities			\$
<u>Cash Flow From Reserves</u>			
Beginning farm cash, checking & savings		\$	
- Ending farm cash, checking & savings			
= Net Provided from Reserves			\$
			Φ.
Imbalance (error)			\$

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 2001. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2001 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Same 14 Eastern New York Dairy Farm Renters, 2000*

	Average			 My Farm				
		2000 I	Paym	nents	Planned	 2000 Pa	ayments	Planned
Debt Payments		Planned		Made	2001	Planned	Made	2001
Long-term	\$	4,556	\$	4,645	\$ 4,390	\$	\$	\$
Intermediate-term		14,541		16,374	15,688			
Short-term		372		825	210			
Operating (net red.)		46		415	500			
Accounts payable								
(net reduction)		0		0	77			
Total	\$	19,515	\$	22,259	\$ 20,865	\$	\$	\$
Per cow	\$	201	\$	229		\$	\$	
Per cwt. 2000 milk	\$	1.04	\$	1.18		\$ 	\$	-
Percent of total								•
2000 receipts		7%		8%				
Percent of 2000								•
milk receipts		8%		9%				

^{*}Farms that completed Dairy Farm Business Summaries for both 1999 and 2000.

The <u>cash flow coverage ratio</u> and <u>debt coverage ratio</u> measure the ability of the farm business to meet its planned debt payment schedule. The ratios show the percentage of planned payments (as of December 31, 1999) that could have been made with the amount available for debt service in 2000. Farmers that did not participate in DFBS last year will find in their report coverage ratios based on planned debt payments for 2001.

COVERAGE RATIOS Same 14 New York Dairy Farm Renters 1999 & 2000

Same 14 IV	W TOIK Daily I	arm reners 1999 & 2000	
Item	Average	Item	My Farm
Cash Flow Coverage Ratio		Debt Coverage Ratio	-
Cash farm receipts	\$ 285,596	Net farm income (w/o appreciation)	\$ 36,700
- Cash farm expenses	236,472	+ Depreciation	10,442
+ Interest paid (cash)	4,066	+ Interest paid (accrual)	4,297
 Net personal withdrawals from farm* 	35,111	- Net personal withdrawals from farm*	35,111
(A) = Amount Available for Debt Service	\$ 17,779	(A') = Repayment Capacity	\$ 16,328
(B) = Debt Payments Planned for 2000	\$ 19,515	(B) = Debt Payments Planned for 2000	\$ 19,515
(as of December 31, 1999)		(as of December 31, 1999)	
(A/B)=Cash Flow Coverage Ratio for 2000	0.91	(A'/B)=Debt Coverage Ratio for 2000	0.84
Same 102 Easter	n New York Dai	ry Farm Owners, 1999 & 2000	
(A) = Amount Available for Debt Service	\$ 71,330	(A') = Repayment Capacity	\$ 73,826
(B) = Debt Payments Planned for 2000	70,767	(B) = Debt Payments Planned for 2000	70,767
(A/B)=Cash Flow Coverage Ratio for 2000	1.01	(A'/B)=Debt Coverage Ratio for 2000	1.04

^{*}Personal withdrawals and family expenditures less nonfarm income and nonfarm money borrowed. If family withdrawals are excluded, or inaccurately included, the coverage ratios will be incorrect.

ANNUAL CASH FLOW WORKSHEET

	20 Dairy		My Farm				Expected		2001	
Itam	Farm Re	_		Total	viy i aii	Per Cow		Change		Projection
Item				Total		Per Cow		Change		Projection
Avaraga numbar of acus	(per co	33								
Average number of cows Accrual Operating Receipts	(55	_							
Milk	e 2.51	20	ď		\$				\$	
	\$ 2,53		\$_						Ф	
Dairy cattle		55	_							
Dairy calves		19	_							
Other livestock		13	_							
Crops		36	_							
Misc. receipts	20		_							
Total	\$ 2,92	27	\$_		\$				\$	
Accrual Operating Expenses										
Hired labor	\$ 19	90	\$		\$				\$	
Dairy grain & concentrate	73		· -		,				•	
Dairy roughage	11		_							
Other livestock feed		1	_							
Machinery hire, rent & lease	,	54	-							
	13		-							
Machinery repair & vehicle exp.			-							
Fuel, oil & grease		74	_							
Replacement livestock		31	_							
Breeding		41	_							
Vet & medicine		73	_							
Milk marketing	14		_							
Bedding	2	21	_							
Milking supplies		78								
Cattle lease		0	_							
Custom boarding	1	10								
bST expense		19								
Other livestock expense	4	51	_							
Fertilizer & lime		71	_							
Seeds & plants		22	_							
Spray & other crop expense		35	_							
Land, building & fence repair		39	_							
Taxes		31	_							
Real estate rent & lease	17		_							
		15	-							
Insurance Utilities		+3 39	_							
		89 84	-							
Miscellaneous Total Less Interest Paid			<u> </u>		C		¢.		Ф	
Total Less Interest Paid	\$ 2,32	24	\$_		. 3		\$		2	
Net Accrual Operating Income	(Tota	ıl)								
(without interest paid)	\$ 50,0	65		\$					\$	
- Change in livestock & crop inv.	2,0	17								
- Change in accounts receivable	8									
- Change in feed & supply inv.*	-2,46									
+ Change in accounts payable**	1,17									
NET CASH FLOW	\$ 50,81			s					\$	
- Net family withdrawls	30,11			→					Ψ	
Available for Farm Debt Payments		<u></u>		-						
& Investments	\$ 20,69	98		\$					\$	
- Farm debt payments	19,39			Ψ					Ψ	
Available for Farm Investments	\$ 1,30			<u> </u>					P	
- Capital purchases: cattle,	φ 1,30	در		Φ					Ф	
	\$ 20,20)7		•			\$		¢	
machinery & improvements				ф —			Φ		Ф Ф	
Additional Capital Needed	\$ 18,90	<i>)</i> +		D					Þ	

