DAIRY FARM BUSINESS SUMMARY

NOVEMBER 2005 PRO-DAIRY *E.B. 2005-15*

NEW YORK SMALL HERD FARMS, 80 COWS OR FEWER 2004

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2004 DAIRY FARM BUSINESS SUMMARY
SMALL HERD DAIRY FARMS*

INTRODUCTION

Dairy farm managers throughout New York State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Managers of each participating farm business receive a comprehensive summary and analysis of their farm business. The information in this report represents averages of the data submitted from dairy farms in New York for 2004 with herds of 80 cows or fewer and no milking parlors.

Small farms are facing increasing management challenges in their efforts to control costs and remain profitable. This publication reports the average performance and characteristics of small farms and the average of the top 25 percent of those small farms with the highest rate of return on assets without appreciation. Thus, not only can the average performance of small farms be used as a benchmark, but the performance of the most profitable small farms as well. Identifying strengths and areas for improvement by comparing your business to that of similar farms is an important first step in focusing attention on ways to improve the business.

Program Objective

The primary objective of the dairy farm business summary, DFBS, is to help farm managers improve the business and financial management of their business through appropriate use of historical data and the application of modern farm business analysis techniques. This information can also be used to establish goals that enable the business to better fulfill its mission. In short, DFBS provides business and financial information needed in identifying and evaluating strengths and weaknesses of the farm business.

Format Features

This report follows the same general format as the 2004 DFBS individual farm report received by participating dairy farmers. The analysis tables have a column that compares the average to the top 25% of the farms by rate of return on all capital without appreciation. This report may be used by any dairy farm manager who wants to compare his or her business with the average data of small farms. The individual farm data, the averages and other data can then be used to establish goals for the business. Non-DFBS participants can download a DFBS Data Check-in Form at http://dfbs.cornell.edu. After collecting the data on the form, it can be entered in the U. S. Top Dairies business summary program at the same web site to obtain a summary of their business.

This report features:

(1) an income statement including accrual adjustments for farm business expenses and receipts, as well as measures of profitability with and without appreciation,

(2) a complete balance sheet with analytical ratios;

(3) a statement of owner equity which shows the sources of the change in owner equity during the year;

(4) a cash flow statement and debt repayment ability analysis;

(5) an analysis of crop acreage, yields, and expenses;

(6) an analysis of dairy livestock numbers, production, and expenses;

(7) a capital and labor efficiency analysis; and

(8) progress of the farm business over the past two years.

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*The small herd summary is comprised of farms with 80 or fewer cows and that do not use a milking parlor. Many counties had farms that met this criteria in 2004. This report was written by Wayne A. Knoblauch, Professor, Farm Management; Mariane Kiraly, Cooperative Extension Educator in Delaware County; and Jason Karszes, Senior Extension Associate, Pro-Dairy. Linda Putnam was in charge of data preparation.

PROGRESS OF THE FARM BUSINESS

The year 2004 was exceptional for dairy farmers following one of the worst years in recent history. Milk prices climbed at an unprecedented pace through the year until record Class I prices were set in May, June, and July of $22.90, $24.38, and $21.20, respectively, when supply was not keeping up with demand. Farmers caught up from the doldrums of 2002 and 2003, only to find that increases in input prices would cut into their profits. Equipment, cow, and energy prices increased dramatically.

The average number of cows per farm was down by two cows or 3.6 percent when compared to 2003. The high cost of replacements may have been a factor with farms choosing not to purchase to maintain herd size. The number of heifers was down by one animal or 2.4 percent. Heifer calves also brought very high prices, averaging around $5 per pound most of the year for good heifers. Some producers may have sold heifers due to the high price. Total milk sold and milk per cow were down slightly, likely due to poor forages both in 2003 and in 2004. A very wet crop year in 2004 made for poor quality dry hay and mature silages. Worker equivalent per farm continued to shrink by 3.1 percent as farmers found more efficient ways to make crops and feed cows. The increased use of baleage, ag bags, automatic feeding systems, TMR mixers, and automatic take-offs all help farmers do more with less labor. Hired labor as a percent of milk sales dropped nearly 33 percent, largely due to increased milk prices.

High milk prices reduced the ratio of grain as a percent of milk sales by 12.9 percent. Farmers were able to feed their cows for high milk production with moderate feed prices and high milk prices. Purchased grain averaged $4.53 per hundredweight of milk sold in 2004 and $4.09 per hundredweight of milk sold in 2003. Dairy feed and crop expenses per hundredweight went up nearly 11 percent, with the purchased concentrate being the largest factor of this increase, followed by the increase in fertilizer expenses. The increased cost of inputs coupled with the decrease in milk production increased farm operating expenses per hundredweight by 11.9 percent. Higher crop inputs, higher fuel costs, and increased grain costs and feeding levels were the major factors that led to the increased costs.

With interest rates increasing in 2004, zero interest programs for equipment financing ending, and less milk being shipped off the farm, interest costs rose 9.4 percent per hundredweight. The increase in operating costs along with the decrease in government program payments resulted in the operating cost of producing a hundredweight of milk rising from $10.05 to $12.22 or by 21.6 percent.

Farm capital per cow rose by 9.8 percent due to higher prices for new and used equipment and less cows as of the end of the year. Worldwide demand for steel and the increased cost of transportation has led to increased costs for new machinery.

Gross milk sales per cow increased 29.2 percent and gross milk sales per hundredweight increased 29.6 percent (from $13.12 to $17.00) due to the higher price for milk. Net milk sales per hundredweight increased 31.9 percent to $16.02 per hundredweight, a record level. No MILC payments were made in 2004 as government payments fell 67.3 percent for the year. The high prices paid for calves caused calf sales to increase by 60.7 percent. Beef prices were good overall for the year.

Dairy farmers made good profits and were elated over the milk prices for the year. Net farm income without appreciation rose by 73.6 percent to $31,303. However, some farms continued to struggle while trying to recover from 2002 and 2003 cash flow challenges. Net farm income with appreciation rose 79.2 percent mainly due to higher equipment values and increasing land values. As land prices rise, rates of return on all capital will not be as high as the value of the farm is increasing without a corresponding increase in revenue generation. Net worth rose 13.2 percent while farmers paid down debt and assets increased in value. Debt per cow decreased 7.8 percent as farms paid off lines of credit and financed purchases made in 2002 and 2003.

Overall, 2004 was a year to recover from the extremely low prices in 2002 and 2003. Most looked forward to 2005 with optimism as demand for dairy products continued to increase. The Canadian border remained closed to dairy animals and the CWT program continued to remove dairy cows from production across the country.

PROGRESS OF THE FARM BUSINESS
Same 35 Small Herd Dairy Farms, 2003 & 2004

Selected Factors	Average of 35 Farms 2003	Average of 35 Farms 2004	Percent Change
Size of Business			
Average number of cows	55	53	-3.6
Average number of heifers	42	41	-2.4
Milk sold, lbs.	970,304	938,551	-3.3
Worker equivalent	2.25	2.18	-3.1
Total tillable acres	199	198	-0.5
Rates of Production			
Milk sold per cow, lbs.	17,799	17,747	-0.3
Hay DM per acre, tons	2.1	2.2	4.8
Corn silage per acre, tons	14.0	15.7	12.1
Labor Efficiency & Costs			
Cows per worker	24	24	0.0
Milk sold/worker, lbs.	431,246	430,528	-0.2
Hired labor cost/cwt.	$0.88	$0.77	-12.5
Hired labor cost/worker	$22,316	$18,663	-16.4
Hired labor cost as % of milk sales	6.7%	4.5%	-32.8
Cost Control			
Grain & concentrate purchased as % of milk sales	31%	27%	-12.9
Grain & concentrate per cwt. milk	$4.09	$4.53	10.8
Dairy feed & crop expense per cwt. milk	$4.95	$5.49	10.9
Labor & machinery costs/cow	$1,629	$1,719	5.5
Total farm operating expenses per cwt. sold	$13.27	$14.85	11.9
Interest costs per cwt. milk	$0.53	$0.58	9.4
Milk marketing costs per cwt. milk sold	$0.97	$0.98	1.0
Operating cost of producing cwt. of milk	$10.05	$12.22	21.6
Capital Efficiency(average for the year)			
Farm capital per cow	$9,165	$10,061	9.8
Machinery & equipment per cow	$1,838	$1,943	5.7
Asset turnover ratio	0.34	0.39	14.7
Income Generation			
Gross milk sales per cow	$2,336	$3,017	29.2
Gross milk sales per cwt.	$13.12	$17.00	29.6
Net milk sales per cwt.	$12.15	$16.02	31.9
Dairy cattle sales per cow	$185	$158	-14.6
Dairy calf sales per cow	$28	$45	60.7
Government receipts per cwt.	$1.56	$0.51	-67.3
Profitability			
Net farm income without appreciation	$18,037	$31,303	73.6
Net farm income with appreciation	$28,868	$51,734	79.2
Labor & management income per oper./manager	$-8,188	$1,629	119.9
Rate of return on equity capital without apprec.	-6.2%	-2.2%	64.5
Rate of return on all capital without appreciation	-3.7%	-0.7%	81.1
Financial Summary			
Farm net worth, end year	$381,049	$431,287	13.2
Debt to asset ratio	0.25	0.21	-16.0
Farm debt per cow	$2,289	$2,111	-7.8

SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics

Planning optimal management strategies is a crucial component of operating a successful farm. Various combinations of farm resources, enterprises, business arrangements, and management techniques are used by the dairy farmers. The following table shows important farm business characteristics and the number of farms with each characteristic. Farms with a parlor milking system were eliminated from the small herd (80 or fewer cows) group of dairy farms.

BUSINESS CHARACTERISTICS
41 Small Herd Dairy Farms, 2004

Type of Farm	Number
Dairy	41
Part-time dairy	0
Dairy cash-crop	0
Certified organic milk producer	0
Rotational grazing farms	14

Type of Ownership	Number
Owner	41
Renter	0

Type of Business	Number
Sole Proprietorship	31
Partnership	9
Corporation	1

Type of Barn	Number
Stanchion or Tie-Stall	40
Freestall	0
Combination	1

Milking Frequency	Number
2 times per day	41
3 times per day	0
Other	0

Breed of Herd	Percent
Holstein	89
Jersey	8
Other	3

Milking System	Number
Bucket & carry	1
Dumping station	1
Pipeline	39
Herringbone parlor	0
Other parlor	0

Production Records	Number
Testing service	32
On-farm system	1
Other	1
None	7

bST Usage	Number
Used consistently	5
Used inconsistently	2
Started usage in 2004	0
Stopped usage in 2004	0
Not used in 2004	34
Average percent usage, if used	60%

Business Record System	Number
Account Book	12
Accounting Service	10
On-farm computer	16
Other	3

Income Statement

In order for an income statement to accurately measure farm income, it must include cash transactions and accrual adjustments (changes in accounts payable, accounts receivable, inventories, and prepaid expenses).

Cash paid is the actual cash outlay during the year and does not necessarily represent the cost of goods and services actually used in 2004.

Change in inventory: Increases in inventories of supplies and other purchased inputs are subtracted in computing accrual expenses because they represent purchased inputs not actually used during the year. Decreases in purchased inventories are added to expenses because they represent inputs purchased in a prior year and used this year.

Change in prepaid expenses (noted by <<) is a net change in non-inventory expenses that have been paid in advance of their use. For example, prepaid lease expense on the beginning of year balance sheet represents last year's payment for use of the asset during this year. End of year prepaid expense represents payments made this year for next year's use of the asset. Adding payments made last year for this year's use of the asset, and subtracting payments made this year for next year's use of the asset is accomplished by subtracting the difference.

