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NEW YORK DAIRY FARM RENTERS 2006



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2006 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 New York Dairy Farm Renter Business Summary is an average of 22 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 for 54 owned dairy farms in New York that are similar in size and location to the farms that rent. This report is prepared in workbook form for farm renters to use in the systematic study of their farm business operations.

Business records for 22 farms in Albany, Chautauqua, Delaware, Erie, Essex, Genesee, Jefferson, Lewis, Orange, Rensselaer, Schenectady, Sullivan, Ulster, Washington and Wayne Counties are summarized in this publication (see Figure 1 on page 2). The 54 owned dairy farms summarized in this publication include farms from these counties that are similar in size to the renters.

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 does owning the farm. Concessionary rental rates set by some land owners is a 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 land, building and fence repair; taxes; real estate rent and lease; depreciation; and interest on real estate investment averaged \$175 per tillable acre on the owned dairy farms compared to \$103 per tillable acre on the rented farms. On a per cow basis, these real estate costs averaged \$482 per cow on the owned dairy farms compared to \$261 on the rented farms. This accounts for a \$20,438 difference in costs between owned and rented farms. With this difference in cost structure, the renters averaged higher labor and management incomes per operator. A major factor is the lower interest on equity capital for renters versus farm owners. Opportunity cost of equity for renters was about half that for the owners.

¹Wayne A. Knoblauch, Linda D. Putnam and Jason Karszes, <u>Dairy Farm Management Business Summary, New York,</u> <u>2006</u>, R.B. 2007-01, October 2007.



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 22 New York Dairy Farm Renters, 2006

Type of Business	Number	<u>bST Usage</u>	Nu	<u>mber</u>
Single proprietorship	13	Used consistently		4
Partnership	6	Used inconsistently		0
Limited liability corporation	2	Started usage in 2006		0
Subchapter S or C corporation	1	Stopped usage in 2006		0
		Not used in 2006		18
		Average percent usage, if used	53	%
Milking System	Number			
Dumping station	0	Labor Force*	My Farm	Average
Pipeline	13	Operator 1	mo.	14.2
Herringbone parlor	5	Operator 2	mo.	5.0
Other parlor	4	Family paid	mo.	1.1
1		Family unpaid	mo.	3.2
Type of Barn	Number	Hired	mo.	<u>8.5</u>
Stanchion	13	Total	mo.	32.0
Freestall	7	Worker equivalent		
Combination	2	$(\text{total} \div 12)$		2.67
Comoniumon	-	(10111 - 12)		,
Dairy Records Service	<u>Number</u>	Operator/Manager Equivalent		1.36
Testing service	18			
On-farm system	0	Land Use	My Farm	Average
Other	0	Total acres rented	•	315
None	4	Tillable acres rented		222
Business Record System	Number	Number of Cows	<u>My Farm</u>	Average
Account book	6	Beg. year (owned)		88
Accounting service	4	End year (owned & leased)		89
On-farm computer	11	Average for year (owned & leased)		88
Other	1			
		Breed of Herd	My Farm	Percent
Milking Frequency	Number	Holstein	-	89
2 times a day	20	Jersey		6
3 times a day	2	Other		5
Other	0			

*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 22 rented farms include the single proprietorship, pipeline milking system, stanchion or conventional stall barn, two time a day milking, herd records with a testing service, and an on-farm computer record system. Fifty percent of the renters were using on-farm computers compared to 52 percent of the owners.

The average size of the labor force on the rented farms was similar to the 2.79 worker equivalent on owned farms. The rented farms averaged 222 tillable acres compared to 248 tillable acres on the 54 owned dairy farms. The owned farms averaged 32 cows per worker, and the rented farms averaged 33 cows per worker. In 2006, the rented farms used labor resources more efficiently than the owned farms when comparing pounds of milk sold per worker.

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

CASH AND ACCRUAL FARM EXPENSES 22 New York Dairy Farm Renters, 2006

	22 100 10	Jik Daliy Falli Kel	1015, 20	00		
		Change in		Change in		
	Cash	Inventory or		Accounts	Accrual	Percent
Expense Item	Paid	- Prepaid Exp.	+	Payable	= Expenses	of Total
Hired Labor	\$ 19,085	\$ 0	<<*	\$ -27	\$ 19,057	8
Feed	φ 19,005	ψυ		$\varphi = 27$	\$ 17,007	0
Dairy grain & concentrate	69,661	-1,804		2,452	73,916	30
Dairy roughage	10,873	291		1,094	11,676	5
Nondairy	54	9		0	45	<1
Professional nutritional services	0	0	<<	0	45 0	-1 0
Machinery	Ū	0		0	0	0
Machinery, hire, rent & lease	5,418	-727	<<	218	6,364	3
Machinery repair & farm veh. exp.	14,590	-9		640	15,239	6
Fuel, oil & grease	11,640	-308		147	12,095	5
Livestock	11,040	500		147	12,095	5
Replacement livestock	2,660	0	<<	0	2,660	1
Breeding	4,704	-189		56	4,949	2
Vet & medicine	7,240	23		189	7,406	3
Milk marketing	15,954	0	<<	-35	15,919	5 7
Bedding	1,914	-51		118	2,083	1
Milking supplies	5,969	-51		754	6,628	3
Cattle lease & rent	0	0	<<	0	0,028	0
Custom boarding	2,472	0	<<	838	3,310	1
bST expense	2,602	0		120	2,722	1
Livestock professional fees	2,002	0	<<	120	2,722	1
Other livestock expense	2,201	0		-7	2,273	1
Crops	2,954	0		- /	2,947	1
Fertilizer & lime	4,907	-2,649		4	7,560	3
Seeds & plants	3,238	-2,049		4	4,041	2
Spray, other crop expense	2,421	-189		95	2,705	1
Crop professional fees	131	-189	<<	93 0	131	<1
Real Estate	151	0		0	151	<u> </u>
Land, building & fence repair	2,980	-32		66	3,078	1
Taxes	1,498	-32	<<	0	1,498	1
Rent & lease	14,776	0	<<	799	15,574	6
Other	14,770	0		199	15,574	0
Insurance	3,899	0	<<	0	3,899	2
Utilities (farm share)	10,131	0	<<	0 7	10,138	4
Interest paid	4,620	0	<<	0	4,620	4 2
Other professional fees	1,095	0	<<	11	1,106	<1
Miscellaneous	1,410	0		23	<u>1,432</u>	<u>_1</u>
Total Operating	\$ 231,154	\$ -6,343		\$ 7,574	\$ 245,071	$\frac{1}{100}$
Expansion livestock	\$ 3,613	\$ -0,343 \$ 0	<<	\$ 7,374 \$ 0	\$ 245,071 \$ 3,613	100
Extraordinary expense	\$ 5,015 0	\$ 0 0	<<	\$ 0 0	\$ 5,015 0	
Machinery depreciation	0	U	~~	0	12,217	
Building depreciation					12,217	
TOTAL ACCRUAL EXPENSES					\$ 261,951	
IOTAL ACCRUAL EATENSES					\$ 201,751	

*A change in prepaid expense is noted by <<.