^{*}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 Eastern New York Dairy Farm Renters Reporting, 2000

Item		Average of Fari	ms Reporting	My Farm		
Crop Yields	<u>Farms</u>	Acres	Prod/Acre*	<u>Acres</u>	Prod/Acre	
Hay crop	15	172	2.23 tn DM		tn DM	
Corn silage	12	81	9.22 tn		tn	
_			3.10 tn DM		tn DM	
Other forage	0	0	0.00 tn DM		tn DM	
Total forage	15	237	2.46 tn DM		tn DM	
Corn grain	2	92	56 bu		bu	
Oats	0	0	0 bu		bu	
Wheat	0	0	0 bu		bu	
Other crops	1	12				
Tillable pasture	6	33				
Idle	3	61				
Total Tillable Acres	20	207				

^{*2000} average yields for 122 dairy farm owners in Eastern New York included: all hay crops, 2.8 tons dry matter per acre; corn silage, 13.4 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.

CROP MANAGEMENT FACTORS
Eastern New York Dairy Farm Renters and Owners, 2000

Item	20 Dairy Farm Renters	122 Dairy Farm Owners	My Farm
Total tillable acres per cow	2.49	2.67	
Total forage acres per cow	2.14	2.28	
Harvested forage dry matter, tons per cow	5.28	7.58	

Average fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per tillable acre for all farms in the first column of the table below. Average hay crop and corn crop related expenses are from the limited number of farms allocating crop expenses. Additional expense items such as fuels, labor, and machinery repairs are not included. Rotational grazing was used on 5 rented farms and 23 owned farms in the region.

CROP RELATED ACCRUAL EXPENSES Eastern New York Dairy Farm Renters and Owners, 2000

	Total Per	На	y Crop	All	Corn Silage	Corn Grain
	Tillable	Per	Per	Corn	Per Ton	Per Dry
Expense	Acre	Acre	Ton DM	Per Acre	DM	Shell Bu.
20 Dairy Farm Renters:				NONE REPO	RTED	
Fertilizer & lime	\$28.67					
Seeds & plants	8.63					
Spray & other crop expense	<u>13.91</u>					
Total	\$51.21					
122 Dairy Farm Owners:		Average	20 Farms Repo	rting Individual	Crop Costs	
Fertilizer & lime	\$28.54	\$20.98	\$6.55	\$39.72	\$9.14	\$0.38
Seeds & plants	13.78	6.47	2.02	32.24	7.41	0.31
Spray & other crop expense	18.49	3.81	1.19	38.19	<u>8.78</u>	0.36
Total	\$60.81	\$31.26	\$9.76	\$110.15	\$25.33	\$1.05
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. 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, 2000

	Average Per	Tillable Acre	My Farm			
	20 Dairy	122 Dairy	Total	Per Tillable		
Item	Farm Renters	Farm Owners	Expenses	Acre		
Fuel, oil & grease	\$ 29.64	\$ 32.54	\$	\$		
Machine repair & farm veh. exp.	55.06	63.80				
Machine hire, rent & lease	25.72	23.65				
Interest (5%)	22.37	26.49				
Depreciation	43.22	<u>55.31</u>				
Total	\$176.01	\$201.80	\$	\$		

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 the following 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, 2000

	Da	iry Cows]	Heifers		
		_		Bred		Open		Calves
Item	No.	Value	No.	Value	No.	Value	No.	Value
20 Dairy Farm Renters: Beginning year (owned)	79	\$ 85,140	19	\$ 18,730	26	\$ 15,570	15	\$ 4,825
+ Change w/o apprec.+ AppreciationEnd year (owned)	80	2,165 2,248 \$ 89,553	18	-1,085 <u>550</u> \$ 18,195	29	$ \begin{array}{r} 3,305 \\ \hline 235 \\ \hline $19,110 \end{array} $	17	586 7 \$ 5,418
End including leased Average number	84 83	\$ 67,555	62	(all age group)		ψ 17,110	17	ŷ 5, 4 10
122 Dairy Farm Owners: Beginning year (owned) + Change w/o apprec. + Appreciation End year (owned)	150 161 161	\$ 167,290 13,220 3,367 \$ 183,877	43 42	\$ 41,789 -1,132 <u>1,963</u> \$ 42,620	39 42	\$ 23,106 2396 2020 \$ 27,522	30 34	\$ 9,728 1008 1001 \$ 11,737
End including leased Average number	156		115	(all age group	s)			
My Farm: Beginning year (owned) + Change w/o apprec.	_	\$		\$	_	\$	_	\$
+ AppreciationEnd year (owned)End including leasedAverage number	<u> </u>	\$		\$ (all age group)	 s)	\$	_	\$