CASH AND ACCRUAL FARM EXPENSES
41 Small Herd Dairy Farms, 2004

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
Hired Labor	$ 6,617		$ 0	<<	$ -6		$ 6,611
Feed							
Dairy grain & concentrate	43,317		34		-370		42,913
Dairy roughage	2,873		5		-301		2,567
Nondairy	2		0		0		2
Professional nutritional services	57		0	<<	0		57
Machinery							
Machinery hire, rent & lease	3,101		0	<<	-68		3,034
Machinery repairs & farm vehicle exp.	11,656		23		-220		11,413
Fuel, oil & grease	5,275		59		-31		5,185
Livestock							
Replacement livestock	2,415		0	<<	-176		2,240
Breeding	3,318		-25		107		3,449
Veterinary & medicine	4,686		22		-34		4,631
Milk marketing	8,922		0	<<	-46		8,876
Bedding	2,018		73		0		1,945
Milking supplies	4,465		-4		-42		4,428
Cattle lease & rent	15		0	<<	0		15
Custom boarding	569		0	<<	6		575
bST	509		-2		10		521
Livestock professional fees	872		31	<<	3		844
Other livestock expense	2,550		-60		18		2,627
Crops							
Fertilizer & lime	4,309		346		-87		3,875
Seeds & plants	2,064		103		-85		1,876
Spray, other crop expense	1,252		-17		43		1,313
Crop professional fees	295		0	<<	48		344
Real Estate							
Land, building & fence repair	3,640		8		-274		3,358
Taxes	4,937		3	<<	-120		4,815
Rent & lease	2,215		0	<<	-10		2,205
Other							
Insurance	3,754		0	<<	43		3,797
Utilities (farm share)	6,153		0	<<	15		6,169
Interest paid	6,021		0	<<	33		6,055
Other professional fees	663		0	<<	-30		633
Miscellaneous	1,348		2		21		1,367
Total Operating	$139,891		$ 602		$ -1,549		$ 137,740
Expansion livestock	341		0	<<	0		341
Extraordinary expense	38		0	<<	0		38
Machinery depreciation							10,487
Building depreciation							3,509
TOTAL ACCRUAL EXPENSES							$ 152,114

Change in accounts payable: An increase in accounts payable from beginning to end of year is added when calculating accrual expenses because these expenses were incurred (resources used) in 2004 but not paid for. A decrease is subtracted because it represents payment for resources used before 2004.

Accrual expenses are an estimate of the costs of inputs, except operator/family labor and equity capital, actually used in this year's production. They are the cash paid, less changes in inventory and prepaid expenses, plus accounts payable.

CASH AND ACCRUAL FARM RECEIPTS
41 Small Herd Dairy Farms, 2004

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	$ 158,941				$ 943		$ 159,884
Dairy cattle	9,131		$ 563		-141		9,552
Dairy calves	2,600		-42		0		2,558
Other livestock	878		85		0		963
Crops	2,404		2,328		-179		4,552
Government receipts	4,357		0 *		-112		4,245
Custom machine work	308				18		327
Gas tax refund	141				0		141
Other	3,317				-78		3,239
Less nonfarm noncash capital**		(-)	24 **			(-)	24
Total Receipts	$ 182,076		$ 2,910		$ 451		$ 185,436

*Change in advanced government receipts.
**Gifts or inheritances of cattle or crops included in inventory.

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

Changes in inventory of assets produced by the business are calculated by subtracting beginning of year values from end of year values excluding appreciation. Increases in livestock inventory caused by herd growth and/or quality are added, and decreases caused by herd reduction and/or quality are subtracted. Changes in inventories of crops grown are also included. An increase in advanced government receipts is subtracted from cash income because it represents income received in 2004 for the 2004 crop year in excess of funds earned for 2004. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2004 but received in 2003.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January 2005 for milk produced in December 2004 compared to January 2004 payments for milk produced in 2003 are included as a change in accounts receivable in determining accrual milk sales.

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

Profitability Analysis

Farm operators* contribute labor, management, and equity capital to their businesses and the combination of these resources, and the other resources used in the business, determines profitability. 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.

The return to any individual resource must be viewed as an estimate because the cost of other family resources must be approximated to calculate returns to the selected resource. For example, the costs of operator and family labor and management must be approximated to calculate the returns to equity capital.

* Operators are the individuals who are integrally involved in the operation and management of the farm business. They are not limited to those who are the owner of a sole proprietorship or are formally a member of the partnership or corporation.

Net farm income is the return to the farm operators and other unpaid family members for their labor, management, and equity capital. It is the farm family's net annual return from working, managing, and financing 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 both 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). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

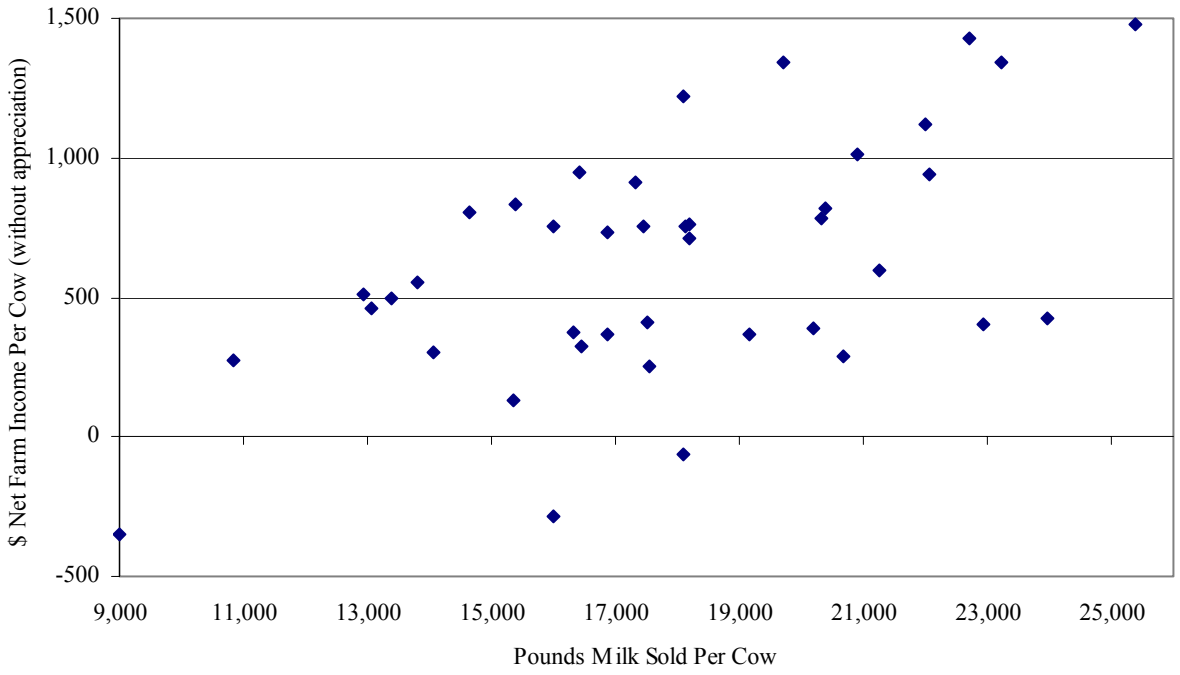
NET FARM INCOME
41 Small Herd Dairy Farms, 2004

Item	Average 41 Farms Total	Average 41 Farms Per Cow	Top 25% Farms* Total	Top 25% Farms* Per Cow
Total accrual receipts	$ 185,436		$ 216,318	
Appreciation: Livestock	7,954		6,055	
Machinery	2,146		1,167	
Real Estate	9,334		4,062	
Other Stock & Certificates	160		130	
Total Including Appreciation	$ 205,031		$ 227,731	
Total accrual expenses	- 152,114		- 157,528	
Net Farm Income (with appreciation)	$ 52,917	$ 1,008	$ 70,203	$ 1,244
Net Farm Income (without appreciation)	$ 33,322	$ 635	$ 58,790	$ 1,041

*Top 25% of small herd farms by rate of return on all assets without appreciation.

The chart below shows the relationship between net farm income per cow (without appreciation) and pounds of milk sold per cow. Generally, farms with a higher production per cow have higher profitability per cow.

NET FARM INCOME PER COW AND MILK PER COW
41 Small Herd Dairy Farms, 2004



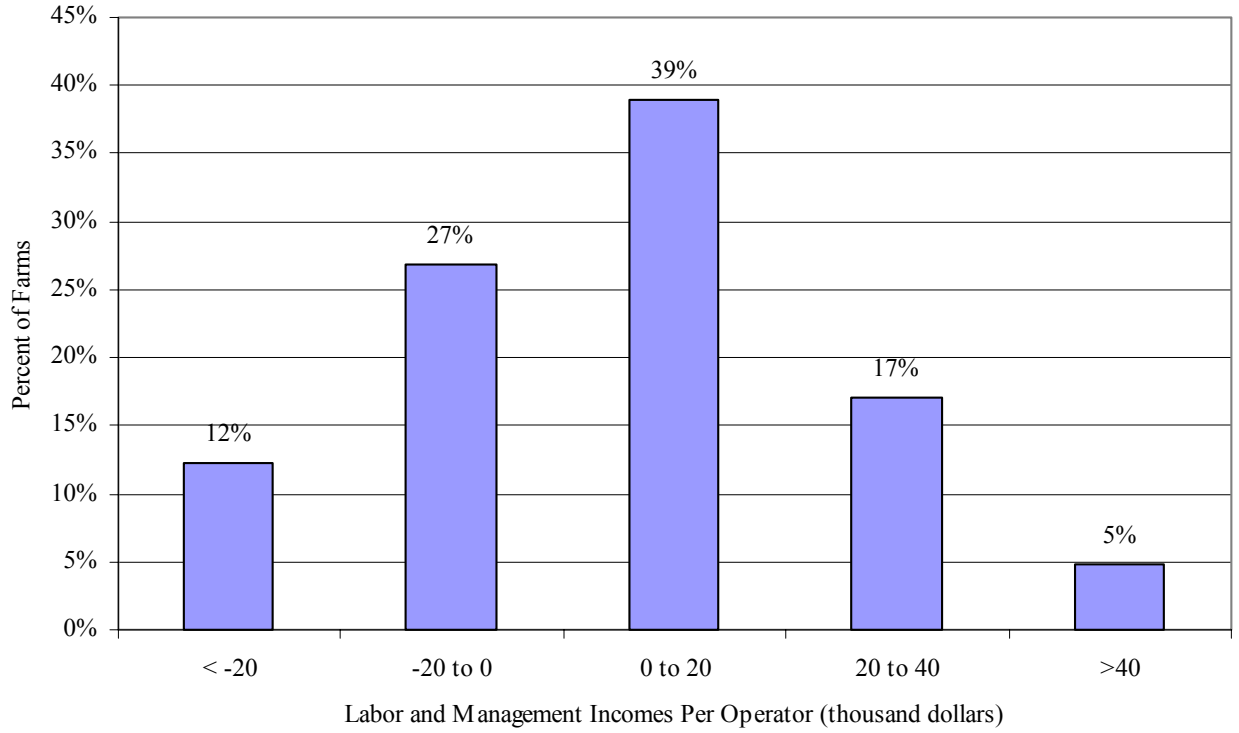
Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and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

LABOR AND MANAGEMENT INCOME
41 Small Herd Dairy Farms, 2004

Item	Average 41 Farms	Top 25% Farms
Net farm income without appreciation	$ 33,322	$ 58,790
Family labor unpaid @ $2,200 per month	- 8,473	- 6,720
Interest on $399,911 average equity capital @ 5% real rate	- 19,996	- 15,935
($318,706 average equity capital for top 25% farms)		
Labor & Management Income per farm (1.27 Operators/farm)	$ 4,854	$ 36,135
(1.17 operators per farm for top 25% farms)		
Labor & Management Income per Operator/Manager	$ 3,822	$ 30,885

Labor and management income per operator averaged $3,822 on these 41 farms in 2004. The range in labor and management income per operator was from less than $-99,000 to more than $57,000. Returns to labor and management were negative on 39 percent of the farms. Labor and management income per operator was between $0 and $20,000 on 39 percent of the farms while 22 percent showed labor and management incomes of $20,000 or more per operator.

DISTRIBUTION OF LABOR & MANAGEMENT INCOMES PER OPERATOR
41 Small Herd Dairy Farms, 2004



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

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
41 Small Herd Dairy Farms, 2004

Item	Average 41 Farms	Top 25% Farms
Net farm income with appreciation	$ 52,917	$ 70,203
Family labor unpaid @$2,200 per month	- 8,473	- 6,720
Value of operators' labor & management	- 32,063	- 30,982
Return on equity capital with appreciation	$ 12,381	$ 32,502
Interest paid	+ 6,055	+ 8,734
Return on total capital with appreciation	$ 18,435	$ 41,236
Return on equity capital without appreciation	$ -7,214	$ 21,088
Return on total capital without appreciation	$ -1,159	$ 29,822
Rate of return on average equity capital:		
with appreciation	3.1%	10.2%
without appreciation	-1.8%	6.6%
Rate of return on average total capital:		
with appreciation	3.6%	8.8%
without appreciation	-0.2%	6.4%
Net farm income from operations ratio	0.18	0.27

Farm and Family Financial Status

The first step in evaluating the financial position of the farm is to construct a balance sheet which identifies and values 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.

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. For 2004, lease payments were discounted by 5.75 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 2004 that are for participation in the 2005 program are the end year balance and payments received in 2003 for participation in the 2004 program are the beginning year balance.