<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, 2007 rent paid in 2006. 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

	Cash	Change in Inventory or		Change in Accounts	Accrual
Expense Item	Paid	- Prepaid Exp.	+	Payable	= Expenses
Hired Labor	\$	\$	<<*	\$	\$
Feed					
Dairy grain & concentrate					
Dairy roughage					
Nondairy					
Professional nutritional services			<<		
Machinery					
Machinery, hire, rent & lease			<<		
Machinery repair & farm veh. exp.					
Fuel, oil & grease					
Livestock					
Replacement livestock			<<		
Breeding					
Vet & medicine					
Milk marketing			<<		
Bedding					
Milking supplies					
Cattle lease & rent			<<		
Custom boarding			<<	<u> </u>	
bST expense					
Livestock professional fees			<<		
Other livestock expense					
Crops					
Fertilizer & lime					
Seeds & plants					
Spray, other crop expense					
Crop professional fees			<<		
<u>Real Estate</u>					
Land, building & fence repair					
Taxes			<<		
Rent & lease			<<		
Other					
Insurance			<<		
Utilities (farm share)			<<		
Interest paid			<<		
Other professional fees			<<		
Miscellaneous					
Total Operating	\$	\$		\$	\$
Expansion livestock	\$	\$		\$	\$
Expansion investock Extraordinary expense	\$	\$		\$	\$
Machinery depreciation	Ψ	Ψ	~ ~	Ψ	Ψ
Building depreciation					
TOTAL ACCRUAL EXPENSES					\$
	11				Φ

*A change in prepaid expense is noted by <<.

CASH AND ACCRUAL FARM RECEIPTS 22 New York Dairy Farm Renters, 2006

Receipt Item	Cash Receipts	+ Change in Inventory	+ Change in + Accounts Receivable	= Accrual Receipts
k	p			F
Milk Sales	\$ 237,933		\$ -844	\$ 237,088
Dairy cattle	12,714	\$ 10,700	32	23,446
Dairy calves	5,295	493	0	5,789
Other livestock	90	64	0	154
Crops	551	-614	-193	-256
Government receipts	12,670	0*	0	12,670
Custom machine work	2,100		0	2,100
Gas tax refund	198		0	198
Other	2,579		0	2,579
 Nonfarm noncash capital** 		<u>(-) 0</u>		<u>(-)</u> 0
Total Accrual Receipts	\$ 274,131	\$ 10,643	\$ -1,005	\$ 283,769

*Change in advanced government receipts.

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

<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.

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				
- Nonfarm noncash capital**		(-)		(-)
Total Accrual Receipts	\$	\$	\$	\$

CASH AND ACCRUAL FARM RECEIPT WORKSHEET

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.

<u>Net farm income</u> 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.

Item	22 Dairy Farm Renters	54 Dairy Farm Owners	My Farm
Total accrual receipts	\$ 283,769	\$ 288,010	\$
+ Appreciation: Livestock	4,977	1,701	
Machinery	155	4,554	
Real Estate	1,359	11,497	
Other Stock & Certificates	103	155	
= Total Including Appreciation	\$ 290,363	\$ 305,917	\$
- Total accrual expenses	261,951	276,544	
= Net Farm Income (with appreciation)	\$ 28,411	\$ 29,372	\$
Per cow	\$ 323	\$ 325	\$
Net Farm Income (without appreciation)	\$ 21,817	\$ 11,466	\$
Per cow	\$ 248	\$ 127	\$

NET FARM INCOME New York Dairy Farm Renters and Owners, 2006

<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	ţ
New York Dairy Farm Renters and Owners, 24	006

Item	22 Dairy Farm Renters	54 Dairy Farm Owners	My Farm
Net farm income without appreciation	\$ 21,817	\$ 11,466	\$
 Family labor unpaid @ \$2,300 per month 	- 7,433	- 8,237	
 Interest on average equity capital @ 5% real rate 	<u>- 17,015</u>	- 34,680	
= Labor & Management Income	\$ -2,631	\$ -31,452	\$
Labor & Management Income per Operator/Manager	\$ -1,935	\$ -22,627	\$

<u>Return to equity capital</u> 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. <u>Return to all capital</u> 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. <u>Net farm income from operations ratio</u> is net farm income (without appreciation) divided by total accrual receipts.

RETURN TO EQUITY CAPITAL AND RETURN TO ALL CAPITAL New York Dairy Farm Renters and Owners, 2006

Item	22 Dairy Farm Renters	54 Dairy Farm Owners	My Farm
Net farm income with appreciation	\$ 28,411	\$ 29,372	\$
- Family labor unpaid @ \$2,300 per month	\$ 7,433	\$ 8,237	\$
- Value of operators' labor & management	42,368	39,528	
= Return to equity capital with appreciation	\$ -21,390	\$ -18,393	\$
+ Interest paid	4,620	13,075	
= Return to all capital with appreciation	\$ -16,770	\$ -5,318	\$
Return to equity capital without appreciation	\$ -27,984	\$ -36,300	\$
Return to all capital without appreciation	\$ -23,364	\$ -23,225	\$
Rate of return on average equity capital: with appreciation without appreciation	-6.4% -8.3%	-2.7% -5.2%	% %
Rate of return on all capital: with appreciation without appreciation Net farm income from operations ratio	-3.9% -5.4% 0.08	-0.6% -2.6% 0.04	% %

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.