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
Eastern New York Dairy Farm Renters and Owners. 2000

	20 Dairy	122 Dairy	
Item	Farm Renters	Farm Owners	My Farm
Total milk sold, lbs.	1,586,659	3,155,871	
Milk sold per cow, lbs.	19,059	20,211	
Average milk plant test, % butterfat	3.71%	3.73%	

Monitoring and evaluating culling practices and experiences on an annual basis are important herd management tools. Culling rate can have an affect on both milk per cow and profitability.

ANIMALS LEAVING THE HERD

Fastern New York Dairy Farm Renters and Owners 2000

	20 R	20 Renters		wners	My Farm		
Item	Number	Percent*	Number	Percent*	Number	Percent*	
Cows sold for beef	15	18.1	40	25.6			
Cows sold for dairy	2	2.4	2	1.3			
Cows died	4	4.8	7	4.5			
Culling rate**		22.9		30.1			

^{*}Percent of average number of cows in the herd. ** Cows sold for beef plus cows died.

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 cost of producing milk is estimated by deducting nonmilk accrual receipts from total accrual operating expenses plus expansion livestock purchased. Purchased input cost of producing milk is the operating cost plus depreciation. Total cost of producing milk includes the operating cost plus depreciation on machinery and buildings, the value of unpaid family labor, the value of operator(s') labor and management, and an interest charge for using equity capital.

COST OF PRODUCING MILK AND ACCRUAL RECEIPTS FROM MILK Eastern New York Dairy Farm Renters and Owners, 2000

	20 Renters		122 O	wners	My	Farm
Item	Total	Per Cwt.	Total	Per Cwt.	Total	Per Cwt.
Accrual Cost of Producing M	<u>ilk</u>					
Operating cost	\$164,242	\$10.35	\$358,976	\$11.37	\$	\$
Purchased input cost	\$173,437	\$10.93	\$397,118	\$12.58	\$	\$
Total cost	\$224,610	\$14.16	\$484,717	\$15.36	\$	\$
Accrual Receipts from Milk	\$209,980	\$13.23	\$444,873	\$14.10	\$	\$
Net Milk Receipts	\$198,160	\$12.49	\$414,453	\$13.13	\$	\$

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, 2000

	Average Pe	er Cwt. Milk		
Item	20 Renters	122 Owners	Per C	wt.
Purchased dairy grain & concentrate	\$3.82	\$3.79	\$	
Purchased dairy roughage	<u>0.62</u>	0.17		
Total Purchased Dairy Feed	\$4.45	\$3.96	\$	
Purchased grain & concentrate as % of milk receipts	29%	27%		
Purchased feed & crop expense	\$5.12	\$4.76	\$	
Purchased feed & crop expense as % of milk receipts	39%	34%		
Breeding	\$0.22	\$0.20	\$	
Veterinary & medicine	0.38	0.49		
Milk marketing	0.74	0.96		
Bedding	0.11	0.16		
Milking supplies	0.41	0.35		
Cattle lease	0.00	0.00		
Custom boarding	0.05	0.14		
bST expense	0.10	0.19		
Other livestock expense	0.27	0.20		

Capital and Labor Efficiency Analysis

Capital efficiency factors measure how intensively the capital is being used in the farm business. The asset turnover ratio is the ratio of total farm income to total farm assets. It is calculated by dividing total accrual operating receipts plus appreciation by average total farm assets. 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, 2000

	Per	Per	Per Tillable
Item	Worker	Cow	Acre
20 Dairy Farm Renters:			
Farm capital	\$ 137,206	\$ 3,835	\$ 1,538
Machinery & equipment	39,925	1,116	447
Ratios			
Asset turnover	Operating expense	Interest expense	Depreciation expense
0.78	0.80	0.02	0.04
122 Dairy Farm Owners:			
Farm capital	\$ 249,143	\$ 7,091	\$ 2,653
Machinery & equipment	49,766	1,416	530
Ratios			
Asset turnover	Operating expense	Interest expense	Depreciation expense
0.49	0.78	0.05	0.07
My Farm:			
Farm capital	\$	\$	\$
Machinery & equipment			
Ratios			
Asset turnover	Operating expense	Interest expense	Depreciation expense