Current Portion or principal due in the next year for intermediate and long term debt is included as a current liability.

2004 FARM BUSINESS & NONFARM BALANCE SHEET

41 Small Herd Dairy Farms, 2004

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 3,610	$ 4,155	Accounts payable	$ 6,294	$ 4,745
Accounts receivable	10,697	11,147	Operating debt	7,817	7,053
Prepaid expenses	59	92	Short Term	220	0
Feed & supplies	30,486	33,382	Advanced govt. receipts	0	0
			Current Portion:		
			Intermediate	9,140	11,439
			Long Term	2,974	3,170
Total Current	$ 44,852	$ 48,776	Total Current	$ 26,445	$ 26,407
Intermediate			Intermediate		
Dairy cows:			Structured debt		
owned	$ 69,167	$ 73,866	1-10 years	$ 53,327	$ 51,419
leased	0	0	Financial lease		
Heifers	34,593	38,322	(cattle/machinery)	80	495
Bulls & other livestock	1,732	1,863	Farm Credit stock	616	640
Mach. & equip. owned	99,170	106,044	Total Intermediate	$ 54,024	$ 52,555
Mach. & equip. leased	80	495			
Farm Credit stock	616	640			
Other stock/certificate	3,359	3,643			
Total Intermediate	$ 208,716	$ 224,874			
			Long Term		
Long Term			Structured debt		
Land & buildings:			>10 years	$ 47,022	$ 42,963
owned	$ 257,264	$ 264,752	Financial lease		
leased	0	0	(structures)	0	0
Total Long Term	$ 257,264	$ 264,752	Total Long Term	$ 47,022	$ 42,963
			Total Farm Liab.	$ 127,491	$ 121,925
Total Farm Assets	$ 510,832	$ 538,403	FARM NET WORTH	$ 383,341	$ 416,478

Nonfarm Assets, Liabilities & Net Worth (Average of 25 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	$ 5,444	$ 6,527	Nonfarm Liabilities	$ 989	$ 644
Cash value life insurance	8,016	8,843			
Nonfarm real estate	16,498	17,200			
Auto (personal share)	6,260	6,064			
Stocks & bonds	14,311	16,543			
Household furnishings	12,068	11,828			
All other nonfarm assets	1,274	1,420			
Total Nonfarm Assets	$ 63,871	$ 68,425	NONFARM NET WORTH	$ 62,882	$ 67,781

Farm & Nonfarm Assets, Liabilities, and Net Worth*	Jan. 1	Dec. 31
Total Assets	$ 574,703	$ 606,828
Total Liabilities	128,480	122,569
TOTAL FARM & NONFARM NET WORTH	$ 446,223	$ 484,259

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

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 and multiplying by 100. 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 dollar 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
41 Small Herd Dairy Farms, 2004

Item			Average 41 Farms		Top 25% Farm	
Financial Ratios - Farm:						
Percent equity			77%		69%	
Debt/asset ratio: total			0.23		0.31	
long-term			0.16		0.33	
intermediate/current			0.29		0.30	
Leverage ratio			0.29		0.46	
Current ratio			1.85		1.77	
Working capital	$22,371	As % of total Expenses:	15%	$22,726	14%	
Farm Debt Analysis:						
Accounts payable as % of total debt			4%		3%	
Long-term liabilities as a % of total debt			35%		43%	
Current & intermediate liabilities as a % of total debt			65%		57%	
Cost of term debt (weighted average)			4.9%		5.6%	
Farm Debt Levels:		Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned	
Total farm debt		$2,251	$1,080	$2,671	$1,382	
Long-term debt		793	381	1,147	593	
Intermediate & long term		1,763	846	2,160	1,117	
Intermediate & current debt		1,458	700	1,524	788	

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

FARM INVENTORY BALANCE
41 Small Herd Dairy Farms, 2004

Item	Average 41 Farms			
	Real Estate		Machinery & Equipment	
Value beginning of year		$ 257,264		$ 99,170
Purchases	$ 2,618*		$ 13,863	
Gift & inheritance	+ 0		+ 2,328	
Lost capital	- 412			
Sales	- 543		- 976	
Depreciation	- 3,509		- 10,487	
Net investment		= -1,846		= 4,728
Appreciation		+ 9,334		+ 2,146
Value end of year		$ 264,752		$ 106,044

*$883 land and $1,735 buildings and/or depreciable improvements.

The Statement of Owner Equity has two purposes. It allows (1) verification that the accrual income statement and market value balance sheet are 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 you 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) , (3) increases or decreases in the value (price) of assets owned by the business (called change in valuation equity), and (4) the error in the business cash flow accounting.

Retained earnings is an excellent indicator of farm generated financial progress.

STATEMENT OF OWNER EQUITY (RECONCILIATION)
41 Small Herd Dairy Farms, 2004

Item	Average 41 Farms		Top 25% Farms	
Beginning of year farm net worth		$ 383,341		$ 301,381
Net farm income without appreciation	$ 33,322		$ 58,790	
+Nonfarm cash income	+ 8,291		+ 7,376	
-Personal withdrawals & family expenditures excluding nonfarm borrowings	- 31,446		- 42,717	
RETAINED EARNINGS		+ $ 10,167		+$ 23,449
Nonfarm noncash transfers to farm	$ 2,353		$ 0	
+Cash used in business from nonfarm capital	+ 1,719		+ 1,847	
-Note or mortgage from farm real estate sold (nonfarm)	- 0		- 0	
CONTRIBUTED/WITHDRAWN CAPITAL		+ $ 4,071		+$ 1,847
Appreciation	$ 19,594		$ 11,413	
-Lost capital	- 412		- 568	
CHANGE IN VALUATION EQUITY		+ $ 19,182		+$ 10,845
IMBALANCE/ERROR		- $ 283		- $ 1,491
End of year net worth*		= $ 416,478		=$ 336,032

Change in Net Worth		
Without appreciation	$13,543	$23,237
With appreciation	$33,137	$34,651

*May not add to total 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 annual cash flow statement 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
41 Small Herd Dairy Farms, 2004

Item			Average 41 Farms	
Cash Flow from Operating Activities				
	Cash farm receipts	$ 182,076		
-	Cash farm expenses	139,891		
-	Extraordinary expense	38		
=	Net cash farm income		$ 42,147	
	Personal withdrawals & family expenses including nonfarm debt payments	$ 31,500		
-	Nonfarm income	8,291		
-	Net cash withdrawals from the farm		$ 23,209	
=	Net Provided by Operating Activities			$ 18,938
Cash Flow From Investing Activities				
	Sale of assets: machinery	$ 976		
	+ real estate	543		
	+ other stock & cert.	25		
=	Total asset sales		$ 1,544	
	Capital purchases: expansion livestock	$ 341		
	+ machinery	13,863		
	+ real estate	2,618		
	+ other stock & cert.	149		
-	Total invested in farm assets		$ 16,971	
=	Net Provided by Investment Activities			$ -15,426
Cash Flow From Financing Activities				
	Money borrowed (intermediate & long term)	$ 12,608		
+	Money borrowed (short term)	0		
+	Increase in operating debt	0		
+	Cash from nonfarm capital used in business	1,719		
+	Money borrowed - nonfarm	54		
=	Cash inflow from financing		$ 14,381	
	Principal payments (intermediate & long term)	$ 16,081		
+	Principal payments (short term)	220		
+	Decrease in operating debt	764		
-	Cash outflow for financing		$ 17,064	
=	Net Provided by Financing Activities			$ -2,683
Cash Flow From Reserves				
	Beginning farm cash, checking & savings		$ 3,610	
-	Ending farm cash, checking & savings		4,155	
=	Net Provided from Reserves			$ -546
Imbalance (error)				$ 283

ANNUAL CASH FLOW STATEMENT
Top 25% Small Herd Dairy Farms, 2004

Item			Top 25% Farms	
Cash Flow from Operating Activities				
	Cash farm receipts	$ 206,763		
-	Cash farm expenses	143,875		
-	Extraordinary expense	0		
=	Net cash farm income		$ 62,888	
	Personal withdrawals & family expenses including nonfarm debt payments	$ 42,919		
-	Nonfarm income	7,376		
-	Net cash withdrawals from the farm		$ 35,543	
=	Net Provided by Operating Activities			$ 27,345
Cash Flow From Investing Activities				
	Sale of assets: machinery	$ 1,979		
	+ real estate	598		
	+ other stock & cert.	94		
=	Total asset sales		$ 2,671	
	Capital purchases: expansion livestock	$ 545		
	+ machinery	14,045		
	+ real estate	2,403		
	+ other stock & cert.	471		
-	Total invested in farm assets		$ 17,465	
=	Net Provided by Investment Activities			$ -14,794
Cash Flow From Financing Activities				
	Money borrowed (intermediate & long term)	$ 8,455		
+	Money borrowed (short term)	0		
+	Increase in operating debt	1,459		
+	Cash from nonfarm capital used in business	1,847		
+	Money borrowed - nonfarm	201		
=	Cash inflow from financing		$ 11,963	
	Principal payments (intermediate & long term)	$ 22,418		
+	Principal payments (short term)	182		
+	Decrease in operating debt	0		
-	Cash outflow for financing		$ 22,600	
=	Net Provided by Financing Activities			$ -10,636
Cash Flow From Reserves				
	Beginning farm cash, checking & savings		$ 3,178	
-	Ending farm cash, checking & savings		3,603	
=	Net Provided from Reserves			$ -424
Imbalance (error)				$ 1,491

Repayment Analysis

A valuable use of 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 2005. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2005 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Small Herd Dairy Farms, 2003 & 2004

	Same 35 Dairy Farms			Same 8 Top 25% Farms		
	2004 Payments		Planned	2004 Payments		Planned
Debt Payments	Planned	Made	2005	Planned	Made	2005
Long-term	$ 5,740	$ 7,498	$ 5,185	$ 8,168	$ 10,407	$ 6,902
Intermediate-term	12,962	13,156	13,650	17,999	17,476	17,223
Short-term	258	258	0	255	253	0
Operating (net reduction)	70	1,970	537	108	430	0
Accounts payable (net reduction)	57	2,032	406	0	246	2
Total	$ 19,088	$ 24,914	$ 19,778	$ 26,529	$ 28,811	$ 24,126
Per cow	$ 361	$ 471		$ 465	$ 505	
Per cwt. 2004 milk	$ 2.03	$ 2.65		$ 2.46	$ 2.67	
Percent of total 2004 receipts	10%	13%		13%	14%	
Percent of 2004 milk receipts	12%	16%		15%	16%	

The cash flow coverage ratio and debt coverage ratio measure the ability of the farm business to meet its planned debt payments schedule. The ratios show the percentage of payments planned for 2004 (as of December 31, 2003) that could have been made with the amount available for debt service in 2004. Farmers who did not participate in DFBS in 2003 have their 2004 cash flow coverage ratio based on planned debt payments for 2005.

