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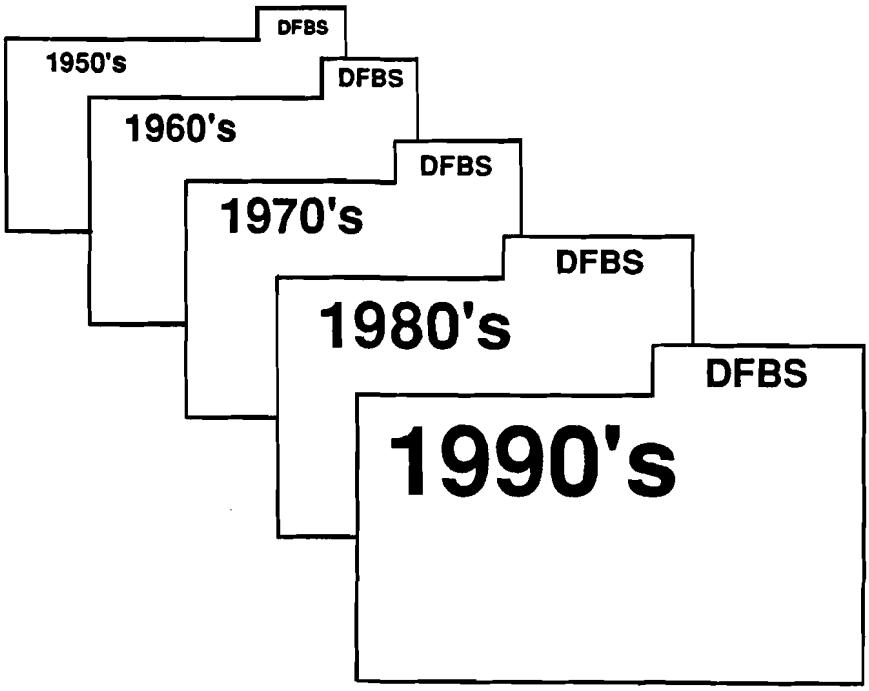
DAIRY FARM BUSINESS SUMMARY

WESTERN PLAIN REGION 1990



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1990 DAIRY FARM BUSINESS SUMMARY
WESTERN PLAIN REGION

Table of Contents

1990 DAIRY FARM BUSINESS SUMMARY
WESTERN PLAIN REGION*

INTRODUCTION

Dairy farmers throughout New York State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Each participating farmer receives a comprehensive business summary and analysis of his or her farm business. The information in this report represents an average of the data submitted from farms in the Western Plain region.

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 farm data and the application of modern farm business analysis techniques. In short, DFBS identifies the business and financial information farmers need and demonstrates how it should be used in identifying and evaluating strengths and weaknesses of the farm business.

Format Features

This regional report follows the same general format as in the 1990 DFBS printout received by all participating dairy farmers. Worksheets are included to give non-DFBS participants an opportunity to summarize their businesses. The analysis tables have an open column or section labeled My Farm. It may be used by any dairy farm manager who wants to compare his or her business with the average data of this region.

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 cash flow summary including debt repayment ability;
(4) an analysis of crop acreage, yields, and expenses;
(5) an analysis of dairy livestock numbers, production, and expenses; and
(6) a capital and labor efficiency analysis.

Micro DFBS, a computer program which enables Cooperative Extension agents and specialists to calculate and print individual farm business reports in their offices, is now being used by the dairy farm management field staff for 90 percent of the farms cooperating. This innovative approach provides faster processing of farm record data and increased use of the DFBS in farm management programs.

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*The Western Plain Region of New York State, with the number of participating farms in parentheses, is comprised of Erie (5), Genesee (11), Livingston (10), Niagara (3), Orleans (2), and Wyoming (19) counties.

This report was written by Stuart F. Smith, Senior Extension Associate, Farm Management. Linda Putnam was in charge of data preparation. Cindy Farrell and Beverly Carcelli prepared the publication. Farm business data was collected by Cooperative Extension agents Merville Button and David Thorp, and regional specialists George Allhusen and Jonas Kauffman.

SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics

Planning the 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 in this region. The following table shows important farm business characteristics and the number of farms with these characteristics.

BUSINESS CHARACTERISTICS
50 Western Plain Region Dairy Farms, 1990

Type of Farm	Number
Dairy	49
Part-time dairy	0
Dairy cash-crop	1
Part-time cash-crop dairy	0

Type of Ownership	Number
Owner	46
Renter	4

Type of Business	Number
Single proprietorship	25
Partnership	16
Corporation	9

Business Record System	Number
ELFAC II	1
Account Book	21
Agrifax (mail-in only)	10
On-Farm Computer	16
Other	2

Type of Barn	Number
Stanchion/Tie-Stall	12
Freestall	30
Combination	8

Milking System	Number
Bucket & carry	0
Dumping station	0
Pipeline	20
Herringbone parlor	28
Other parlor	2

Milking Frequency	Number
2x/day	38
3x/day	11
Other	1

Production Records	Number
DHIC	40
Owner-Sampler	6
Other	4
None	0

The averages used in this report were compiled using data from all the participating dairy farms in this region unless noted otherwise. There are full-time dairy farms, part-time farms, dairy cash-crop farms, farm renters, partnerships, and corporations included in the average. These specific classifications are used to separate farms in the State Business Summary.

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 paid during the year and does not necessarily represent the cost of goods and services actually used.