LABOR FORCE ANALYSIS
Eastern New York Dairy Farm Renters and Owners, 2000

	20 Renters			122 Owners			ers	My Farm			
Dog :	m . 1		Pe		,	T . 1		Per	TD 4		Per
Efficiency	Total		Wor	ker		Гotal	V	Vorker	Tota	I W	orker
Cows, average number	8	3		36		156		35			
Milk sold, pounds	1,586,63	9	683,9	05	3,1	55,871	71	10,782			
Tillable acres	20	7		89		417		94			
Work units	83	3	3	59		1,576		355			
	20 Renters			122 Owners			My Farm				
Labor Costs	Total		Per C	Cow	T	otal	P	er Cow	Total	Pe	r Cow
Value of operator(s) labor*	\$ 33,0	60	\$ 3	98	\$	42,940	\$	275	\$	\$	
Family unpaid*	5,3	20		64		6,080		39			
Hired	15,7	41	1	90		57,833		371		_	
Total Labor	\$ 54,1	21	\$ 6	52	\$ 1	06,853	\$	685	\$	- \$	
Machinery Cost	\$ 36,4	35	\$ 4	39	\$	84,149	\$	539	\$	_ \$	
Total Labor & Machinery	\$ 90,5	56	\$ 1,0	91	\$ 1	91,002	\$	1,224	\$	- \$	
Hired labor expense per hired										_	
worker equivalent	\$ 24,5	31			\$	25,236			\$	_	
Hired labor expense as % of											
milk sales	7.5	6%				13.0%				<u>%</u>	

^{*\$1,900} per month.

COMPARATIVE ANALYSIS OF THE FARM BUSINESS

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 14 Eastern New York Dairy Farm Renters, 1999 & 2000

	Aver	age		My Farm					
Selected Factors	1999	2000	1999		2000		Goal		
Size of Business									
Average number of cows	95	97							
Average number of heifers	72	75		-				•	
Milk sold, lbs.	1,797,361	1,884,275		-					
Worker equivalent	2.69	2.62		-				•	
Total tillable acres	284	284		-				-	
Rates of Production									
Milk sold per cow, lbs.	18,863	19,440							
Hay DM per acre, tons	1.8	2.2		-					
Corn silage per acre, tons	10.6	8.9		-				-	
Labor Efficiency									
Cows per worker	35	37		_				_	
Milk sold per worker, lbs.	668,164	719,189		-				-	
Cost Control									
Grain & concentrate purchased									
as % of milk sales	27%	30%		%		%		%	
Dairy feed & crop expense									
per cwt. milk	\$5.62	\$5.19	\$	_ \$		\$		_	
Labor & machinery costs/cow	\$1,079	\$1,098	\$	_ \$		\$		_	
Operating cost of producing									
cwt. milk	\$11.08	\$10.60	\$	\$		\$		-	
Capital Efficiency*									
Farm capital per cow	\$4,186	\$4,015	\$	_ \$		\$		_	
Machinery & equipment per cow	\$1,181	\$1,148	\$	_ \$		\$		_	
Asset turnover ratio	0.78	0.76		-				-	
<u>Profitability</u>									
Net farm income without apprec.	\$58,267	\$36,700	\$ \$	_ \$		\$			
Net farm income with apprec.	\$65,136	\$41,248	\$	_ \$		\$			
Labor & management income									
per operator/manager	\$24,902	\$11,422	\$	_ \$		\$		-	
Rate of return on equity									
capital with appreciation	6.7%	0.1%		_ %		%		_ %	
Rate of return on all capital									
with appreciation	6.5%	1.2%		- %		%		- %	
Financial Summary	00.10.111	***		_					
Farm net worth	\$348,111	\$320,974	\$	_ \$		\$		-	
Debt to asset ratio	0.15	0.19						-	
Farm debt per cow	\$662	\$757	\$	_ \$		\$		-	

^{*}Average for the year.

RECEIPTS AND EXPENSES PER COW AND PER CWT.