COVERAGE RATIOS
Same 35 Small Herd Dairy Farms, 2003 & 2004

Item	Average	Item	Average
Cash Flow Coverage Ratio		Debt Coverage Ratio	
Cash farm receipts	$182,163	Net farm income (without appreciation)	$31,303
- Cash farm expenses	141,131	+ Depreciation	13,556
+ Interest paid (cash)	5,401	+ Interest paid (accrual)	5,440
- Net personal withdrawals from farm*	23,596	- Net personal withdrawals from farm*	23,596
(A) = Amount Available for Debt Service	$ 22,836	(A') = Repayment Capacity	$26,703
(B) = Debt Payments Planned for 2004 (as of December 31, 2003)	$ 19,088	(B) = Debt Payments Planned for 2004 (as of December 31, 2003)	$19,088
(A/ B)= Cash Flow Coverage Ratio for 2004	1.20	(A'/B)= Debt Coverage Ratio for 2004	1.40

Same 8 Top 25% Dairy Farms, 2003 & 2004

(A) = Amount Available for Debt Service	$ 31,293	(A') = Repayment Capacity	$ 39,147
(B) = Debt Payments Planned for 2004	26,529	(B) = Debt Payments Planned for 2004	26,529
(A/ B)= Cash Flow Coverage Ratio for 2004	1.18	(A'/B)= Debt Coverage Ratio for 2004	1.48

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

ANNUAL CASH FLOW WORKSHEET

41 Small Herd Dairy Farms, 2004

Item	Average 41 Farms Per Cow	Per Cwt.	Total
Number cows and cwt. milk	53	9,447	
Accrual Operating Receipts			
Milk	$ 3,045	$ 16.92	$ 159,884
Dairy cattle	182	1.01	9,552
Dairy calves	49	0.27	2,558
Other livestock	18	0.10	963
Crops	87	0.48	4,552
Miscellaneous receipts	151	0.84	7,926
Total	$ 3,531	$ 19.63	$ 185,436
Accrual Operating Expenses			
Hired labor	$ 126	$ 0.70	$ 6,611
Dairy grain & concentrate	817	4.54	42,913
Dairy roughage	49	0.27	2,567
Nondairy feed	0	0.00	2
Professional nutritional services	1	0.01	57
Machinery hire/rent/lease	58	0.32	3,034
Machinery repair & farm vehicle expense	217	1.21	11,413
Fuel, oil & grease	99	0.55	5,185
Replacement livestock	43	0.24	2,240
Breeding	66	0.37	3,449
Veterinary & medicine	88	0.49	4,631
Milk marketing	169	0.94	8,876
Bedding	37	0.21	1,945
Milking supplies	84	0.47	4,428
Cattle lease	0	0.00	15
Custom boarding	11	0.06	575
bST expense	10	0.06	521
Livestock professional fees	16	0.09	844
Other livestock expense	50	0.28	2,627
Fertilizer & lime	74	0.41	3,875
Seeds & plants	36	0.20	1,876
Spray & other crop expenses	25	0.14	1,313
Crop professional fees	7	0.04	344
Land, building, fence repair	64	0.36	3,358
Taxes	92	0.51	4,815
Real estate rent/lease	42	0.23	2,205
Insurance	72	0.40	3,797
Utilities	117	0.65	6,169
Miscellaneous	38	0.21	2,000
Total Less Interest Paid	$ 2,508	$ 13.94	$ 131,685
Net Accrual Operating Income (without interest paid)	$ 1,024	$ 5.69	$ 53,751
- Change in livestock/crop inventory*	55	0.31	2,910
- Change in accounts receivable	9	0.05	451
- Change in feed/supply inventory**	11	0.06	602
+ Change in accts. payable***	-30	-0.17	-1,582
NET CASH FLOW	$ 918	$ 5.10	$ 48,206
- Net personal withdrawals from farm (see footnote on p. 16)	$ 441	$ 2.45	$ 23,155
Available for Farm Debt Payments & Investments	$ 477	$ 2.65	$ 25,051
- Farm debt payments	489	2.72	25,668
Available for Farm Investment	$ -12	$ -0.07	$ -617
- Capital purchases: cattle, machinery & improvements	$ 323	$ 1.80	$ 16,971
Additional Capital Needed	$ -335	$ -1.86	$ -17,587

*Includes change in advance government receipts. **Includes change in prepaid expenses.

***Excludes change in interest account payable.

ANNUAL CASH FLOW WORKSHEET

Top 25% Small Herd Dairy Farms, 2004

Item	Average Top 25% Farms Per Cow	Per Cwt.	Total
Number of cows or cwt. milk	56	11,016	
Accrual Operating Receipts			
Milk	$ 3,267	$ 16.74	$ 184,415
Dairy cattle	276	1.41	15,564
Dairy calves	58	0.29	3,248
Other livestock	10	0.05	536
Crops	111	0.57	6,268
Miscellaneous receipts	111	0.57	6,285
Total	$ 3,832	$ 19.64	$ 216,318
Accrual Operating Expenses			
Hired labor	$ 92	$ 0.47	$ 5,211
Dairy grain & concentrate	774	3.96	43,664
Dairy roughage	96	0.49	5,423
Nondairy feed	0	0.00	9
Professional nutritional services	2	0.01	85
Machinery hire/rent/lease	56	0.29	3,159
Machinery repair & farm vehicle expense	194	0.99	10,937
Fuel, oil & grease	68	0.35	3,856
Replacement livestock	21	0.11	1,182
Breeding	59	0.30	3,336
Veterinary & medicine	94	0.48	5,332
Milk marketing	147	0.75	8,286
Bedding	57	0.29	3,206
Milking supplies	64	0.33	3,617
Cattle lease	0	0.00	0
Custom boarding	23	0.12	1,320
bST expense	15	0.08	847
Livestock professional fees	23	0.12	1,296
Other livestock expense	43	0.22	2,436
Fertilizer & lime	76	0.39	4,273
Seeds & plants	39	0.20	2,213
Spray & other crop expenses	27	0.14	1,519
Crop professional fees	16	0.08	911
Land, building, fence repair	91	0.46	5,118
Taxes	71	0.36	3,994
Real estate rent/lease	26	0.13	1,441
Insurance	50	0.26	2,826
Utilities	117	0.60	6,594
Miscellaneous	30	0.15	1,681
Total Less Interest Paid	$ 2,370	$ 12.14	$ 133,770
Net Accrual Operating Income (without interest paid)	$ 1,462	$ 7.49	$ 82,548
- Change in livestock/crop inventory*	145	0.74	8,182
- Change in accounts receivable	24	0.12	1,373
- Change in feed/supply inventory**	24	0.13	1,378
+ Change in accounts payable***	-2	-0.01	-118
NET CASH FLOW	$ 1,267	$ 6.49	$ 71,497
- Net personal withdrawals from farm (see footnote p.16)	$ 626	$ 3.21	$ 35,341
Available for Farm Debt Payments & Investments	$ 641	$ 3.28	$ 36,156
- Farm debt payments	555	2.85	31,350
Available for Farm Investment	$ 85	$ 0.44	$ 4,806
- Capital purchases: cattle, machinery & improvements	$ 309	$ 1.59	$ 17,465
Additional Capital Needed	$ 224	$ 1.15	$ 12,659

*Includes change in advance government receipts. **Includes change in prepaid expenses.

***Excludes change in interest account payable.

Cropping Analysis

The cropping program is an important part of the dairy farm business and often represents opportunities for improved productivity and profitability. A complete evaluation of what the available land resources are, how they are being used, the level of crop yields, and what it costs to produce crops is important in evaluating alternative cropping and feed purchasing alternatives.

LAND RESOURCES AND CROP PRODUCTION
41 Small Herd Dairy Farms, 2004

Item	Average 41 Farms			Top 25% Farm		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	113	75	188	111	56	168
Nontillable	47	12	59	35	9	44
Other nontillable	70	11	81	47	12	59
Total	230	98	328	193	77	271
Crop Yields	Farms	Acres*	Prod/Acre	Farms	Acres	Prod/Acre
Hay crop	40	128	2.25 tn DM	10	103	2.84 tn DM
Corn silage	27	38	15.57 tn	8	38	17.03 tn
			5.20 tn DM			5.69 tn DM
Other forage	0	0	0.00 tn DM	0	0	0.00 tn DM
Total forage	40	153	2.74 tn DM	10	133	3.48 tn DM
Corn grain	9	51	114 bu	2	52	115 bu
Oats	2	33	46 bu	0	0	0 bu
Wheat	2	13	58 bu	0	0	0 bu
Other crops	5	27		0	0	
Tillable pasture	19	37		7	49	
Idle	12	20		4	13	
Total Tillable Acres	41	188		11	168	

*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 124, corn silage 25, corn grain 11, oats 2, tillable pasture 17, and idle 6.

Average crop acres and yields compiled for the region are for the 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 crop/dairy ratios indicate the relationship between forage production, forage production resources, and the dairy herd.

CROP/DAIRY RATIOS
41 Small Herd Dairy Farms, 2004

Item	Average 41 Farms	Top 25% Farm
Total tillable acres per cow	3.65	3.15
Total forage acres per cow	2.92	2.35
Harvested forage dry matter, tons per cow	7.99	8.17

Cropping Analysis (continued)

A number of cooperators have allocated crop expenses among the hay crop, corn, and other crops produced. Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per acre and per production unit for hay and corn. Additional expense items such as fuels, labor, and machinery repairs are not included. Rotational grazing was used on 14 farms, 7 of which are in the "top 25% farms" group.

CROP RELATED ACCRUAL EXPENSES
Small Herd Dairy Farms Reporting, 2004

Item	Total Per Tillable Acre	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Sh. Bu.	Hay Crop Per Acre	Hay Crop Per Ton DM	Pasture Per Tillable Acre	Pasture Per Total Acre
No. of farms reporting	41	8			8		5	
Ave. number of acres	188	60			130		30	76
Fert. & lime	$ 21.21	$ 65.16	$ 17.54	$ 0.23	$ 26.44	$ 11.65	$ 81.04	$ 36.07
Seeds & plants	12.68	27.63	6.07	0.07	6.25	2.49	14.67	2.86
Spray & other crop expense	7.68	33.53	7.30	0.06	4.42	0.57	1.54	0.57
TOTAL	$ 41.57	$ 126.32	$ 30.91	$ 0.36	$ 37.11	$ 14.71	$ 97.25	$ 39.50
Top 25% Farms								
No. of farms reporting	11	4			5		4	
Ave. number of acres	168	53			128		37	75
Fert. & lime	$ 28.46	$ 55.26	$ 15.43	$ 0.14	$ 27.19	$ 11.65	$ 81.04	$ 36.07
Seeds & plants	16.14	34.60	8.05	0.06	8.20	2.49	14.67	2.86
Spray & other crop exp.	10.47	46.73	9.98	0.12	1.70	0.57	1.54	0.57
TOTAL	$ 55.07	$ 136.59	$ 33.46	$ 0.32	$ 37.09	$ 14.71	$ 97.25	$ 39.50

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
40 Small Herd Dairy Farms That Grow Forages, 2004

Machinery Expense	Average 40 Farms Total Expenses	Average 40 Farms Per Tillable Acre	Top 25% Farms Total Expenses	Top 25% Farms Per Tillable Acre
Fuel, oil & grease	$ 5,256	$ 27.45	$ 4,007	$ 22.46
Machinery repair & vehicle expense	11,629	60.74	11,752	65.87
Machine hire, rent & lease	3,110	16.24	3,475	19.48
Interest (5%)	5,248	27.41	6,262	35.10
Depreciation	10,749	56.15	10,397	58.28
Total	$ 35,991	$ 187.99	$ 35,893	$ 201.19

Dairy Analysis

Analysis of the dairy enterprise can reveal strengths and weaknesses of the dairy farm business. Information on this page should be used in conjunction with DHI and other dairy production information. Changes in dairy herd size and market values that occur during the year are identified in the table below. The change in inventory value without appreciation is attributed to physical changes in herd size and quality. Any change in inventory is included as an accrual farm receipt when calculating all of the profitability measures on pages 8 and 9.

DAIRY HERD INVENTORY
41 Small Herd Dairy Farms, 2004

	Dairy Cows		Heifer					
			Bred		Open		Calves	
Item	No.	Value	No.	Value	No.	Value	No.	Value
Average 50 Farms:								
Beg. year (owned)	54	$ 69,167	13	$ 16,389	15	$ 12,567	12	$ 5,637
+ Change w/o apprec.		-250		369		444		-41
+ Appreciation		4,949		1,396		1,007		554
End year (owned)	55	$ 73,866	14	$ 18,155	16	$ 14,018	12	$ 6,149
End including leased	55							
Average number	53		41	(all age groups)				
Top 25% Farms:								
Beg. year (owned)	56	$ 69,500	14	$ 16,764	16	$ 12,268	13	$ 6,000
+ Change w/o apprec.		2,264		73		973		159
+ Appreciation		3,445		936		573		959
End year (owned)	58	$ 75,209	14	$ 17,773	16	$ 13,814	14	$ 7,118
End including leased	58							
Average number	56		45	(all age groups)				

Total milk sold and milk sold per cow are extremely valuable measures of size and productivity, respectively, on the dairy farm. These measures of milk output are based on pounds of milk marketed during the year. Farm managers on DHI should compare milk sold per cow with their rolling herd average on the test date nearest December 31 to see how close the DHI estimate of milk produced is to actual milk sales.

MILK PRODUCTION
41 Small Herd Dairy Farms, 2004

Item	Average 41 Farms	Top 25% Farms
Total milk sold, lbs.	944,693	1,101,621
Milk sold per cow, lbs.	17,991	19,515
Average milk plant test, percent butterfat	3.53	3.72

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
41 Small Herd Dairy Farms, 2004

	Average 41 Farms		Top 25% Farms	
Item	Number	Percent*	Number	Percent*
Cows sold for beef	12	23.6	12	21.9
Cows sold for dairy	1	2.1	2	3.9
Cows died	2	3.9	2	4.0
Culling rate**		27.6		25.9

*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 can be compared with the accrual costs of producing milk per cow and per hundredweight of milk. Using the whole farm method, operating costs of producing milk are estimated by deducting nonmilk accrual receipts from total accrual operating expenses including expansion livestock purchased. Purchased inputs cost of producing milk are the operating costs plus depreciation. Total costs of producing milk include the operating costs of producing milk plus depreciation on machinery and buildings, the value of unpaid family labor, the value of operators' labor and management, and the interest charge for using equity capital.