				Farm Liabilities				
Farm Assets		Jan. 1	Dec. 31	& Net Worth		Jan. 1		Dec. 31
Current				<u>Current</u>				
Farm cash, checking				Accounts payable	\$	4,898	\$	12,472
& savings	\$	4,981	\$ 5,102	Operating debt		7,315		2,580
Accounts receivable		20,383	19,378	Short term		0		542
Prepaid expenses		727	0	Advanced gov't. receipt		0		0
Feed & supplies		50,619	 44,389	Current portion:				
Total Current	\$	76,709	\$ 68,868	Intermediate		8,026		12,836
				Long term		652		687
				Total Current	\$	20,891	\$	29,117
Intermediate				Intermediate				
Dairy Cows:				Structured debt				
owned	\$	115,259	\$ 120,396	1-10 years	\$	59,486	\$	56,782
leased		0	0	Financial lease				
Heifers		59,371	70,404	(cattle & machinery)		0		0
Bulls & other livestock		366	430	Farm Credit stock		125		171
Mach. & equip. owned		119,113	119,594	Total Intermediate	\$	59,611	\$	56,953
Mach. & equip. leased		0	0					
Farm Credit stock		125	171	Long Term				
Other stock & cert.		25,529	 22,676	Structured debt				
Total Intermediate	\$	319,763	\$ 333,670	\geq 10 years	\$	12,894	\$	12,030
Long Term				Financial lease				
Land & buildings:				(structures)		2,142		1,497
owned	\$	32,823	\$ 33,333	Total Long Term	\$	15,036	\$	13,527
leased		2,142	 1,497					
Total Long Term	\$	34,965	\$ 34,830	Total Farm Liabilities	\$	95,538	\$	99,597
Total Farm Assets	\$	431,438	\$ 437,368	FARM NET WORTH	\$	335,899	\$	337,771
(Average for 7 farms repo	rting)		Nonfarm Liabilities*				
Nonfarm Assets*		Jan.1	Dec. 31	& Net Worth	J	an. 1	Ι	Dec. 31
Personal cash, checking				Nonfarm Liabilities	\$	643	\$	2,839
& savings	\$	16,528	\$ 13,588	NONFARM NET WORTH	\$	36,897	\$	33,413
Cash value life ins.		0	0					
Nonfarm real estate		0	0	FARM & NONFARM**	J	an. 1	Ι	Dec. 21
Auto (personal share)		2,214	1,857	Total Assets	\$	468,977	\$	473,620
Stocks & bonds		1,724	2,486	Total Liabilities		96,181		102,436
Household furn.		7,857	7,857			_		-
All other		9,215	 10,464	TOTAL FARM & NON-				
Total Nonfarm	\$	37,539	\$ 36,252	FARM NET WORTH	\$	372,796	\$	371,184

2006 FARM BUSINESS & NONFARM BALANCE SHEET 22 New York Dairy Farm Renters

*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 2006 that are for participation in the 2007 program are the end year balance and payments received in 2005 for participation in the 2006 program are the beginning year balance.

Date

	T 1		Farm Liabilities	т •	
Farm Assets	Jan. 1	Dec. 31	& Net Worth	Jan. 1	Dec. 31
<u>Current</u>			Current		
Farm cash, checking			Accounts payable		
& savings			Operating debt		
Accounts receivable			Short term		
Prepaid expenses			Advanced gov't. receipt		
Feed & supplies			Current portion:		
Total Current			Intermediate		
			Long term		
			Total Current		
<u>Intermediate</u>			Intermediate		
Dairy Cows:					
owned					
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.					
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		
			Nonfarm Liabilities		
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 Total Farm and Nonfarm As				Jan. 1	Dec. 31
Less Total Farm & Nonfarm As					<u> </u>
Farm & Nonfarm Net Worth					

2006 FARM BUSINESS & NONFARM BALANCE SHEET

<u>Balance sheet analysis</u> 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.

	22 Dairy	54 Dairy	
Item	Farm Renters	Farm Owners	My Farm
Financial Ratios - Farm:			
Percent equity	77%	77%	%
Debt/asset ratio: total	0.23	0.23	
long term	0.39	0.20	
intermediate & current	0.21	0.27	
Leverage ratio	0.29	0.30	
Current ratio	2.37	1.60	
Working capital \$39,752 as % of total expenses	15%	(\$30,302) 11%	%
Farm Debt Analysis:			
Accounts payable as % of total debt	13%	7%	%
Long term liabilities as a % of total debt	14%	40%	%
Current & intermediate liabilities as a % of total debt	86%	60%	%
Cost of term debt (weighted average)	4.0%	5.6%	%
Farm Debt Levels Per Cow:			
Total farm debt	\$ 1,122	\$ 2,355	\$
Long term debt	\$ 152	\$ 940	\$
Intermediate & long term debt	\$ 794	\$ 1,793	\$
Intermediate & current debt	\$ 970	\$ 1,414	\$

BALANCE SHEET ANALYSIS New York Dairy Farm Renters and Owners, 2006

<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 New York Dairy Farm Renters and Owners, 2006

Item	22 Dairy Farm Renters			Dairy Owners	My Farm		
Value beginning of year		\$ 119,113		\$ 179,123		\$	
Purchases	\$ 13,464		\$ 18,779		\$		
+ Nonfarm noncash transfer	0		722				
- Net Sales	921		1,413				
- Depreciation	12,217		16,682				
= Net investment		326		1,407			
+ Appreciation		155		4,554			
= Value end of year		\$ 119,594		\$ 185,084		\$	

<u>The Statement of Owner Equity</u> 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)
22 New York Dairy Farm Renters, 2006

Item	Average	My Farm
Beginning of year farm net worth	\$ 335,899	\$
Net farm income without appreciation	\$ 21,817	\$
+ Nonfarm cash income	+ 5,274	+
 Personal withdrawals & family expenditures excluding nonfarm borrowings 	<u>- 35,098</u>	
RETAINED EARNINGS	+ \$ -8,007	+ \$
Nonfarm noncash transfers to farm	\$ 0	\$
+ Cash used in business from nonfarm capital	+ 2,769	+
- Note/mortgage from farm real estate sold (nonfarm)	<u>- 0</u>	
CONTRIBUTED/WITHDRAWN CAPITAL	+\$ 2,769	+ \$
Appreciation	\$ 6,594	\$
- Lost capital	- 250	
CHANGE IN VALUATION EQUITY	+\$ 6,344	+ \$
IMBALANCE/ERROR	<u>- \$ -766</u>	- \$
End of year farm net worth*	= \$ 337,771	= \$
Change in net worth with appreciation.	\$ 1,872	\$
Change in Net Worth		
Without appreciation	\$ -4,722	\$
With appreciation	\$ 1,872	\$

*May not add due to rounding.

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.

ANNUAL CASH FLOW STATEMENT 22 New York Dairy Farm Renters, 2006

Item		Average	
Cash Flow from Operating Activities			
Cash farm receipts	\$ 274,131		
- Cash farm expenses	231,154		
- Extraordinary expense	0		
= Net cash farm income		\$ 42,977	
Personal withdrawals & family expenses including nonfarm debt payments	\$ 35,916	*)- · ·	
- Nonfarm income	5,274		
- Net cash withdrawals from the farm	·	<u>\$ 30,643</u>	
= Net Provided by Operating Activities			\$ 12,334
Cash Flow From Investing Activities			
Sale of assets: Machinery	\$ 921		
+ real estate	0		
+ other stock & certificates	3,727		
= Total asset sales		\$ 4,648	
Capital purchases: expansion livestock	\$ 3,613		
+ machinery	13,464		
+ real estate	451		
+ other stock & certificates	771		
- Total invested in farm assets		<u>\$ 18,299</u>	
= Net Provided by Investment Activities			\$ -13,650
Cash Elaw From Einspraing Activities			
<u>Cash Flow From Financing Activities</u> Money borrowed (intermediate & long term)	\$ 21,167		
+ Money borrowed (short term)	\$ 21,107 542		
+ Increase in operating debt	0		
+ Cash from nonfarm capital used in business	2,769		
+ Money borrowed - nonfarm	818		
= Cash inflow from financing	010	\$ 25,297	
Cush hillow none multimg		Φ 20,271	
Principal payments (intermediate & long term)	\$ 19,889		
+ Principal payments (short term)	0		
+ Decrease in operating debt	4,736		
- Cash outflow for financing	<i>`</i>	\$ 24,625	
= Net Provided by Financing Activities		<u>. </u>	\$ 672
Cash Flow From Reserves			
Beginning farm cash, checking & savings		\$ 4,981	
- Ending farm cash, checking & savings		5,102	
= Net Provided from Reserves			<u>\$ -122</u>
Imbalance (error)			\$ -766