Same 14 Eastern New York Dairy Farm Renters, 1999 & 2000

		1999)	2000			
Item		Per Cow	Per Cwt.		Per Cow	I	Per Cwt.
Average Number of Cows		95			97		
Cwt. Of Milk Sold			17,974				18,843
ACCRUAL OPERATING RECEIPTS							
Milk	\$	2,826	\$ 14.94	\$	2,544	\$	13.10
Dairy cattle		159	0.84		189		0.97
Dairy calves		24	0.13		52		0.27
Other livestock		-1	0.00		17		0.09
Crops		10	0.05		-43		-0.22
Miscellaneous receipts		156	0.82		229		1.18
Total Receipts	\$	3,174	\$ 16.78	\$	2,988	\$	15.38
ACCRUAL OPERATING EXPENSES							
Hired labor	\$	213	\$ 1.12	\$	230	\$	1.18
Dairy grain & concentrate		757	4.00		775		3.99
Dairy roughage		113	0.60		82		0.42
Nondairy feed		1	0.01		1		0.01
Machine hire/rent/lease		60	0.32		78		0.40
Mach. repair & vehicle exp.		174	0.92		146		0.75
Fuel, oil & grease		57	0.30		79		0.41
Replacement livestock		20	0.10		26		0.13
Breeding		49	0.26		39		0.20
Veterinary & medicine		69	0.37		73		0.38
Milk marketing		106	0.56		141		0.73
Bedding		20	0.11		20		0.10
Milking supplies		75	0.40		85		0.44
Cattle lease		14	0.07		0		0.00
Custom boarding		13	0.07		10		0.05
bST expense		17	0.09		21		0.11
Other livestock expense		60	0.32		49		0.25
Fertilizer & lime		102	0.54		85		0.44
Seeds & plants		38	0.20		25		0.13
Spray/other crop expense		53	0.28		42		0.22
Land, building, fence repair		41	0.22		44		0.23
Taxes		25	0.13		38		0.20
Real estate rent/lease		167	0.88		181		0.93
Insurance		48	0.26		52		0.27
Utilities		85	0.45		95		0.49
Interest paid		33	0.18		44		0.23
Miscellaneous		35	0.18		34		0.18
Total Operating Expenses	\$	2,445	\$ 12.92	\$	2,497	\$	12.85
Expansion Livestock		0	0.00		6		0.03
Machinery Depreciation		109	0.58		104		0.54
Real Estate Depreciation		7	0.04		4		0.02
Total Expenses	\$	2,561	\$ 13.54	\$	2,610	\$	13.43
Total Expenses							

Regional Farm Business Chart

The Farm Business Chart is a tool which can be used in analyzing your business. Compare your business by drawing a line through or near the figure in each column which represents your current level of performance. The 5 figures in each column represent the average of each 20 percent or quintile of farms included in the regional summary.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS 20 Eastern New York Dairy Farm Renters, 2000

S	Size of Business		R	ates of Production	on	Labor Efficiency		
Worker	No.	Pounds	Pounds	Tons	Tons Corn	Cows	Pounds	
Equiv-	of	Milk	Milk Sold	Hay Crop	Silage	Per	Milk Sold	
alent	Cows	Sold	Per Cow	DM/Acre	Per Acre	Worker	Per Worker	
(11)*	(10)	(10)	(10)	(9)	(9)	(11)	(11)	
4.3	177	3,431,464	22,290	2.7	16	54	1,040,232	
2.6	79	1,616,819	20,012	2.4	15	40	797,503	
2.0	64	1,268,311	19,173	2.1	13	36	699,283	
1.6	57	992,197	18,535	1.8	10	29	531,507	
1.2	39	624,505	13,691	1.4	7	23	362,192	

Cost Control

Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(10)	(10)	(11)	(11)	(10)	(10)
\$416	18%	\$217	\$725	\$594	\$3.34
556	23	349	959	815	4.27
679	28	437	1,170	886	4.76
778	32	514	1,295	1,044	5.73
890	34	693	1,557	1,207	6.40

Va	lue and Cost of Produ	iction	Profitability				
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income w/Apprec.	Net Farm Income w/o Apprec.	Labor & Mgmt. Income Per Oper.		
(10)	(10)	(10)	(3)	(3)	(3)		
\$2,921	\$7.52	\$11.30	\$72,895	\$72,949	\$47,924		
2,670	8.45	13.64	55,485	46,827	24,329		
2,559	10.10	14.36	42,014	33,795	13,683		
2,409	11.04	15.47	27,385	21,684	5,959		
1,846	12.30	17.34	9,504	7,458	-10,666		

^{*}Page number of the participant's DFBS where the factor is located.

Regional Financial Analysis Chart

The farm financial analysis chart is designed just like the Farm Business Chart and may be used to assess the financial health of the farm business. Most of the financial measures used in the chart are defined on pages 7, 8, 11, and 15 of this publication. References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FINANCIAL ANALYSIS CHART 20 Eastern New York Dairy Farm Renters, 2000

Liquidity (repayment)

Planned Debt	Available for	Cash Flow	Debt Payments	
Payments	Debt Service	Coverage	as Percent	Debt Per
Per Cow	Per Cow	Ratio	of Milk Sales	Cow
(8)*	(optional page 12)	(8)	(8)	(5)
\$117	\$641	5.27	4%	\$101
214	431	1.59	9	450
303	320	1.03	12	757
330	162	0.41	14	1,028
520	-142	-1.61	20	2,196

Solvency		Profitability		
		Debt/Asset Ratio	Percent Ra	te of Return with
Leverage	Percent	Current &	appre	ciation on:
Ratio**	Equity	Intermediate	Equity	Investment***
	(5)	(5)	(3)	(3)
0.02	98%	0.01	28%	20%
0.13	89	0.08	9	8
0.25	80	0.19	1	1
0.72	60	0.33	-5	-4
2.63	31	0.68	-52	-13

	Efficiency (Capital)		_
Asset	Machinery	Total Farm	Change in
Turnover	Investment	Assets	Net Worth
Ratio	Per Cow	Per Cow	w/Appreciation
(11)	(11)	(11)	(6)
1.47	\$296	\$5,711	\$38,525
0.96	604	4,714	23,611
0.74	1,119	3,770	14,469
0.69	1,613	2,897	8,376
0.52	2,462	1,911	-26,648

^{*}Page number of the participant's DFBS where the factor is located.