ACCRUAL RECEIPTS FROM DAIRY, COSTS OF PRODUCING MILK, AND PROFITABILITY
41 Small Herd Dairy Farms, 2004

	Average 41 Farms			Top 25% Farms		
Item	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Cost of Producing Milk						
Operating costs	$ 112,528	$ 2,143	$ 11.91	$ 111,147	$ 1,969	$ 10.09
Purchased inputs costs	$ 126,562	$ 2,410	$ 13.40	$ 125,625	$ 2,225	$ 11.40
Total costs	$ 187,093	$ 3,563	$ 19.80	$ 179,262	$ 3,176	$ 16.27
Accrual Receipts From Milk	$ 159,884	$ 3,045	$ 16.92	$ 184,415	$ 3,267	$ 16.74
Net Milk Receipts	$ 151,008	$ 2,848	$ 15.98	$ 176,129	$ 3,118	$ 15.99
Net Farm Income without Appreciation	$ 33,322	$ 635	$ 3.53	$ 58,790	$ 1,041	$ 5.34
Net Farm Income with Appreciation	$ 52,917	$ 1,008	$ 5.60	$ 70,203	$ 1,244	$ 6.37

The accrual operating expenses most commonly associated with the dairy enterprise are listed in the table below. Feed and crop expenses include total purchased dairy feed plus fertilizer, seeds, spray and other crop expenses.

DAIRY RELATED ACCRUAL EXPENSES
41 Small Herd Dairy Farms, 2004

	Average 41 Farms		Top 25% Farms	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	$ 817	$ 4.54	$ 774	$ 3.96
Purchased dairy roughage	49	0.27	96	0.49
Total Purchased Dairy Feed	$ 866	$ 4.81	$ 870	$ 4.46
Purchased grain & conc. as % of milk receipts	27%		23%	
Purchased feed & crop expense	$ 1,007	$ 5.60	$ 1,028	$ 5.27
Purchased feed & crop expense as % of milk receipts	34%		31%	
Breeding	$ 66	$ 0.37	$ 59	$ 0.30
Veterinary & medicine	88	0.49	94	0.48
Milk marketing	169	0.94	147	0.75
Bedding	37	0.21	57	0.29
Milking supplies	84	0.47	64	0.33
Cattle lease	0	0.00	0	0.00
Custom boarding	11	0.06	23	0.12
bST	10	0.06	15	0.08
Livestock professional fees	16	0.09	23	0.12
Other livestock expense	50	0.28	43	0.22

Capital and Labor Efficiency Analysis

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

CAPITAL EFFICIENCY
41 Small Herd Dairy Farms, 2004

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Average 41 Farms:				
Farm capital	$245,148	$9,991	$2,787	$4,648
Real estate		4,971		2,312
Machinery & equipment	48,082	1,960	547	
Ratios				
Asset turnover	Operating Expense	Interest Expense	Depreciation Expense	
0.39	0.71	0.03	0.08	
Top 25% Farms:				
Farm capital	$258,796	$8,481	$2,856	$4,303
Real estate		3,547		1,799
Machinery & equipment	62,563	2,050	690	
Ratios				
Asset turnover	Operating Expense	Interest Expense	Depreciation Expense	
0.48	0.62	0.04	0.07	

LABOR FORCE INVENTORY AND ANALYSIS
41 Small Herd Dairy Farms, 2004

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Average 41 Farms:				
Operator number 1	13.8	50	13	$ 25,312
Operator number 2	3.6	44	12	6,507
Operator number 3	0.2	34	13	244
Family paid	1.8			
Family unpaid	3.9			
Hired	2.5			
Total	25.7	/ 12 = 2.14 Worker Equivalent		
		1.27 Operator/Manager Equivalent		
Top 25% Farms: Total	22.2	/ 12 = 1.85 Worker Equivalent		
Operator's		1.17 Operator/Manager Equivalent		

Labor Efficiency	Average 41 Farms Total	Average 41 Farms Per Worker	Top 25% Farms Total	Top 25% Farms Per Worker
Cows, average number	53	25	56	31
Milk sold, pounds	944,693	441,102	1,101,621	596,277
Tillable acres	188	88	168	91

Labor Costs	Average 41 Farms Total	Average 41 Farms Per Cow	Average 41 Farms Per Cwt.	Top 25% Farms Total	Top 25% Farms Per Cow	Top 25% Farms Per Cwt.
Value of operator(s) labor ($2,200/month)	$ 38,588	$ 735	$ 4.08	$34,452	$ 610	$ 3.13
Family unpaid ($2,200/month)	8,470	161	0.90	6,710	119	0.61
Hired	6,611	126	0.70	5,211	92	0.47
Total Labor	$ 53,675	$ 1,022	$ 5.68	$46,391	$ 822	$ 4.21
Machinery Cost	$ 35,264	$ 672	$ 3.73	$33,190	$ 588	$ 3.01
Total Labor & Machinery	$ 88,939	$ 1,694	$ 9.41	$79,581	$ 1,410	$ 7.22
Hired labor expense per hired worker equivalent		$18,408			$18,072	
Hired labor expense as % of milk sales		4.1%			2.8%	

COMPARATIVE ANALYSIS OF THE FARM BUSINESS

Comparison to Top 25 Percent

Comparing your business with average data from DFBS cooperators that participated in both of the last two years can be helpful in establishing your goals for these parameters. Both the average of the same 35 farms and the top 25% of farms based on rate of return of all assets without appreciation are presented below. It is equally important for you to determine the progress your business has made over the past two or three years, to compare this progress to your goals, and to set goals for the future.

PROGRESS OF THE FARM BUSINESS
Same 35 Small Herd Dairy Farms, 2003 & 2004

	Average of Same 35 Farms*		Average of Same 8 Top 25% Farms*	
Selected Factors	2003	2004	2003	2004
Size of Business				
Average number of cows	55	53	57	57
Average number of heifers	42	41	43	47
Milk sold, lbs.	970,304	938,551	1,067,164	1,078,184
Worker equivalent	2.25	2.18	1.83	1.75
Total tillable acres	199	198	174	173
Rates of Production				
Milk sold per cow, lbs.	17,799	17,747	18,681	18,916
Hay DM per acre, tons	2.1	2.2	2.1	2.8
Corn silage per acre, tons	14.0	15.7	16.5	17.6
Labor Efficiency				
Cows per worker	24	24	31	33
Milk sold/worker, lbs.	431,246	430,528	583,150	616,105
Cost Control				
Grain & concentrate purchased as % of milk sales	31%	27%	28%	23 %
Dairy feed & crop expense per cwt. milk	$ 4.95	$ 5.49	$ 4.61	$ 4.97
Labor & mach. costs/cow	$ 1,629	$ 1,719	$ 1,240	$ 1,352
Operating cost of producing cwt. of milk	$ 10.05	$ 12.22	$ 8.98	$ 10.44
Capital Efficiency**				
Farm capital per cow	$ 9,165	$ 10,061	$ 7,354	$ 8,059
Mach. & equip. per cow	$ 1,838	$ 1,943	$ 1,896	$ 1,985
Asset turnover ratio	0.34	0.39	0.44	0.48
Profitability				
Net farm income without appreciation	$ 18,037	$ 31,303	$ 32,487	$ 55,645
Net farm income with appreciation	$ 28,868	$ 51,734	$ 45,740	$ 67,427
Labor & management income per operator/manager	$ -9,825	$ 1,709	$ 14,789	$ 36,385
Rate of return on equity capital with appreciation	-3.3%	2.7%	5.4%	10.5%
Rate of return on all capital with appreciation	-1.5%	3.1%	5.1%	9.0%
Financial Summary				
Farm net worth, end year	$ 381,049	$ 431,287	$ 293,659	$ 338,347
Debt to asset ratio	0.25	0.21	0.33	0.28
Farm debt per cow	$ 2,289	$ 2,111	$ 2,520	$ 2,303

*Farms participating both years.
**Average for the year.

RECEIPTS AND EXPENSES PER COW AND PER CWT.

Same 35 Small Herd Dairy Farms, 2003 & 2004

	2003		2004	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	55		53	
Cwt. Of Milk Sold		9,703		9,386
ACCRUAL OPERATING RECEIPTS				
Milk	$ 2,336	$ 13.12	$ 3,017	$ 17.00
Dairy cattle	185	1.04	158	0.89
Dairy calves	28	0.15	45	0.26
Other livestock	1	0.01	18	0.10
Crops	35	0.20	88	0.50
Miscellaneous receipts	324	1.82	163	0.92
Total Receipts	$ 2,909	$ 16.34	$ 3,489	$ 19.67
ACCRUAL OPERATING EXPENSES				
Hired labor	$ 156	$ 0.88	$ 136	$ 0.77
Dairy grain & concentrate	727	4.09	804	4.53
Dairy roughage	45	0.25	38	0.21
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	0	0.00	1	0.00
Machine hire/rent/lease	45	0.25	64	0.36
Mach. repair & vehicle exp.	184	1.04	229	1.29
Fuel, oil & grease	86	0.48	102	0.58
Replacement livestock	44	0.25	45	0.25
Breeding	52	0.29	68	0.38
Veterinary & medicine	82	0.46	88	0.50
Milk marketing	172	0.97	174	0.98
Bedding	26	0.15	37	0.21
Milking supplies	67	0.37	84	0.47
Cattle lease	0	0.00	0	0.00
Custom boarding	12	0.07	12	0.07
bST expense	13	0.07	10	0.06
Livestock professional fees	15	0.08	15	0.08
Other livestock expense	46	0.26	51	0.29
Fertilizer & lime	61	0.34	72	0.40
Seeds & plants	27	0.15	35	0.20
Spray/other crop expense	21	0.12	25	0.14
Crop professional fees	0	0.00	1	0.00
Land, building, fence repair	40	0.22	63	0.36
Taxes	94	0.53	97	0.54
Real estate rent/lease	48	0.27	44	0.25
Insurance	58	0.33	77	0.43
Utilities	112	0.63	120	0.67
Interest paid	95	0.53	103	0.58
Other professional fees	12	0.07	13	0.07
Miscellaneous	20	0.11	29	0.16
Total Operating Expenses	$ 2,362	$ 13.27	$ 2,634	$ 14.85
Expansion Livestock	0	0.00	8	0.04
Extraordinary Expense	0	0.00	1	0.00
Machinery Depreciation	161	0.90	196	1.11
Real Estate Depreciation	55	0.31	60	0.34
Total Expenses	$ 2,578	$ 14.48	$ 2,899	$ 16.34
Net Farm Income Without Appreciation	$ 331	$ 1.86	$ 590	$ 3.33

RECEIPTS AND EXPENSES PER COW AND PER CWT.

Same 8 Top 25% Small Herd Dairy Farms, 2003 & 2004

	2003		2004	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	57		57	
Cwt. Of Milk Sold		10,672		10,782
ACCRUAL OPERATING RECEIPTS				
Milk	$ 2,444	$ 13.08	$ 3,171	$ 16.76
Dairy cattle	176	0.94	218	1.15
Dairy calves	52	0.28	55	0.29
Other livestock	4	0.02	12	0.06
Crops	12	0.06	103	0.55
Miscellaneous receipts	298	1.60	120	0.64
Total Receipts	$ 2,986	$ 15.98	$ 3,679	$ 19.45
ACCRUAL OPERATING EXPENSES				
Hired labor	$ 131	$ 0.70	$ 121	$ 0.64
Dairy grain & concentrate	685	3.67	734	3.88
Dairy roughage	73	0.39	75	0.40
Nondairy feed	1	0.01	0	0.00
Professional nutritional services	1	0.00	2	0.01
Machine hire/rent/lease	30	0.16	72	0.38
Mach. repair & vehicle exp.	163	0.87	202	1.07
Fuel, oil & grease	64	0.34	65	0.35
Replacement livestock	31	0.17	17	0.09
Breeding	55	0.29	67	0.36
Veterinary & medicine	84	0.45	91	0.48
Milk marketing	144	0.77	148	0.78
Bedding	31	0.17	58	0.31
Milking supplies	48	0.26	64	0.34
Cattle lease	0	0.00	0	0.00
Custom boarding	27	0.15	27	0.14
bST expense	14	0.08	14	0.07
Livestock professional fees	14	0.08	16	0.08
Other livestock expense	34	0.18	41	0.22
Fertilizer & lime	55	0.29	73	0.38
Seeds & plants	26	0.14	34	0.18
Spray/other crop expense	22	0.12	23	0.12
Crop professional fees	2	0.01	1	0.01
Land, building, fence repair	53	0.28	98	0.52
Taxes	70	0.37	76	0.40
Real estate rent/lease	73	0.39	23	0.12
Insurance	46	0.24	50	0.26
Utilities	111	0.60	112	0.59
Interest paid	103	0.55	128	0.68
Other professional fees	5	0.03	7	0.04
Miscellaneous	26	0.14	30	0.16
Total Operating Expenses	$ 2,219	$ 11.88	$ 2,470	$ 13.06
Expansion Livestock	0	0.00	13	0.07
Extraordinary Expense	0	0.00	0	0.00
Machinery Depreciation	135	0.72	150	0.79
Real Estate Depreciation	63	0.34	71	0.37
Total Expenses	$ 2,417	$ 12.94	$ 2,704	$ 14.29
Net Farm Income Without Appreciation	$ 569	$ 3.04	$ 975	$ 5.16

*NA = not available in 2003 data. Expense was included in other categories.