ANNUAL CASH FLOW STATEMENT

Item		My Farm	
		2	
Cash Flow from Operating Activities			
Cash farm receipts	\$		
- Cash farm expenses			
- Extraordinary expense		.	
= Net cash farm income		\$	
Personal withdrawals & family expenses including nonfarm debt payments	\$		
- Nonfarm income			
- 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		\$	
Capital purchases: expansion livestock	\$		
+ machinery	ψ		
+ real estate			
+ other stock & certificates			
- Total invested in farm assets		\$	
- Total invested in farm assets		φ	
= Net Provided by Investment Activities			\$
Cash Flow From Financing Activities			
Money borrowed (intermediate & long term)	\$		
+ Money borrowed (short term)	Ψ		
+ 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			\$
Cash Flow From Reserves			
Beginning farm cash, checking & savings		\$	
- Ending farm cash, checking & savings		•	
= Net Provided from Reserves			\$
Imbalance (error)			¢
			N

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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 2007. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2007 debt payments shown below.

		Average						My Farm				
		2006 H	Paym	ients		Planned		2006 Pa	ayments	Planned		
Debt Payments		Planned		Made		2007		Planned	Made	2007		
Long-term	\$	1,836	\$	1,460	\$	1,568	\$		\$	\$		
Intermediate-term	*	20,603	+	25,094	+	18,319	*		÷			
Short-term		0		0		702						
Operating (net red.)		118		6,129		253						
Accounts payable				,								
(net reduction)		353		135	_	325						
Total	\$	22,910	\$	32,817	\$	21,167	\$		\$	\$		
Per cow	\$	233	\$	334			\$		\$			
Per cwt. 2006 milk	\$	1.19	\$	1.70			\$		\$	-		
Percent of total										-		
2006 receipts		7%		10%						_		
Percent of 2006										-		
milk receipts		9%		12%								

FARM DEBT PAYMENTS PLANNED Same 17 New York Dairy Farm Renters, 2005 & 2006*

*Farms that completed Dairy Farm Business Summaries for both 2005 and 2006.

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, 2005) that could have been made with the amount available for debt service in 2006. Farmers that did not participate in DFBS last year will find in their report coverage ratios based on planned debt payments for 2007.

COVERAGE RATIOS Same 17 New York Dairy Farm Renters, 2005 & 2006

Item	1	Average	Item	Ν	Ay Farm
Cash Flow Coverage Ratio		<u> </u>	Debt Coverage Ratio		
Cash farm receipts	\$	306,893	Net farm income (w/o appreciation)	\$	24,676
- Cash farm expenses		255,436	+ Depreciation		14,859
+ Interest paid (cash)		5,286	+ Interest paid (accrual)		5,286
- Net personal withdrawals from farm*		<u>32,940</u>	- Net personal withdrawals from farm*		32,940
(A) = Amount Available for Debt Service	\$	23,804	(A') = Repayment Capacity	\$	11,882
(B) = Debt Payments Planned for 2006	\$	22,910	(B) = Debt Payments Planned for 2006	\$	22,910
(as of December 31, 2005)			(as of December 31, 2005)		
(A/B)=Cash Flow Coverage Ratio for 2006		1.04	(A'/B)=Debt Coverage Ratio for 2006		0.52
Same 48 Ne	w Yo	ork Dairy Fa	rm Owners, 2005 & 2006		
(A) = Amount Available for Debt Service	\$	27,004	(A') = Repayment Capacity	\$	17,825
(B) = Debt Payments Planned for 2006		37,360	(B) = Debt Payments Planned for 2006		37,360
(A/B)=Cash Flow Coverage Ratio for 2006		0.72	(A'/B)=Debt Coverage Ratio for 2006		0.48

*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.

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ANNUAL CASH FLOW WORKSHEET

ANNUAL CASH FLOW WORKSHEET									
	22 Dairy			y Farr			Expected		2007
Item	Farm Renters		Total		Per Cow		Change		Projection
Average number of cows	88								
Accrual Operating Receipts	(per cow)	_							
Milk	\$2,698	\$		\$				\$	
Dairy cattle	267	_							
Dairy calves	66								
Other livestock	2	-							
Crops	-3	-							
Miscellaneous receipts	200	-							
Total	\$3,230	\$		\$				\$	
Accrual Operating Expenses									
Hired labor	\$ 217	\$		\$				\$	
Dairy grain & concentrate	841								
Dairy roughage	133	-							
Nondairy feed	1	-					· · · · · · · · · · · ·		
Professional nutritional services	0	-							
Machinery hire, rent & lease	72	-							
Machinery repair & vehicle exp.	173	-							
Fuel, oil & grease	173	-	<u> </u>						
	30	-							
Replacement livestock		-							
Breeding Vot & modicing	56	-							
Vet & medicine	84	-	<u> </u>						
Milk marketing	181	-							
Bedding	24	-							
Milking supplies	75	-	<u> </u>				· · · · · · · · · · · · · · · · · · ·		
Cattle lease	0	-	<u> </u>				· · · · · · · · · · · ·		
Custom boarding	38	-	<u> </u>						
bST expense	31	-							
Livestock professional fees	26	-							
Other livestock expense	34	-							
Fertilizer & lime	86	-							
Seeds & plants	46	-							
Spray & other crop expense	31	-	· · · · · · · · · · · · · · · · · · ·						
Crop professional fees	1	-	· · · · · · · · · · · · · · · · · · ·						
Land, building & fence repair	35	-	· · · · · · · · · · · · · · · · · · ·						
Taxes	17	-	· · · · · · · · · · · · · · · · · · ·						
Real estate rent & lease	177	-							
nsurance	44	-	· · · · · · · · · · · · · · · · · · ·						
Utilities	115	-							
Misc. & other professional fees	29	- -	<u> </u>	*		<i>~</i>		*	
Total Less Interest Paid	\$2,737	\$_		\$		\$		\$	
Net Accrual Operating Income	(Total)								
(without interest paid)	\$ 43,318		\$					\$	
- Change in livestock & crop inv.	10,643								
- Change in accounts receivable	-1,005								
- Change in feed & supply inv.*	-6,343								
+ Change in accounts payable**	7,574								
NET CASH FLOW	\$ 47,597		\$					\$	
- Net family withdrawals	29,238								
Available for Farm Debt	—								
& Investments	\$ 18,359		\$					\$	
- Farm debt payments	29,215							-	
Available for Farm Investments	\$-10,856		\$					\$	
- Capital purchases: cattle,									
machinery & improvements	18,299		\$			\$		\$	
Additional Capital Needed	\$ 29,155		\$		_			\$	

*Includes change in prepaid expenses.