^{**}Dollars of debt per dollar of equity, computed by dividing total liabilities by total equity.

^{***}Return on all farm capital (no deduction for interest paid) divided by total farm assets.

IDENTIFY AND SET GOALS

If businesses are to be successful, they must have direction. Written goals help provide businesses with an identifiable direction over both the long and the short term. Goal setting is as important on a dairy farm as it is in other businesses. Written goals are a tool which farm operators can use to ensure that the business continues to move in the proper direction. Goals should be **SMART**:

- 1. Goals should be **Specific**.
- 2. Goals should be <u>Measurable</u>.
- 3. Goals should be Achievable but challenging.
- 4. Goals should be **Rewarding**.
- 5. You should designate a <u>Time</u> when each goal will be achieved.

Goal setting on a dairy farm does not have to be a complex process. In many cases it provides a process for writing down and agreeing on goals that you have already given some thought to. It is also important to remember that once you write out your goals they are not cast in concrete. If a change takes place which has a major impact on the farm business, the goals should be reworked to accommodate that change. Refer to your goals as often as necessary to keep the farm business progressing.

It is important to identify both objectives (long-range) and goals (short-range) when looking at the future of your farm business.

A suggested format for writing out your goals is as follows:

- a. Begin with a mission statement which describes why the business exists based on the preferences and values of the owners.
- b. Identify 4-6 objectives.
- c. Identify SMART goals.

Worksheet for Setting Goals

I. Mission and Objectives

Worksheet for Setting Goals (continued)

II. Goals			Who is
What	How	When	Who is Responsible
Summarize Your Business	Performance		
The Farm Business weaknesses of your farm bu improvement.	and Financial Analysis Charts usiness. Identify three major s	on pages 24 and 25 can be used strengths and three areas of your	to help identify strengths and farm business that need
Strengths:		Need Improvements:	

GLOSSARY AND LOCATION OF COMMON TERMS

<u>Accounts Payable</u> - Open accounts or bills owed to feed and supply firms, cattle dealers, veterinarians and other providers of farm services and supplies.

<u>Accounts Receivable</u> - Outstanding receipts from items sold or sales proceeds not yet received such as the payment for December milk sales received in January.

Accrual Expenses - (defined on page 5)

Accrual Receipts - (defined on page 6)

Annual Cash Flow Statement - (defined on page 13)

Appreciation - (defined on page 7)

Asset Turnover Ratio - (defined on page 21)

Balance Sheet - A "snapshot" of the business financial position at a given point in time, usually December 21. The balance sheet equates the value of assets to liabilities plus net worth.

bST Usage - An estimate of percentage of herd that was injected with bovine somatotropin during the year.

<u>Capital Efficiency</u> - The amount of capital invested per production unit. Relatively high investments per worker with low to moderate investments per cow imply efficient use of capital.

<u>Cash From Nonfarm Capital Used in the Business</u> - Transfers of money from nonfarm savings or investments to the farm business where it is used to pay operating expenses, make debt payments and/or capital purchases.

Cash Flow Coverage Ratio - (defined on page 15)

Cash Paid - (defined on page 4)

<u>Cash Receipts</u> - (defined on page 6)

Change in Accounts Payable - (defined on page 5)

<u>Change in Accounts Receivable</u> - (defined on page 6)

Change in Inventory - (defined on page 4)

<u>Cost of Term Debt</u> - A weighted average of the cost of borrowed capital to the farm. Calculate by multiplying end of year principal of each loan that is borrowed by the interest rate for each loan at that time. Add up each amount that is calculated for each loan and then divide by total amount of borrowed funds. Do not include accounts payable, operating debt or advanced government receipts. This information is found on pages 8 and 9 of the data entry form.

<u>Culling Rate</u> - (defined on page 19)

Current Portion - Principal due in the next year for intermediate and long term debt.

<u>Current Ratio</u> - Measures the extent to which current farm assets, if liquidated, would cover current farm liabilities. Calculated as current farm assets at end year divided by current farm liabilities at end year.

<u>Dairy (farm)</u> - A farm business where dairy farming is the primary enterprise, operating and managing this farm is a full-time occupation for one or more people and cropland is owned.

<u>Dairy Cash-Crop (farm)</u> - Operating and managing this farm is the full-time occupation of one or more people, cropland is owned but crop sales exceed 10 percent of accrual milk receipts.

Debt Per Cow - Total end-of-year debt divided by end-of-year number of cows.

Debt to Asset Ratios - (defined on page 11)

<u>Depreciation Expense Ratio.</u> - Machinery and building depreciation divided by total accrual receipts.

<u>Dry Matter</u> - The amount or proportion of dry material that remains after all water is removed. Commonly used to measure dry matter percent and tons of dry matter in feed.

Equity Capital - The farm operator/manager's owned capital or farm net worth.