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 five figures in each column represent the average of each 20 percent or quintile of farms included in the regional summary. Use this information to identify business areas where more challenging goals are needed.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
41 Small Herd Dairy Farms, 2004

Size of Business			Rate of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	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
(11)*	(11)	(11)	(10)	(9)	(9)	(11)	(11)
3.27	71	1,369,875	22,939	4.0	22	39	697,621
2.46	59	1,094,017	19,939	2.8	17	30	548,481
2.00	53	925,152	17,789	2.3	15	26	432,438
1.74	46	799,152	16,293	1.8	13	21	378,767
1.34	36	580,763	13,017	1.3	10	17	277,212

Cost Control						Culling Rates	
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	Death Rate	Sell Rate
(10)	(10)	(11)	(11)	(10)	(10)		
$ 473	17%	$ 388	$ 1,187	$ 636	$ 4.00	0.4%	10.8%
697	25	560	1,485	808	5.06	2.3	18.4
815	27	654	1,736	1,026	5.52	3.6	22.0
982	31	788	1,941	1,188	6.43	5.5	27.8
1,177	39	992	2,306	1,420	7.47	7.6	39.6

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income with Appreciation	Net Farm Income w/o Appreciation	Labor & Mgmt. Income Per Operator	Change in Net Worth with Appreciation
(10)	(10)	(10)	(3)	(3)	(3)	(6)
$ 3,829	$ 9.36	$ 15.96	$ 108,491	$ 68,863	$ 37,284	$ 90,249
3,358	10.72	18.73	67,331	44,702	15,670	40,072
3,036	11.82	19.71	49,128	32,626	5,510	25,543
2,722	13.26	21.27	31,117	20,656	-3,488	16,191
2,246	15.38	26.62	13,450	3,493	-29,981	-1,979

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

Supplementary Information

Each year DFBS cooperators volunteer to complete supplementary data collection forms looking at selected management aspects of the business or specific research areas being studied. This is in addition to the normal DFBS data collection form. One area that was examined this year was the source of dairy replacements.

SOURCE OF DAIRY REPLACEMENTS
48 New York Dairy Farms, 2004

Animals Entering Herd	Average
Number calving in 2004 for first time	145
Animals purchased, %*	11%
Animals raised by farm, %**	89%
Current Heifer Inventory	
Raised on dairy, %	70%
Raised by a custom grower, %	30%

* Animals purchased are animals purchased from a different farm and were not the farms genetics.
**Animals raised by farm are animals that were born on the farm and entered the herd, which includes animals raised by the farm or custom grower.

On the average farm, 145 animals calved for the first time in 2004. The breakdown on these animals for source was 11 percent purchased and 89 percent raised by the farm. Of the current heifer inventory, 70 percent were raised on the dairy and 30 percent were being raised by a custom grower. There is increased interest in evaluating the dairy replacement enterprise.

Milk Income and Marketing Expense Breakdown

Starting January 1st, 2000, the northeast switched to multiple components pricing, which changed the format of the milk check and how farmers received payment for their milk. To examine the breakdown of the gross milk income and the marketing expenses, 18 small herd dairy farms filled out a detailed form for all the different sources of income for milk sales and the milk marketing expenses on an accrual basis. This information is reported in the following two tables. The tables are divided into six different areas, each representing a different area of income or expenses.

The first section looks at the value of the milk components on a per hundredweight basis. The second area looks at the Producer Price Differential. The third area looks at the premiums a farm receives. Any premiums not specifically noted as quality or volume related are included in market premiums. The fourth area looks at the expenses associated with marketing milk. Expenses associated with utilizing forward contracting or hedging programs to market milk, such as commission or broker fees, are included in market fees and cooperative dues. The fifth area is income from forward contracting or hedging programs. The sixth area is the patronage dividends or refunds from the milk cooperatives. Equity purchased in the milk cooperative utilizing a monthly deduction from the milk check or a percent of the patronage dividend is treated as a capital purchase and is not a milk marketing expense. The cumulative total for these six areas is the net price received on farms. Your net farm price can be found on page 12 of your farm's DFBS report.

The table on page 28 reports the averages for these different areas. The table on page 29 contains the range for each of the individual lines of the report. This table is in farm business chart format with each item sorted independently and ranked by quartile. Numbers for the different areas will not add to the totals for that quartile or to the net price received because the highest farms for each item were averaged, not the same farms throughout the six areas. This table shows the range of income and expenses received by farms for all the different areas.

For your individual farm, compare your accrual numbers following this same format to look at how you compare to other farms in your region and to identify possible areas to generate additional revenue.

AVERAGE* MILK INCOME AND MARKETING REPORT
18 Small Herd Dairy Farms, 2004

	Pounds	Percent	Price/Pound	Total	$/Cwt of Milk
BASE FARM PRICE					
Butterfat	35,422.83	3.52%	$ 2.025	$ 71,726.94	$ 7.13
Protein	28,604.67	2.84%	$ 2.606	$ 74,544.56	$ 7.41
Solids	53,687.56	5.34%	$ 0.094	$ 5,046.17	$ 0.50
Total Component Contribution					$15.04
PPD	1,005,541.78			$ 4,971.17	$ 0.49
Base Farm Price					$ 15.53
Premiums					
Quality				$ 2,295.06	$ 0.23
Volume				$ 387.39	$ 0.04
Market Premiums				$ 10,980.33	$ 1.09
Total Premiums					$ 1.36
BASE FARM PRICE + PREMIUM					$ 16.89
Deductions					
Promo				$ 1,768.00	$ 0.18
Hauling + Stop Charges.				$ 6,692.00	$ 0.67
Market Fees & Coop Dues				$ 1,069.00	$ 0.11
Total Deductions					$ 0.96
BASE FARM PRICE + PREMIUMS - DEDUCTIONS					$ 15.93
Marketing Programs					
Futures Contracts, Forward Contracting, Etc.				$ 25.00	$ 0.00
Total Marketing Income					$ 0.00
Patronage Dividends				$ -185.00	$-0.02
NET PRICE RECEIVED ON FARM, ALL SOURCES					**$ 15.91**
PPD - Hauling, per cwt.					$-0.18
PPD - Hauling + Market Premiums, per cwt.					$ 0.91
Net Marketing Value, per cwt. (PPD + Total Preimums – Total Deductions)					$ 0.89

*Each calculation of an average is independent of the others. Therefore, math operations on the detail will not result in the totals. However, detail in the "$/Cwt of Milk" column will result in the totals. The average herd size of these 18 farms is 53 cows.

MILK PRICE INFORMATION BY QUARTILE*
(Each Category Sorted Independently)
18 Small Herd Dairy Farms, 2004

	Lowest Quartile	←	→	Highest Quartile
Butterfat, %	2.86	3.69	3.73	3.97
Protein, %	2.36	2.99	3.04	3.13
Other Solids, %	4.49	5.64	5.67	5.77
Butterfat, $ per Cwt.	5.75	7.42	7.58	7.90
Protein, $ per Cwt.	6.04	7.74	7.95	8.23
Other solids, $ per Cwt.	0.33	0.42	0.44	0.96
Total Component Value per Cwt.	**$ 12.30**	**$ 15.68**	**$ 16.00**	**$ 16.71**
PPD, $ per Cwt.	0.15	0.36	0.63	1.00
Base Farm Price per Cwt.	**$ 12.81**	**$ 16.06**	**$ 16.51**	**$ 17.35**
Quality, $ per Cwt.	0.01	0.12	0.29	0.60
Volume, $ per Cwt.	0.00	0.00	0.02	0.16
Market premium, $ per Cwt.	0.05	0.13	0.30	0.46
Total Premium, $ per Cwt.	**0.20**	**0.46**	**0.59**	**0.92**
Base Farm Price + Premiums per Cwt.	**$ 16.39**	**$ 16.61**	**$ 17.03**	**$ 17.82**
Promotion, $ per Cwt.	0.15	0.15	0.15	0.25
Hauling, $ per Cwt.	0.32	0.58	0.80	1.13
Market fees & coop dues per Cwt.	0.04	0.08	0.13	0.18
Total Marketing Expenses per Cwt.	**$ 0.63**	**$ 0.82**	**$ 1.09**	**$ 1.40**
Base + Premiums – Deductions per Cwt.	**$ 15.43**	**$ 15.73**	**$ 16.01**	**$ 16.86**
Futures contract, forward contracting, $ per Cwt.	0.00	0.00	0.00	0.01
Total Marketing Income, $ per Cwt.	**$ 0.00**	**$0.00**	**$0.00**	**$ 0.01**
Patronage Dividends, $ per Cwt.	**$ -0.15**	**$ 0.00**	**$ 0.00**	**$ 0.08**
Net Price Received From All Sources, $ per Cwt.	**$ 15.35**	**$ 15.74**	**$ 16.04**	**$ 16.80**
PPD - hauling, $ per Cwt.	**-0.48**	**-0.24**	**-0.13**	**0.23**
PPD - hauling + mkt premiums, $ per Cwt.	**-0.27**	**0.01**	**0.23**	**0.43**
Net Marketing Value, $ per Cwt. (PPD + Total Premiums – Total Deductions)	**-0.33**	**0.01**	**0.19**	**0.64**

*Each calculation of an average is independent of all others. Therefore, math operations on the detail will not result in the totals.

New York State Farm Business Charts

The Farm Business Chart is a tool which can be used in analyzing a business by drawing a line through the figure in each column which represents the current level of management performance. The figure at the top of each column is the average of the top 10 percent of the 200 farms for that factor. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. Each column of the chart is independent of the others. The farms which are in the top 10 percent for one factor would not necessarily be the same farms which make up the top 10 percent for any other factor.

The cost control factors are ranked from low to high, but the lowest cost is not necessarily the most profitable. In some cases, the "best" management position is somewhere near the middle or average. Many things affect the level of costs, and must be taken into account when analyzing the factors.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS

200 New York Dairy Farms, 2004

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
27.4	1,320	30,813,655	25,912	5.6	24	61	1,276,169
15.2	627	14,673,004	23,717	4.3	21	51	1,100,689
10.7	430	9,341,701	22,791	3.9	20	46	981,861
7.2	309	6,569,316	21,971	3.5	19	42	868,108
5.4	225	4,326,245	21,304	3.3	18	38	787,445
4.2	144	2,848,633	20,482	3.0	17	35	700,990
3.4	110	2,072,815	19,295	2.8	16	32	631,342
2.7	78	1,398,571	17,658	2.3	15	29	547,027
2.0	59	1,035,229	15,829	2.0	13	26	445,686
1.5	42	687,413	12,854	1.4	9	19	321,988

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
(12)	(12)	(14)	(14)	(12)	(12)
$507	17%	$323	$903	$660	$3.87
669	22	444	1,124	863	4.71
780	24	499	1,221	994	5.10
839	26	552	1,293	1,082	5.34
900	27	592	1,370	1,133	5.54
979	28	637	1,463	1,183	5.75
1,031	29	683	1,541	1,242	6.05
1,094	31	750	1,664	1,308	6.36
1,166	33	835	1,796	1,394	6.82
1,295	39	1,044	2,173	1,591	7.69

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

FARM BUSINESS CHART FOR
FARM MANAGEMENT COOPERATORS
200 New York Dairy Farms, 2004

Milk Receipts Per Cow	Milk Receipts Per Cwt.	Operating Cost Milk Production Per Cow	Operating Cost Milk Production Per Cwt.	Total Cost Milk Production Per Cow	Total Cost Milk Production Per Cwt.
(12)	(12)	(12)	(12)	(12)	(12)
$4,409	$18.64	$1,505	$9.19	$2,552	$13.68
3,964	17.86	1,892	10.50	2,955	14.56
3,777	17.47	2,164	11.20	3,132	15.16
3,662	17.13	2,319	11.80	3,275	15.81
3,573	16.92	2,449	12.19	3,381	16.56
3,421	16.71	2,587	12.60	3,490	17.26
3,279	16.55	2,733	13.13	3,621	18.37
3,027	16.28	2,884	13.71	3,774	19.14
2,662	16.06	3,090	14.37	3,992	20.42
2,246	15.46	3,400	15.99	4,485	24.72

Profitability

Net Farm Income Without Appreciation			Net Farm Income With Appreciation		Labor & Management Income	
Total	Per Cow	Operations Ratio	Total	Per Cow	Per Farm	Per Operator
(4)	(12)	(4)	(4)	(12)	(4)	(4)
$838,746	$1,306	0.30	$1,189,067	$1,919	$657,429	$357,551
413,151	1,025	0.25	570,269	1,344	293,399	181,620
286,223	860	0.22	384,433	1,155	200,179	107,460
171,989	773	0.20	263,743	1,033	105,888	66,066
120,112	667	0.17	187,418	908	57,054	35,606
78,969	561	0.14	116,687	805	31,211	21,959
53,830	449	0.12	79,113	688	17,970	12,836
36,206	347	0.09	57,505	579	5,373	4,198
21,262	216	0.06	35,671	419	-12,627	-9,507
-11,854	-70	-0.03	10,807	103	-75,681	-63,025

Farm Business Charts for farms with freestall barns and 150 cows or less, 151-300 cows, and more than 300 cows; and farms with conventional barns with 60 cows or less and more than 60 cows are shown on pages 35-39.