**Excludes change in interest account payable.

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 New York Dairy Farm Renters Reporting, 2006

Item	A	verage of Farr	ns Reporting	My Farm		
Crop Yields	Farms	Acres	Production/Acre*	Acres	Production/Acre	
Hay crop	17	169	2.41 tons DM		tons DM	
Corn silage	14	83	11.34 tons		tons	
			3.73 tons DM		tons DM	
Other forage	0	0	0.00 tons DM		tons DM	
Total forage	17	239	2.78 tons DM		tons DM	
Corn grain	3	73	86 bushels		bushels	
Oats	0	0	0 bushels		bushels	
Wheat	0	0	0 bushels		bushels	
Other crops	3	60				
Tillable pasture	6	39				
Idle	4	47				
Total Tillable Acres	22	222				

*2006 average yields for 54 Dairy farm owners in New York included: all hay crops, 2.5 tons dry matter per acre; corn silage, 15.0 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.

Item	22 Dairy Farm Renters	54 Dairy Farm Owners	My Farm
Total tillable acres per cow	3.08	2.75	
Total forage acres per cow	2.58	2.44	
Harvested forage dry matter, tons per cow	7.17	7.79	

CROP MANAGEMENT FACTORS FOR FARMS GROWING FORAGES New York Dairy Farm Renters and Owners, 2006

Average fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per tillable acre in the first column of the table below for all farms that grew forages. Additional expense items such as fuels, labor, and machinery repairs are not included. There was not a sufficient number of renting farms providing a breakdown in expenses for hay crop and corn. Rotational grazing was used on 5 rented farms and 17 owned farms.

CROP RELATED ACCRUAL EXPENSES New York Dairy Farm Renters and Owners, 2006

	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.
Dairy Farm Renters:			NO FARM	IS REPORTED	THIS DATA	
Fertilizer & lime	\$27.32		110 11110			
Seeds & plants	14.22					
Spray & other crop expense	7.37					
Total	\$48.91					
Dairy Farm Owners:		/	Average of 10 Fa	rms Reporting	Individual Crop	Costs
Fertilizer & lime	\$32.24	\$ 26.44	\$ 15.80	- \$ 61.55	\$ 15.45	\$ 0.27
Seeds & plants	17.02	7.33	2.88	41.77	9.27	0.21
Spray & other crop expense	13.04	1.70	0.75	51.74	10.75	0.20
Total	\$62.30	\$ 35.47	\$ 19.43	\$155.06	\$ 35.47	\$ 0.68
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 FOR FARMS GROWING FORAGES
New York Dairy Farm Renters and Owners, 2006

	Average Per	Tillable Acre	My Farm		
	17 Dairy	54 Dairy	Total	Per Tillable	
Item	Farm Renters	Farm Owners	Expenses	Acre	
Fuel, oil & grease	\$ 48.94	\$ 51.29	\$	\$	
Machine repair & farm vehicle expense	64.55	72.63			
Machine hire, rent & lease	28.57	20.20			
Interest (5%)	25.68	36.89			
Depreciation	<u>49.95</u>	67.22			
Total	\$217.69	\$248.23	\$	\$	

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.

	Da	iry Cows	Heifers								
				B	red	_	Op	en		Calv	/es
Item	No.	Value	No.		Value	No.		Value	No.		Value
22 Dairy Farm Renters:											
Beginning year (owned)	88	\$ 115,259	20	\$	26,620	31	\$	25,264	16	\$	7,486
+ Change w/o apprec.		1,627			4,800			4,273			493
+ Appreciation		3,509		_	468			895			105
End year (owned)	89	\$ 120,395	25	\$	31,889	35	\$	30,432	16	\$	8,084
End including leased	89										
Average number	88		73	(all age group	s)					
54 Dairy Farm Owners:											
Beginning year (owned)	91	\$ 128,982	24	\$	33,469	27	\$	24,346	20	\$	10,983
+ Change w/o apprec.	-	683			843		•	784			1,125
+ Appreciation		1,538			225			417			-523
End year (owned)	90	\$ 131,204	25	\$	34,536	27	\$	25,547	22	\$	11,585
End including leased	90	÷ -) -			- 9		•	-)		•	,
Average number	90		73	(all age group	s)					
My Farm:											
Beginning year (owned)		\$		\$			\$			\$	
+ Change w/o apprec.											
+ Appreciation											
End year (owned)		\$		\$	6		\$			\$	
End including leased											
Average number				(all age group	s)					

DAIRY HERD INVENTORY New York Dairy Farm Renters and Owners, 2006

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	1	
New You	rk Dairy Farm Renters and	Owners, 2006	
	22 Dairy	54 Dairy	
Item	Farm Renters	Farm Owners	My Farm
Total milk sold, pounds	1,733,083	1,734,762	
Milk sold per cow, pounds	19,726	19,224	
Average milk plant test, % butterfat	3.42%	3.54%	

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 THI	E HERD		
	Ne	w York Dairy F	Farm Renters an	d Owners, 2006	6	
	22 Dairy Fa	22 Dairy Farm Renters		arm Owners	My]	Farm
Item	Number	Percent*	Number	Percent*	Number	Percent*
Cows sold for beef	21	24.0	21	22.8		
Cows sold for dairy	0	0.0	1	0.7		
Cows died	5	6.1	5	6.0		
Culling rate**		30.1		28.8		

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

<u>The cost of producing milk</u> 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, <u>operating cost of producing milk</u> is estimated by deducting nonmilk accrual receipts from total accrual operating expenses plus expansion livestock purchased. <u>Purchased input cost</u> of producing milk is the operating cost plus depreciation. <u>Total cost of producing milk</u> 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.