Expansion Livestock - Purchased dairy cattle and other livestock that cause an increase in herd size from the beginning to the end of the year.

<u>Farm Debt Payments as Percent of Milk Sales</u> - Amount of milk income committed to debt repayment, calculated by dividing planned debt payments by total milk receipts. A reliable measure of repayment ability, see page 15.

<u>Farm Debt Payments Per Cow</u> - Planned or scheduled debt payments per cow represent the repayment plan scheduled at the beginning of the year divided by the average number of cows for the year. This measure of repayment ability is used in the Financial Analysis Chart.

<u>Financial Lease</u> - A long-term non-cancelable contract giving the lessee use of an asset in exchange for a series of lease payments. The term of a financial lease usually covers a major portion of the economic life of the asset. The lease is a substitute for purchase. The lessor retains ownership of the asset.

<u>Hired Labor Expense per Hired Worker Equivalent</u> - The total cost to the farm per hired worker equivalent. Divide accrual hired labor expense by number of hired plus family paid worker equivalent.

<u>Hired Labor Expense as % of Milk Sales</u> - The percentage of the gross milk receipts that is used for labor expense. Divide accrual hired labor expense by accrual milk sales.

<u>Income Statement</u> - A complete and accurate account of farm business receipts and expenses used to measure profitability over a period of time such as one year or one month.

Interest Expense Ratio - Accrual interest expense divided by total accrual receipts.

<u>Labor and Management Income</u> - (defined on page 8)

<u>Labor and Management Income Per Operator</u> - The return to the owner/manager's labor and management per full-time operator.

<u>Labor Efficiency</u> - Production capacity and output per worker.

Leverage Ratio - (defined on page 11)

<u>Liquidity</u> - Ability of business to generate cash to make debt payments or to convert assets to cash.

Net Farm Income - (defined on page 7)

Net Farm Income from Operations Ratio - (defined on page 8)

<u>Net Worth</u> - The value of assets less liabilities equal net worth. It is the equity the owner has in owned assets.

Operating Costs of Producing Milk - (defined on page 20)

<u>Operating Expense Ratio</u> - Total accrual expenses less interest and machinery and building depreciation divided by total accrual receipts.

- <u>Opportunity Cost</u> The cost or charge made for using a resource based on its value in its most likely alternative use. The opportunity cost of a farmer's labor and management is the value he/she would receive if employed in his/her most qualified alternative position.
- <u>Other Livestock Expenses</u> All other dairy herd and livestock expenses not included in more specific categories. Other livestock expenses include; bedding, DHIC, milk house and parlor supplies, livestock board, registration fees and transfers.
- <u>Part-Time Cash-Crop Dairy (farm)</u> Operating and managing this farm is not a full-time occupation, crop sales exceed 10 percent of accrual milk receipts and cropland is owned.
- <u>Part-Time Dairy (farm)</u> Dairy farming is the primary enterprise, cropland is owned but operating and managing this farm is not a full-time occupation for one or more people.
- <u>Personal Withdrawals and Family Expenditures Including Nonfarm Debt Payments</u> All the money removed from the farm business for personal or nonfarm use including family living expenses, health and life insurance, income taxes, nonfarm debt payments, and investments.
- <u>Profitability</u> The return or net income the owner/manager receives for using one or more of his or her resources in the farm business. True "economic profit" is what remains after deducting all costs including the opportunity costs of the owner/manager's labor, management, and equity capital.

Purchased Inputs Cost of Producing Milk - (defined on page 20)

Repayment Analysis - An evaluation of the business' ability to make planned debt payments.

Replacement Livestock - Dairy cattle and other livestock purchased to replace those that were culled or sold from the herd during the year.

Return on Equity Capital - (defined on page 8)

Return on Total Capital - (defined on page 8)

Return to Operators' Labor, Management, and Equity Capital - (defined on page 7)

Rotational Grazing - The dairy herd is on pasture at least three months of the year, changing paddock at least every three days.

<u>Solvency</u> - The extent or ability of assets to cover or pay liabilities. Debt/asset and leverage ratios are common measures of solvency.

<u>Total Costs of Producing Milk</u> - (defined on page 20)

- <u>Whole Farm Method</u> A procedure used to calculate costs of producing milk on dairy farms without using enterprise cost accounts. All non-milk receipts are assigned a cost equal to their sale value and deducted from total farm expenses to determine the costs of producing milk.
- <u>Working Capital</u> A theoretical measure of the amount of funds available to purchase inputs and inventory items after the sale of current farm assets and payment of all current farm liabilities. Calculate as current farm assets at end year less current farm liabilities at end year.