Financial Analysis Chart

The farm financial analysis chart on page 32 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 8, 11, 15 and 22 of this publication. References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FINANCIAL ANALYSIS CHART

200 New York Dairy Farms, 2004

Liquidity (repayment)							
Planned Debt Payments Per Cow	Available for Debt Service Per Cow	Cash Flow Coverage Ratio	Debt Coverage Ratio	Debt Payments as Percent of Milk Sales	Debt Per Cow	Working Capital as % of Total Expenses	Current Ratio
(10)*	(16)	(10)	(10)	(10)	(7)	(7)	(7)
$52	$1,138	5.77	7.80	2%	$231	42%	22.29
199	844	2.42	3.24	6	1,035	29	4.31
294	748	1.82	2.53	9	1,683	24	3.02
353	671	1.49	2.06	11	2,125	18	2.43
421	596	1.32	1.71	12	2,464	15	2.01
470	513	1.17	1.44	14	2,758	11	1.67
518	449	1.01	1.22	15	3,021	8	1.39
562	357	0.83	0.95	17	3,360	4	1.16
658	244	0.61	0.62	20	3,931	-2	0.89
815	-373	-1.30	-1.52	28	5,108	-17	0.52

Solvency				Operational Ratios		
		Debt/Asset Ratio		Operating	Interest	Depreciation
Leverage Ratio[48]	Percent Equity	Current & Intermediate	Long Term	Expense Ratio	Expense Ratio	Expense Ratio
(7)	(7)	(7)	(7)	(14)	(14)	(14)
0.02	98%	0.03	0.00	0.58	0.00	0.02
0.14	88	0.11	0.00	0.64	0.01	0.04
0.23	81	0.20	0.02	0.68	0.02	0.05
0.35	74	0.25	0.14	0.71	0.02	0.06
0.45	69	0.31	0.24	0.74	0.03	0.06
0.56	64	0.37	0.34	0.76	0.03	0.07
0.75	57	0.44	0.43	0.78	0.04	0.08
0.95	51	0.50	0.56	0.80	0.04	0.09
1.22	45	0.58	0.68	0.83	0.05	0.11
2.76	30	0.79	0.89	0.91	0.08	0.15

Efficiency (Capital)					Profitability	
					Percent Rate of Return with Appreciation on:	
Asset Turnover (ratio)	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow	Change in Net Worth With Appreciation	Equity	Investment[49]
(14)	(14)	(14)	(14)	(8)	(5)	(5)
.93	$1,360	$533	$4,895	$965,036	46%	23%
.72	2,072	885	5,982	456,002	26	16
.66	2,333	1,089	6,498	311,468	20	13
.61	2,631	1,221	6,895	196,995	16	11
.57	2,932	1,356	7,355	140,216	12	9
.53	3,306	1,558	8,008	82,241	9	7
.48	3,807	1,796	8,583	45,148	6	5
.42	4,253	1,982	9,301	30,133	3	3
.36	4,981	2,320	10,637	14,529	-1	1
.27	7,946	3,464	13,990	-57,407	-11	-5

*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

Comparison by Type of Barn and Herd Size

When analyzing a dairy farm business by comparing it to a group of farms, it is important that the group of farms have as many of the same physical characteristics as possible as the farm being analyzed. To assist in this endeavor, dairy farms in the summary have been divided into those with freestall and those with conventional housing. Conventional housing includes stanchion and tiestall barns. Within each group, is a further classification by size of the dairy herd.

The table on page 34 includes the average values for the resulting five groups of dairy farms. The average size in the five groups ranges from 46 cows on the small conventional farms to 721 cows on the largest freestall farms.

The largest freestall farms averaged the highest milk output per cow and per worker, the lowest total cost of production and investment per cow, and the greatest returns to labor, management and capital. Labor and management income per operator was also the highest for the large freestall farms.

Farm business charts have been computed for each of the five housing and herd size categories and are on pages 35-39. By comparing the farm's performance on the most appropriate business chart, a farm manager will be better able to evaluate his or her business performance.

Herd Size Comparisons

A detailed comparison of profitability, financial situation and business analysis factors across herd sizes is contained on pages 48-60 of the 2004 State Summary*. As herd size increases, the average net farm income increases (page 48)*. Net farm income without appreciation averaged $23,339 per farm for the less than 50 cow farms and $624,346 per farm for those with more than 600 cows. Return to all capital without appreciation and labor and management income per operator generally increased as herd size increased.

Assets, liabilities and financial measures are presented on pages 55-58*. All herd size categories saw an increase in net worth during 2004. The largest herd size category experienced an increase in net worth of nearly $709,000. However, percent equity went down as assets increased. The largest herds had the lowest percent equity; while the smaller herds averaged 78 percent.

Crop yields showed little relationship to herd size, but fertilizer and lime expenses, and machinery cost per tillable acre generally increased as herd size increased (pages 59-60)*. The farms with 600 and more cows per farm averaged 29 percent more milk sold per cow than the smallest farms. All of the groups with 200 or more cows averaged above 20,000 pounds of milk sold per cow while the farms smaller than 200 cows averaged 18,483 pounds of milk sold per cow. Farm capital per worker increased, and farm capital per cow decreased as herd size increased. Milk sold per worker increased dramatically as herd size increased, ranging from 365,964 pounds at the lowest herd size category up to 1,112,493 pounds at the largest size category.

*Wayne A. Knoblauch, Linda D. Putnam, and Jason Karszes, "Dairy Farm Management Business Summary, New York State, 2004", Department of Applied Economics and Management, Cornell University, R.B. 2005-03, November 2005. This publication is available from the Cornell Cooperative Extension Resource Center, P. O. Box 3884, Ithaca, NY 14852-3884; e-mail resctr@cornell.edu; phone 607-255-2080; fax 607-255-9946; or order on-line with credit card: http://www.cce.cornell.edu/store

SELECTED BUSINESS FACTORS BY TYPE OF BARN AND HERD SIZE
191 New York Dairy Farms, 2004

	Conventional		Freestall		
Item Farms with:	<= 60 Cows	>60 Cows	<=150 Cows	151-300 Cows	≥300 Cows
Number of farms	30	27	32	32	70
Cropping Program Analysis					
Total Tillable acres	156	315	283	568	1,349
Tillable acres rented*	68	115	126	288	684
Hay crop acres*	109	179	166	284	605
Corn silage acres*	18	57	73	167	540
Hay crop, tons DM/acre	2.4	2.5	2.9	2.9	3.9
Corn silage, tons/acre	14.7	17.4	16.0	16.4	18.0
Oats, bushels/acre	0	50	60	53	55
Forage DM per cow, tons	8.0	8.8	9.0	8.0	7.9
Tillable acres/cow	3.5	3.5	2.9	2.6	1.9
Fertilizer & lime expense/tillable acre	$18.02	$25.60	$28.81	$31.75	$33.72
Total machinery costs	$29,905	$70,440	$68,491	$146,434	$392,561
Machinery cost/tillable acre	$187	$223	$221	$253	$279
Dairy Analysis					
Number of cows	46	89	103	227	721
Number of heifers	34	74	85	172	561
Milk sold, lbs.	811,167	1,666,824	1,901,213	4,775,050	16,492,528
Milk sold/cow, lbs.	17,634	18,688	18,437	21,038	22,887
Operating cost of producing milk/cwt.	$11.70	$12.25	$12.77	$12.76	$12.58
Total cost of producing milk/cwt.	$19.90	$19.12	$18.32	$16.53	$15.24
Price/cwt. milk sold	$16.75	$17.07	$17.08	$16.92	$16.52
Purchased dairy feed/cow	$879	$904	$953	$1,031	$1,110
Purchased dairy feed/cwt. milk	$4.99	$4.84	$5.17	$4.90	$4.85
Purchased grain & concentrate as % of milk receipts	29%	28%	28%	27%	27%
Purchased feed & crop expense/cwt milk	$5.67	$5.76	$6.04	$5.72	$5.56
Capital Efficiency					
Farm capital/worker	$226,694	$278,771	$300,917	$307,527	$294,409
Farm capital/cow	$9,659	$10,221	$8,696	$7,547	$6,586
Farm capital/tillable acre owned	$5,026	$4,563	$5,724	$6,121	$7,138
Real estate/cow	$4,797	$4,523	$3,768	$3,095	$2,551
Machinery investment/cow	$1,949	$2,341	$1,855	$1,444	$1,073
Asset turnover ratio	0.38	0.40	0.43	0.59	0.69
Labor Efficiency					
Worker equivalent	1.95	3.27	2.98	5.57	16.12
Operator/manager equivalent	1.21	1.45	1.40	1.73	1.94
Milk sold/worker, lbs.	415,273	509,862	637,991	856,767	1,023,057
Cows/worker	24	27	35	41	45
Labor cost/cow	$1,067	$884	$785	$708	$746
Labor cost/tillable acre	$314	$250	$286	$283	$399
Profitability & Balance Sheet Analysis					
Net farm income (without appreciation)	$29,499	$52,175	$55,987	$137,058	$433,769
Labor & management income/operator	$4,396	$3,034	$12,637	$46,154	$157,455
Rate return on all capital with appreciation	2.1%	4.4%	4.7%	11.3%	13.6%
Farm debt/cow	$2,366	$1,548	$2,279	$2,764	$3,011
Percent equity	75%	85%	74%	64%	55%

*Average of all farms, not only those reporting data.

FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS
30 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 2004

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-Alent	No. of Cows	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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
3.22	57	1,133,707	24,089	4.2	23	42	703,501
2.67	54	1,045,992	21,880	3.3	19	35	597,059
2.20	53	955,714	20,457	2.9	18	30	539,444
1.99	51	898,535	18,678	2.7	16	28	463,053
1.95	50	831,754	17,910	2.4	15	25	438,231
1.83	45	794,187	17,233	2.3	13	23	407,325
1.63	43	757,164	15,949	2.1	11	20	375,185
1.54	41	717,533	14,769	1.8	11	19	327,774
1.36	37	651,795	13,648	1.7	10	17	268,092
1.17	30	325,286	10,933	1.3	9	15	240,908

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
(12)	(12)	(14)	(14)	(12)	(12)
$439	16%	$249	$1,045	$586	$3.64
552	22	401	1,248	681	4.44
660	25	489	1,405	729	5.01
743	27	543	1,482	803	5.16
799	27	617	1,672	928	5.39
857	28	650	1,765	1,092	5.75
959	30	700	1,908	1,167	6.36
1,027	33	805	2,056	1,217	6.50
1,073	37	858	2,224	1,281	7.17
1,241	45	1,070	2,508	1,534	7.96

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
			Total	Per Cow		
(12)	(12)	(12)	(4)	(4)	(4)	(8)
$4,139	$8.95	$15.64	$65,615	$1,417	$34,907	$56,545
3,609	9.96	16.73	53,094	1,057	25,157	39,942
3,371	10.34	18.19	43,380	855	15,921	32,522
3,152	10.74	18.95	37,978	782	13,101	25,724
2,994	11.28	19.21	33,091	730	9,366	21,782
2,798	11.64	19.42	24,986	508	2,667	19,045
2,648	12.28	20.57	15,518	412	-772	13,697
2,562	13.40	22.06	13,372	306	-6,272	10,020
2,311	14.27	24.21	10,509	272	-11,253	5,776
1,802	15.81	29.77	-2,547	-92	-32,189	-17,925

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

FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS
27 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 2004

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-Alent	No. of Cows	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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
7.23	163	3,202,431	25,150	4.7	25	42	814,565
4.44	122	2,352,081	22,786	4.0	24	36	764,671
4.13	112	2,129,506	21,627	3.7	22	36	705,555
3.69	97	1,903,718	20,728	3.2	19	34	672,474
3.18	91	1,684,049	20,172	3.1	17	32	579,958
2.84	83	1,488,916	19,014	2.5	17	30	512,690
2.67	72	1,369,555	17,369	2.2	16	27	479,264
2.50	70	1,256,258	16,255	2.0	14	23	422,381
2.18	65	1,184,462	14,824	1.6	12	21	375,024
1.83	62	991,768	13,589	1.2	7	19	315,051

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
(12)	(12)	(14)	(14)	(12)	(12)
$437	14%	$463	$1,205	$676	$3.69
690	21	547	1,331	896	4.80
732	24	602	1,419	959	5.19
814	25	653	1,512	1,057	5.43
869	26	705	1,593	1,098	5.60
915	29	785	1,710	1,125	6.00
986	32	812	1,839	1,142	6.57
1,085	37	874	1,950	1,186	7.11
1,188	40	1,001	2,166	1,331	7.59
1,332	44	1,710	2,544	1,544	8.26

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation Total	Net Farm Income Without Appreciation Per Cow	Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
(12)	(12)	(12)	(4)	(4)	(4)	(8)
$4,223	$8.82	$14.13	$134,367	$1,343	$70,126	$172,691
3,733	10.13	15.75	124,089	1,272	50,269	111,611
3,624	10.76	16.97	106,546	1,139	32,318	78,720
3,561	11.80	18.66	73,883	941	24,579	63,284
3,406	12.34	19.62	56,295	714	14,088	49,668
3,202	13.25	20.19	44,700	545	5,513	41,071
3,095	13.69	20.77	32,908	401	-2,950	23,803
2,685	14.07	21.79	23,788	372	-13,888	5,082
2,571	15.16	24.47	14,470	141	-28,902	-10,405
2,359	16.68	28.65	-19,802	-204	-115,200	-272,653

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

FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS
32 Freestall Barn Dairy Farms with 150 or Less Cows, New York, 2004

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-Alent	No. of Cows	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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
4.83	141	2,841,997	22,522	5.5	22	60	1,050,540
4.11	130	2,613,323	21,432	4.6	20	48	858,837
3.68	125	2,359,415	20,771	4.2	19	42	754,070
3.39	121	2,244,505	19,815	3.6	18	39	678,744
3.25	111	2,101,750	18,982	2.9	17	35	651,909
3.03	108	2,030,754	18,383	2.5	15	33	635,943
2.68	103	1,770,415	17,577	2.1	14	32	614,418
2.22	80	1,446,587	16,945	1.9	13	30	559,852
1.90	74	1,231,628	15,798	1.6	11	28	510,864
1.56	62	921,519	12,691	1.1	7	26	415,621

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
(12)	(12)	(14)	(14)	(12)	(12)
$523	19%	$338	$944	$650	$4.18
645	23	454	1,126	889	5.02
756	26	500	1,226	977	5.65
828	27	533	1,303	1,040	5.85
863	28	594	1,366	1,103	6.06
915	29	678	1,441	1,171	6.36
997	30	714	1,541	1,235	6.80
1,088	33	742	1,659	1,327	7.02
1,136	33	844	1,785	1,384	7.26
1,249	37	962	1,976	1,509	7.44

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
			Total	Per Cow		
(12)	(12)	(12)	(4)	(4)	(4)	(8)
$3,782	$8.83	$14.88	$147,360	$1,290	$82,291	$277,345
3,661	10.67	16.84	99,576	858	30,316	132,961
3,512	11.97	17.42	80,680	710	24,754	99,601
3,383	12.26	17.82	72,142	664	20,332	71,653
3,278	12.62	18.40	64,239	632	17,565	49,907
3,175	13.05	18.58	46,650	574	13,351	43,007
2,974	13.67	19.26	41,725	524	7,985	36,388
2,819	14.03	20.00	35,016	428	2,028	28,159
2,611	15.28	21.03	22,125	241	-13,716	20,684
2,342	16.51	24.26	-14,771	-136	-54,626	-1,213

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

FARM BUSINESS CHART FOR MEDIUM FREESTALL DAIRY FARMS
32 Freestall Barn Dairy Farms with 151-300 Cows, New York, 2004

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-Alent	No. of Cows	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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
8.68	293	7,147,274	25,374	5.0	24	57	1,174,860
6.53	282	6,262,072	22,839	3.9	21	53	1,039,002
6.18	274	5,824,237	22,349	3.7	19	49	979,973
6.00	265	5,399,379	21,960	3.5	18	43	917,607
5.65	243	5,032,567	21,723	3.2	18	42	868,644
5.47	234	4,603,802	21,480	3.0	17	41	838,897
5.19	213	4,105,275	21,200	2.7	15	38	819,778
4.74	184	3,802,061	20,215	2.4	13	36	793,825
4.34	169	3,500,387	19,205	2.0	11	34	755,846
3.92	156	3,067,513	15,633	1.5	9	30	582,545

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
(12)	(12)	(14)	(14)	(12)	(12)
$603	17%	$426	$1,023	$869	$4.18
775	24	539	1,126	1,033	5.12
851	25	576	1,209	1,112	5.38
900	26	596	1,283	1,130	5.55
965	26	625	1,328	1,162	5.63
1,001	28	659	1,434	1,197	5.79
1,018	28	689	1,504	1,252	6.05
1,067	30	817	1,605	1,312	6.23
1,169	33	877	1,700	1,366	6.45
1,281	36	958	1,760	1,669	7.61

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
			Total	Per Cow		
(12)	(12)	(12)	(4)	(4)	(4)	(8)
$4,359	$10.58	$13.81	$324,384	$1,184	$158,209	$384,827
3,901	11.23	14.92	244,650	1,046	105,475	272,525
3,812	11.66	15.79	195,548	904	84,728	224,633
3,700	12.09	16.42	154,177	805	66,855	160,063
3,638	12.60	16.76	140,894	689	46,755	152,308
3,606	12.97	16.97	132,538	583	36,333	143,827
3,542	13.54	17.50	106,024	492	26,726	126,677
3,458	14.05	18.29	92,124	417	16,453	89,041
3,260	14.44	18.78	51,266	226	3,267	55,236
2,648	16.68	20.53	2,445	-12	-46,021	-33,893

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

FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS
70 Freestall Barn Dairy Farms with 300 or More Cows, New York, 2004

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-Alent	No. of Cows	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
(14)*	(12)	(12)	(12)	(11)	(11)	(14)	(14)
36.83	1,884	43,636,486	26,368	6.3	23	65	1,412,402
23.81	1,111	26,056,052	25,314	4.6	21	53	1,201,551
20.22	894	21,070,884	24,334	4.2	20	51	1,155,441
16.81	712	16,132,617	23,557	3.9	19	50	1,112,192
14.50	572	13,747,324	23,004	3.5	18	46	1,059,322
12.88	515	12,177,341	22,639	3.4	18	43	998,166
11.46	463	9,681,631	21,969	3.3	17	41	910,099
9.74	393	8,542,048	21,405	3.1	17	36	816,758
8.36	347	7,553,662	20,624	2.9	16	32	714,290
6.60	316	6,327,232	17,011	2.5	12	28	611,921

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
(12)	(12)	(14)	(14)	(12)	(12)
$677	20%	$310	$827	$897	$4.36
817	23	417	1,089	1,050	4.79
866	24	464	1,160	1,115	5.07
971	26	507	1,231	1,189	5.27
1,026	27	560	1,278	1,237	5.40
1,056	28	590	1,338	1,270	5.57
1,117	29	618	1,422	1,319	5.78
1,154	30	670	1,502	1,395	6.10
1,206	31	720	1,571	1,514	6.35
1,330	34	847	1,733	1,598	7.12

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Operating Cost Producing Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income Without Appreciation		Labor & Mgmt. Income Per Operator	Change in Net Worth w/Appreciation
			Total	Per Cow		
(12)	(12)	(12)	(4)	(4)	(4)	(8)
$4,557	$10.04	$13.48	$1,240,002	$1,189	$508,847	$1,512,947
4,239	11.08	14.03	696,919	952	311,387	735,240
4,028	11.71	14.42	529,859	854	233,557	563,802
3,895	12.01	14.85	440,284	803	204,122	479,557
3,794	12.26	15.11	400,814	712	166,981	428,181
3,707	12.54	15.33	330,951	608	135,493	354,786
3,645	12.94	15.66	289,642	500	92,550	314,047
3,531	13.44	16.14	245,892	370	69,981	245,606
3,339	14.03	16.81	134,416	261	28,119	185,396
2,977	15.30	18.62	28,907	65	-39,314	53,781

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

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 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 desired direction. Goals should be SMART:

1. Goals should be **S**pecific.

2. Goals should be **M**easurable.

3. Goals should be **A**chievable but challenging.

4. Goals should be **R**ewarding.

5. Goals should be **T**imed with a designated date by which the goal will be achieved.

Goal setting on a dairy farm should be 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

What	How	When	Who is Responsible

Summarize Your Business Performance

The Farm Business and Financial Analysis Charts on pages 26 and 30-32 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:	Needs improvement:

GLOSSARY AND LOCATION OF COMMON TERMS

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

Accounts Receivable - 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 - The ratio of total farm income to total farm assets, calculated by dividing total accrual operating receipts plus appreciation by average total farm assets.

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.

bST Usage - An estimate of the percentage of herd, on average, that was supplemented with bovine somatotropin during the year.

Capital Efficiency - 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.

Cash From Nonfarm Capital Used in the Business - 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)

Culling Rate – Culling rate is calculated by dividing the number of animals that left the herd for culling purposes and that died, by the average number of milking and dry cows for the year.

Current Portion - (defined on page 9)

Current Ratio – 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 full-time occupation for one or more people and cropland is owned.

Dairy Cash-Crop (farm) - 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.

Death Rate – The number of animals that died divided by the average number of milking and dry cows for the year.

Debt Coverage Ratio – (defined on page 15)

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.

Dry Matter - 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-cancellable 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.

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.

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

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 9)

Net Milk Receipts – Accrual milk receipts less milk marketing expense.

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 21)

Operating Expense Ratio – Total accrual expenses less interest and machinery and building depreciation, divided by total accrual receipts.

Opportunity Costs - 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.

Other Livestock Expenses - All other dairy herd and livestock expenses not included in more specific categories. Other livestock expenses include; bST, DHIC, registration fees and transfers.

Part-Time Dairy (farm) - 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.

Personal Withdrawals and Family Expenditures Including Nonfarm Debt Payments - 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.

Profitability - 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 the costs including the opportunity costs of the owner/manager's labor, management, and equity capital.

Purchased Inputs Cost of Producing Milk - (defined on page 21)

Renter - Farm business owner/operator owns no tillable land and commonly rents all other farm real estate.

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 9)

Return on Total Capital - (defined on page 9)

Sell Rate – The number of animals that were sold for culling purposes divided by the average number of milking and dry cows for the year.

Solvency - 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 21)

Whole Farm Method - 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. Calculated 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)
2005-14	New York Economic Handbook 2006	($7.00)	Extension Staff
2005-13	Dairy Farm Business Summary, Central Valleys Region, 2004	($12.00)	Knoblauch, W., Karszes, J., Radick, C., Welch, D. and L. Putnam
2005-12	Income Tax Management and Reporting For Small Businesses and Farms: 2005 Reference Manual for Regional Schools	($20.00)	Cuykendall, C. and G. Bouchard
2005-11	Using Farm Assets for Retirement	($12.00)	Richard, S.
2005-10	Dairy Farm Business Summary, Southeastern New York Region, 2004	($12.00)	Knoblauch, W., Putnam, L., Kiraly, M., Walsh, J., Hadcock, S. and L. Hulle
2005-09	Dairy Farm Business Summary, Western and Central Plateau Region, 2004	($12.00)	Knoblauch, W., Putnam, L., Karszes, J., Grace, J., Munsee, D., Schuelke, J. and J. Petzen
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