	22 Dairy Fa	arm Renters	54 Dairy Fa	rm Owners	My Farm		
Item	Total	Per Cwt.	Total	Per Cwt.	Total	Per Cwt.	
Accrual Cost of Producing Mi	ilk						
Operating cost	\$202,004	\$11.66	\$204,705	\$11.80	\$	\$	
Purchased input cost	\$215,271	\$12.42	\$228,697	\$13.18	\$	\$	
Total cost	\$282,088	\$16.28	\$311,142	\$17.94	\$	\$	
Accrual Receipts from Milk	\$237,088	\$13.68	\$240,162	\$13.84	\$	\$	
Net Milk Receipts	\$221,170	\$12.76	\$221,548	\$12.77	\$	\$	

COST OF PRODUCING MILK AND ACCRUAL RECEIPTS FROM MILK New York Dairy Farm Renters and Owners, 2006

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 New York Dairy Farm Renters and Owners, 2006

	Average Pe	er Cwt. Milk	My Farm
Item	22 Dairy Farm	54 Dairy Farm	
	Renters	Owners	Per Cwt.
Purchased dairy grain & concentrate	\$4.27	\$4.43	¢
Purchased dairy roughage	<u>0.67</u>	<u>0.13</u>	\$
Total Purchased Dairy Feed	\$4.94	\$4.56	\$
Purchased grain & concentrate as % of milk receipts	29%	32%	%
Purchased feed & crop expense	\$5.77	\$5.47	\$
Purchased feed & crop expense as % of milk receipts	41%	39%	0⁄_0
Breeding	\$0.29	\$0.25	\$
Veterinary & medicine	0.43	0.52	
Milk marketing	0.92	1.07	
Bedding	0.12	0.18	
Milking supplies	0.38	0.41	
Cattle lease	0.00	0.01	
Custom boarding	0.19	0.14	
bST expense	0.16	0.10	
Livestock professional fees	0.13	0.08	
Other livestock expense	0.17	0.19	

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.

Item	Per Worker	Per Cow	Per Tillable Acre
22 Dairy Farm Renters:			
Farm capital	\$ 162,698	\$ 4,944	\$ 1,953
Machinery & equipment	44,702	1,358	537
Ratios			
Asset turnover	Operating expense	Interest expense	Depreciation expense
0.67	0.86	0.02	0.05
54 Dairy Farm Owners:			
Farm capital	\$ 322,890	\$ 9,983	\$ 3,630
Machinery & equipment	65,631	2,029	738
Ratios			
Asset turnover	Operating expense	Interest expense	Depreciation expense
0.34	0.83	0.05	0.08
My Farm:			
Farm capital	\$	\$	\$
Machinery & equipment			
Ratios			
Asset turnover	Operating expense	Interest expense	Depreciation expense

CAPITAL EFFICIENCY New York Dairy Farm Renters and Owners, 2006

LABOR FORCE ANALYSIS New York Dairy Farm Renters and Owners, 2006

	22 Dairy Fa	arm Renters	54 Dairy Fa	arm Owners	Му	' Farm
		Per		Per		Per
Efficiency	Total	Worker	Total	Worker	Total	Worker
Cows, average number	88	33	90	32		
Milk sold, pounds	1,733,083	648,285	1,734,762	621,036		
Tillable acres	222	83	248	89		
	22 Dairy Fa	arm Renters	54 Dairy Fa	arm Owners	Му	Farm
Labor Costs	Total	Per Cow	Total	Per Cow	Total	Per Cow
Value of operator(s) labor*	\$ 44,229	\$ 503	\$ 44,068	\$ 488	\$	\$
Family unpaid*	7,429	85	8,234	91	·	·
Hired	19,057	217	22,693	251		
Total Labor	\$ 70,715	\$ 805	\$ 74,995	\$ 831	\$	\$
Machinery Cost	\$ 51,882	\$ 591	\$ 61,603	\$ 683	\$	\$
Total Labor & Machinery	\$ 122,598	\$ 1,395	\$ 136,598	\$ 1,514	\$	\$
Hired labor expense per hired						
worker equivalent	\$ 23,772		\$ 25,261		\$	
Hired labor expense as % of	,		,			
milk sales	8.0%		9.5%		%	,)

*\$2,300 per month.

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.

	Aver	age		My Farm	
Selected Factors	2005	2006	2005	2006	Goal
Size of Business					
Average number of cows	96	98			
Average number of heifers	76	82			
Milk sold, lbs.	1,964,431	1,925,389			
Worker equivalent	2.95	2.89			
Total tillable acres	238	247			
Rates of Production	20,400	10 (00			
Milk sold per cow, lbs.	20,400	19,600			
Hay DM per acre, tons	1.8	2.3			
Corn silage per acre, tons	15.5	10.9			
Labor Efficiency					
Cows per worker	33	34			
Milk sold per worker, lbs.	665,909	666,225			
Cost Control					
Grain & concentrate purchased					
as % of milk sales	28%	32%	%	%	%
Dairy feed & crop expense					
per cwt. milk	\$5.66	\$5.81	\$	\$	\$
Labor & machinery costs/cow	\$1,368	\$1,378	\$	\$	\$
Operating cost of producing	. ,		·	·	·
cwt. milk	\$11.60	\$11.65	\$	\$	\$
Capital Efficiency*					
Farm capital per cow	\$4,900	\$4,994	\$	\$	\$
Machinery & equipment per cow	\$1,300	\$1,327	\$	\$	\$
Asset turnover ratio	0.77	0.66	Φ	Φ	Ψ
Asset turnover fatto	0.77	0.00			
Profitability	\$50.505	\$24 (7(¢	¢	¢
Net farm income without appreciation	\$59,505	\$24,676	\$	\$	\$
Net farm income with appreciation	\$71,111	\$32,138	\$	۵	۶
Labor & management income	¢01 (70	¢ 0,500	¢	¢	¢
per operator/manager	\$21,678	\$-2,532	\$	\$	\$
Rate of return on equity	4 70/		07	07	07
capital with appreciation	4.7%	-6.0%	%	%	%
Rate of return on all capital	4.8%	2 50/	0/	0/	0/
with appreciation	4.8%	-3.5%	%	%	%
Financial Summary	ФОЛИ ОСИ	#274 224	¢	¢	¢
Farm net worth, end year	\$374,304	\$374,334	\$	\$	\$
Debt to asset ratio	0.23	0.24			
Farm debt per cow	\$1,131	\$1,177	\$	\$	\$

PROGRESS OF THE FARM BUSINESS Same 17 New York Dairy Farm Renters, 2005 & 2006

*Average for the year.