INDEX

	Page(s)		Page(s)
Accounts Payable	4,9	Interest Expense Ratio	21
Accounts Receivable		Labor and Management Income	8
Accrual Expenses		Labor and Management	
Accrual Receipts		Income per Operator	8
Acreage		Labor Efficiency	
Advanced Government Receipts		Land Resources	
Amount Available for Debt Service		Leverage Ratio	
Annual Cash Flow Statement		Liquidity	
Appreciation		Machinery Expenses	
Asset Turnover Ratio		Milk Production	
Balance Sheet		Milking System	
Barn Type		Money Borrowed	
bST Usage		Net Farm Income	
Business Type		Net Farm Income from Operations Ratio	
Capital Efficiency		Net Investment	
Cash From Nonfarm Capital Used in	21	Net Worth	
the Business	12	Number of Cows	
Cash Flow Coverage Ratio Cash Paid		Operating Cost of Producing Milk	
		Operating Expense Ratio	
Cash Receipts		Opportunity Cost	
Change in Accounts Payable		Other Livestock Expenses	
Change in Accounts Receivable		Outflows	
Change in Inventory		Personal Withdrawals and Family Expenditures	
Change in Net Worth		Including Nonfarm Debt Payments	
Cost of Term Debt		Principal Payments	
Crop Expenses		Profitability	
Crop/Dairy Ratios		Purchased Inputs Cost of Producing Milk	
Culling Rate		Receipts	
Current Portion		Record System	3
Current Ratio	11	Repayment Analysis	
Dairy (farm)		Replacement Livestock	4
Debt Coverage Ratio	15	Retained Earnings	12
Debt Per Cow	11	Return on Equity Capital	8
Debt to Asset Ratios	11	Return on Total Capital	8
Depreciation	4,11	Rotational Grazing	18
Depreciation Expense Ratio	21	Solvency	11
Dry Matter		Total Costs of Producing Milk	20
Equity Capital	9	Whole Farm Method	
Expansion Livestock		Worker Equivalent	3
Expenses		Working Capital	
Farm Business Chart		Yields Per Acre	
Farm Debt Payments as Percent of			
Milk Sales	15		
Farm Debt Payments Per Cow			
Financial Analysis Chart			
Financial Lease			
Hired Labor Expense per Hired			
Worker Equivalent	21		
Hired Labor Expense as % of Milk Sale			
Income Statement			
Inflows			
IIIIOWS	13		

OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2001-13	Intensive Grazing Farms, New York, 2000 Dairy Farm Business Summary	(\$12.00)	Conneman, George, J. Grace, J. Karszes, S. Richards, E. Staehr, D. Demaine, L. D. Putnam, S. Bulkley, J. Degni. P. Murray, and J. Petzen
2001-12	Central Valleys Region 2000 Dairy Farm Business Summary	(\$8.00)	LaDue, E. L., Z. Kurdieh, C. Oostveen, A. E. Staehr, C. Z. Radick, J. Hilts, K. Baase, J. Karszes, and L. D. Putnam
2001-11	Northern Hudson Region 2000 Dairy Farm Business Summary	(\$8.00)	Conneman, G. J., L. D. Putnam, C. S. Wickswat, S. Buxton, D. Maxwell, and J. Karszes
2001-10	New York Small Herd Farms, 70 Cows or Fewer 2000	(\$12 ea.)	Knoblauch, W. A., L. D. Putnam, M. Kiraly, and J. Karszes
2001-09	Southeastern New York Region 2000 Dairy Farm Business Summary	(\$8 ea.)	Knoblauch, W. A., L. D. Putnam, S. E. Hadcock, L. R. Hulle, M. Kiraly, and J. J. Walsh
2001-08	Northern New York Region 2000 Dairy Farm Business Summary	(\$8 ea.)	Knoblauch, W. A., L. D. Putnam, W. Van Loo, P. Murray, A. Deming, C. Nobles, M. Ames, and J. Karszes
2001-07	Western And Central Plateau Region 2000 Dairy Farm Business Summary	(\$8 ea.)	Knoblauch, W. A., L. D. Putnam, J. Karszes, J. W. Grace, J. S. Petzen, and S. T. Richards
2001-06	Dairy Farm Business Summary, New York Large Herd Farms, 300 Cows or Larger, 2000	(\$12 ea.)	Karszes, J., W. A. Knoblauch, and L. D. Putnam
2001-05	Dairy Farm Business Summary, Western and Central Plain Region, 2000	(\$8 ea.)	Knoblauch, W. A., L. D. Putnam, J. Karszes, S. Richards, J. Hanchar, C. Oostveen, B. Dehm, K. English, S. True, J. Gremer. and G. Allhusen
2001-04	Farmland Protection Planning in New York		Maloney, M. and N. Bills
2001-03	Mocash: A Computer Spreadsheet for Projecting Monthly Cash Flows		LaDue, E. L., J. Schuelke, and V. Mensah-Dartey

Paper copies are being replaced by electronic Portable Document Files (PDFs). To request PDFs of AEM publications, write to (be sure to include your e-mail address): Publications, Department of Applied Economics and Management, Warren Hall, Cornell University, Ithaca, NY 14853-7801. If a fee is indicated, please include a check or money order made payable to Cornell University for the amount of your purchase. Visit our Web site (http://aem.cornell.edu/extension-outreach/extensionpub.html) for a more complete list of recent bulletins.