		05	2006		
item	Per Cow	Per Cwt.	Per Cow	Per Cwt.	
Average Number of Cows	96		98		
Cwt. of Milk Sold		19,644		19,254	
ACCRUAL OPERATING RECEIPTS					
Milk	\$3,161	\$15.49	\$2,686	\$13.71	
Dairy cattle	245	1.20	250	1.28	
Dairy calves	68	0.33	59	0.30	
Other livestock	-1	0.00	2	0.00	
Crops	-28	-0.14	-5	-0.02	
Miscellaneous receipts	191	0.94	204	1.04	
Total Receipts	\$3,636	\$17.82	\$3,196	\$16.31	
-	ψ3,050	¢17.02	ψ5,190	ψ10.51	
ACCRUAL OPERATING EXPENSES Hired labor	\$ 199	\$ 0.97	\$ 212	\$ 1.08	
Dairy grain & concentrate	\$ 199 881	4.32	\$ 212 866	\$ 1.08 4.42	
Dairy roughage	76	4.32 0.37	100	4.42 0.51	
Nondairy feed		0.00	100	0.01	
Professional nutritional services	3	0.00	1 0	0.00	
Machine hire/rent/lease	91	0.45	80	0.00	
Machinery repair & vehicle expense	170	0.43	167	0.41	
Fuel, oil & grease	115	0.85	137	0.83	
Replacement livestock	21	0.10	25	0.70	
Breeding	59	0.29	23 55	0.13	
Veterinary & medicine	99	0.29	82	0.28	
Milk marketing	179	0.88	179	0.42	
Bedding	26	0.13	20	0.91	
Milking supplies	71	0.15	73	0.10	
Cattle lease	0	0.00	0	0.00	
Custom boarding	34	0.00	41	0.00	
oST expense	29	0.17	33	0.21	
Livestock professional fees	13	0.07	28	0.17	
Other livestock expense	46	0.22	32	0.14	
Fertilizer & lime	112	0.22	91	0.10	
Seeds & plants	43	0.33	48	0.47	
Spray/other crop expense	43	0.21	33	0.24	
Crop professional fees	43	0.00	2	0.01	
Land, building, fence repair	43	0.21	39	0.01	
Faxes	29	0.14	20	0.20	
Real estate rent/lease	153	0.75	174	0.10	
insurance	42	0.21	46	0.89	
Utilities	110	0.54	117	0.24	
Interest paid	58	0.28	54	0.00	
Other professional fees	9	0.28	13	0.27	
Miscellaneous	14	0.05	15	0.00	
Total Operating Expenses	\$2,767	\$13.56	\$2,783	\$14.20	
Expansion Livestock	\$2,707 76	0.37	\$2,785 11	0.06	
Extraordinary Expense	70 0	0.00	0	0.00	
Machinery Depreciation	164	0.81	137	0.00	
Real Estate Depreciation	104	0.05	137	0.70	
	\$3,018	\$14.79	\$2,945	\$15.03	
Total Expenses	X \$ 111 X				

RECEIPTS AND EXPENSES PER COW AND PER HUNDREDWEIGHT Same 17 New York Dairy Farm Renters, 2005 & 2006

Condensed Summary and Selected Business Factors for Two Herd Size Groups

CONDENSED FARM BUSINESS SUMMARY FOR TWO RENTER GROUPS BY HERD SIZE 22 New York Dairy Farm Renters, 2006

		arm Renters with 63 Cows		n Renters with Cows
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
ACCRUAL EXPENSES				
Hired labor	\$ 119	\$ 0.63	\$ 251	\$ 1.26
Dairy grain & concentrate	731	3.85	880	4.40
Dairy roughage	211	1.11	105	0.53
Nondairy feed	0	0.00	1	0.00
Professional nutritional services	0	0.00	0	0.00
Machine hire, rent & lease	33	0.17	86	0.43
Machine repairs & farm vehicle expense	192	1.01	167	0.83
Fuel, oil & grease	121	0.64	143	0.72
Replacement livestock	39	0.21	27	0.14
Breeding	55	0.29	57	0.28
Veterinary & medicine	63	0.33	92	0.46
Milk marketing	235	1.24	162	0.81
Bedding	40	0.21	18	0.09
Milking supplies	100	0.53	67	0.33
Cattle lease & rent	0	0.00	0	0.00
Custom boarding	7	0.04	48	0.24
bST expense	10	0.05	38	0.19
Livestock professional fees	17	0.09	29	0.15
Other livestock expense	38	0.20	32	0.16
Fertilizer & lime	61	0.32	95	0.47
Seeds & plants	29	0.15	52	0.26
Spray & other crop expense	11	0.06	38	0.19
Crop professional fees	0	0.00	2	0.01
Land, building & fence repair	42	0.22	32	0.16
Taxes & rent	176	0.93	201	1.01
Utilities	111	0.59	117	0.58
Interest paid	60	0.32	50	0.25
Other professional fees	7	0.04	14	0.07
Misc. (including insurance)	53	0.28	63	0.32
Total Operating Expenses	\$2,564	\$13.51	\$2,865	\$14.36
Expansion livestock	121	0.64	13	0.06
Extraordinary expense	0	0.00	0	0.00
Machinery depreciation	143	0.75	138	0.69
Building depreciation	16	0.08	11	0.05
Total Accrual Expenses	\$2,844	\$14.98	\$3,027	\$15.16
ACCRUAL RECEIPTS	*)-	• •• •		•
Milk sales	\$2,611	\$13.75	\$2,729	\$13.66
Dairy cattle	239	1.26	277	1.38
Dairy calves	86	0.45	59	0.29
Other livestock	4	0.02	1	0.00
Crops	28	0.15	-14	-0.07
Miscellaneous receipts	156	0.82	215	1.08
Total Accrual Receipts	\$3,124	\$16.45	\$3,267	\$16.35
PROFITABILITY ANALYSIS (Total)	<i>40,12</i>	<i>\$</i> 10.10	<i>40,201</i>	<i><i><i></i></i></i>
Net farm income (without appreciation)	\$	12,879	\$3	0,755
Net farm income (with appreciation)		17,880		8,943
Labor & management income/operator		5-1,132		2,512
Rates of return on: Equity capital without ap		-15.4%	ψ.	-5.9%
Equity capital with appre		-12.4%		-4.3%
All capital without appre		-10.4%		-3.6%
All capital with appreciat		-8.2%		-2.4%

SELECTED BUSINESS FACTORS FOR TWO RENTER GROUPS BY HERD SIZE
22 New York Dairy Farm Renters, 2006

Item	11 Dairy Farm Renters with < 63 Cows	11 Dairy Farm Renters with > 63 Cows
Cropping Program Analysis		
Total acres rented	210	421
Tillable acres rented	132	313
Hay crop acres*	132	228
Corn silage acres*	27	139
Hay crop, tons DM/acre*	1.9	2.7
Corn silage, tons/acre*	9.9	11.6
Forage DM per cow, tons*	6.6	7.4
Tillable acres/cow*	3.6	2.9
Fertilizer & lime expense/tillable acre*	\$24.55 \$168	\$30.43
Machinery cost/tillable acre*	\$168	\$239
Dairy Analysis		
Number of cows	46	130
Number of heifers	33	112
Milk sold, pounds	871,698	2,594,468
Milk sold/cow, pounds	18,987	19,985
Operating cost of producing milk/cwt.	\$11.44	\$11.73
Total cost of producing milk/cwt.	\$17.75	\$15.78
Price/cwt. milk sold	\$13.75	\$13.66
Purchased dairy feed/cow	\$942	\$985
Purchased dairy feed/cwt. milk	\$4.96	\$4.93
Purchased grain & concentrate as % of milk receipts	27%	31%
Purchased feed & crop expense/cwt. milk	\$5.50	\$5.86
Capital Efficiency		
Farm capital/worker	\$126,939	\$180,278
Farm capital/cow	\$4,866	\$4,971
Real estate/cow	\$4,800	\$365
Machinery investment/cow	\$1,596	
Asset turnover ratio	· · · · · · · · · · · · · · · · · · ·	\$1,274
Asset turnover ratio	0.66	0.67
Labor Efficiency		
Worker equivalent	1.76	3.58
Operator/manager equivalent	1.12	1.59
Milk sold/worker, lbs.	494,113	724,375
Cows/worker	26	36
Labor cost/cow	\$1,037	\$723
Financial Measures		
Percent equity	75%	78%
Debt/asset ratio - long term	0.63	0.28
Debt/asset ratio - intermediate & current	0.21	0.21
Change in net worth with appreciation	\$2,348	\$1,396
Total farm debt per cow	\$1,228	\$1,084
Debt payments made per cow	\$315	\$338
Debt payments as % of milk sales	13%	12%
Amount available for debt service	\$12,011	\$31,593
	0.36	0.56
Debt coverage ratio for 2006	0.30	0.30

*Average of farms growing forages.

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 five 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 22 New York Dairy Farm Renters, 2006

S	Size of Bus	siness	R	ates of Production	on	Labor	Efficiency
Worker Equiv-	No. of	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
alent	Cows	5010	Per Cow	DM/Acre	Pel Acle	worker	Pel Wolkel
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
6.0	225	4,569,151	23,645	4.6	19	52	1,037,441
2.7	83	1,712,376	20,841	3.0	16	37	742,534
2.2	65	1,304,446	19,257	2.5	14	32	629,583
1.7	56	1,006,790	18,217	1.9	11	26	495,427
1.3	33	549,998	14,393	1.1	5	19	310,395

Cost Control

Grain Bought	% Grain is of Milk	Machinery Costs	Labor & Machinery	Feed & Crop Expenses	Feed & Crop Expenses Per
Per Cow	Receipts	Per Cow	Costs Per Cow	Per Cow	Cwt. Milk
(12)	(12)	(14)	(14)	(12)	(12)
\$444	20%	\$253	\$1,017	\$665	\$3.87
747	27	506	1,239	1,028	5.14
846	31	612	1,567	1,094	5.54
895	33	767	1,814	1,235	6.38
991	38	903	2,213	1,479	7.83

V	alue and Cost of Produ	iction		Profitability	
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Producing Milk Per Cwt.	Net Farm Income With Appreciation	Net Farm Income Without Appreciation	Labor & Man- agement Income Per Operator
(12)	(12)	(12)	(4)	(4)	(4)
\$3,162	\$8.16	\$13.48	\$73,110	\$64,359	\$43,359
2,832	10.15	15.40	49,998	41,841	10,620
2,667	11.78	16.43	28,176	26,407	781
2,490	13.29	18.22	12,534	10,107	-13,505
2,018	15.59	26.63	-8,551	-20,196	-38,779

*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.

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
(10)*	(16)	(10)	(10)	(7)
\$ 66	\$723	2.85	0%	\$53
129	359	1.41	5	268
254	317	1.09	13	925
397	158	0.84	22	1,879
661	-311	-5.59	31	4,270

22 New York Dairy Farm Renters, 2006

FINANCIAL ANALYSIS CHART

	Solvency			fitability
		Debt/Asset Ratio	Percent Rat	e of Return with
Leverage	Percent	Current &	appreciation on:	
Ratio**	Equity	Intermediate	Equity	Investment***
(7)	(7)	(7)	(4)	(4)
-0.37	100%	0.01	18%	14%
0.04	96	0.05	1	1
0.18	91	0.18	-5	-5
0.72	61	0.44	-13	-7
2.19	4	0.64	-54	-34

	Efficiency (Capital)		
Asset	Machinery	Total Farm	Change in
Turnover	Investment	Assets	Net Worth
Ratio	Per Cow	Per Cow	With Appreciation
(14)	(14)	(14)	(8)
1.48	\$290	\$7,894	\$49,240
0.87	1,102	6,030	20,019
0.64	1,495	5,210	12,354
0.51	1,773	3,962	-2,174
0.37	3,078	2,796	-54,881

*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.

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 <u>Specific</u>.
- 2. Goals should be <u>Measurable</u>.
- 3. Goals should be <u>Achievable</u> but challenging.
- 4. Goals should be <u>Rewarding</u>.
- 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	Responsible
			1

Summarize Your Business Performance

The Farm Business and Financial Analysis Charts on pages 26 and 27 can be used to help identify strengths and weaknesses of your farm business. Identify three major strengths and three areas of your farm business that need improvement.

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 31. The balance sheet equates the value of assets to liabilities plus net worth.
- **<u>bST Usage</u>** 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)

Cash Receipts - (defined on page 6)

Change in Accounts Payable - (defined on page 5)

- Change in Accounts Receivable (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 10 and 11 of the data entry form.

Culling Rate - (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.
- **Dairy (farm)** A farm business where dairy farming is the primary enterprise, operating and managing this farm is a fulltime 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)

Depreciation Expense Ratio - 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.
- Farm Debt Payments as Percent of Milk Sales 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.
- Farm Debt Payments Per Cow 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.
- **Financial Lease** 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.
- Hired Labor Expense as % of Milk Sales The percentage of the gross milk receipts that is used for labor expense. Divide accrual hired labor expense by accrual milk sales.
- **Income Statement** 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.
- Labor and Management Income (defined on page 8)
- Labor and Management Income Per Operator The return to the owner/manager's labor and management per full-time operator.
- Labor Efficiency Production capacity and output per worker.
- Leverage Ratio (defined on page 11)

Liquidity - 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)

Net Worth - 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)
- **Operating Expense Ratio** Total accrual expenses less interest and machinery and building depreciation divided by total accrual receipts.
- **Opportunity Cost** 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>
- <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>
- <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.
- **<u>Replacement Livestock</u>** 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.
- Total Costs of Producing Milk (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.
- **Working Capital** 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.

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OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2007-18	Dairy Farm Business Summary, Southeastern New York Region, 2006	(\$12.00)	Knoblauch, W., Putnam, L., Kiraly, M., Walsh, J., Hulle, L. and S. Hadcock
2007-17	Municipal Approaches to Energy Conservation and Renewable Energy Production: A Resource for Community Energy Initiatives		Lindabury, S., Schmit, T., Howe, R. and T. Schusler
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