Change in inventory: Increases in inventories of supplies and other purchased inputs are subtracted in computing accrual expenses because they represent an increase in 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.

CASH AND ACCRUAL FARM EXPENSES
50 Western Plain Region Dairy Farms, 1990

Expense Item	Cash Paid	+	Change in Inventory or Prepaid Expense*	+	Change in Accounts Payable	=	Accrual Expenses
Hired Labor	$ 80,100		$ -483	<<	$ 278		$ 79,895
Feed							
Dairy grain & conc.	163,840		-14,631		1,259		150,468
Dairy roughage	4,171		1,123		143		5,437
Nondairy	776		0		0		776
Machinery							
Mach. hire, rent/lease	6,934		0	<<	183		7,117
Machinery repairs/parts	30,361		-28		-47		30,286
Auto exp. (farm share)	543		0	<<	0		543
Fuel, oil & grease	14,515		-539		193		14,169
Livestock							
Replacement livestock	4,988		0	<<	164		5,152
Breeding	6,264		-64		98		6,298
Vet & medicine	14,007		-99		19		13,927
Milk marketing	16,097		0	<<	42		16,139
Cattle lease/rent	306		0	<<	0		306
Other livestock expense	25,612		-436		97		25,273
Crops							
Fertilizer & lime	20,441		-1,080		276		19,637
Seeds & plants	9,688		-1,523		57		8,222
Spray, other crop exp.	9,832		148		105		10,085
Real Estate							
Land/bldg./fence repair	10,954		667		74		11,695
Taxes	8,533		-50	<<	-13		8,470
Rent & lease	14,159		29	<<	8		14,196
Other							
Insurance	6,981		-14	<<	42		7,009
Telephone (farm share)	964		-42	<<	-63		859
Electricity (farm share)	9,892		-5	<<	-47		9,840
Interest paid	33,124		0	<<	44		33,168
Miscellaneous	6,692		346		15		7,053
Total Operating	$ 499,774		$-16,681		$ 2,927		$ 486,020
Expansion livestock	16,164		0	<<	0		16,164
Machinery depreciation							26,848
Building depreciation							21,317
TOTAL ACCRUAL EXPENSES							$ 550,349

Change in prepaid expenses (noted above by <<) is a net change in non-inventory expenses that have been paid in advance of their use, for example, 1991 rent paid in 1990. If 1990 funds used to prepay 1991 rent exceeded the amount of 1990 rent prepaid in 1989, the amount of this excess is entered as a negative number to exclude it from 1990 rental expenses. The excess prepaid rent should be charged against the future year's business operation. A decrease in prepaid rent is added to expenses because it represents use of resources during this year that were paid for in past years but should be charged against this year's operation.

Change in accounts payable: An increase in accounts payable from beginning to end of year is added and a decrease is subtracted when calculating accrual expenses.

Accrual expenses are the costs of inputs actually used in this year's production. They are the total of cash paid, and changes in inventory, prepaid expenses, and accounts payable.

CASH AND ACCRUAL FARM EXPENSES WORKSHEET

Expense Item	Cash Paid +	Change in Inventory or Prepaid Expense +	Change in Accounts Payable -	Accrual Expenses
Hired Labor	$	$	$	$
Feed				
Dairy grain & conc.				
Dairy roughage				
Nondairy				
Machinery				
Mach. hire, rent/lease				
Machinery repairs/parts				
Auto exp. (farm share)				
Fuel, oil & grease				
Livestock				
Replacement livestock				
Breeding				
Vet & medicine				
Milk marketing				
Cattle lease/rent				
Other livestock expense				
Crops				
Fertilizer & lime				
Seeds & plants				
Spray, other crop expense				
Real Estate				
Land, bldg., fence rep.				
Taxes				
Rent & lease				
Other				
Insurance				
Telephone (farm share)				
Electricity (farm share)				
Interest paid				
Miscellaneous				
Total Operating	$	$	$	$
Expansion livestock				
Machinery depreciation				
Building depreciation				
TOTAL ACCRUAL EXPENSES				$

CASH AND ACCRUAL FARM RECEIPTS
50 Western Plain Region Dairy Farms, 1990

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	$549,312				$-9,163		$540,149
Dairy cattle	38,344		$23,008		-104		61,248
Dairy calves	9,349				-14		9,335
Other livestock	1,289		7		0		1,296
Crops	8,225		18,839		-175		26,889
Government receipts	7,328		0*		101		7,429
Custom machine work	496				-27		469
Gas tax refund	148				-35		113
Other	7,791				388		8,179
Less nonfarm noncash cap.**		(-)	0			(-)	0
Total Accrual Receipts	$622,282		$41,854		$-9,029		$655,107

*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. Changes in advanced government receipts are calculated by subtracting the end year balance from the beginning year balance (balances are listed with the current liabilities on the Balance Sheet).

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

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

CASH AND ACCRUAL FARM RECEIPT WORKSHEET

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	$_____				$_____		$_____
Dairy cattle	_____		$_____		_____		_____
Dairy calves	_____		_____		_____		_____
Other livestock	_____		_____		_____		_____
Crops	_____		_____		_____		_____
Government receipts	_____		_____		_____		_____
Custom machine work	_____				_____		_____
Gas tax refund	_____				_____		_____
Other	_____				_____		_____
Less gifts of cattle & crops		(-)	_____			(-)	_____
Total Accrual Receipts	$_____		$_____		$_____		$_____

Profitability Analysis

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

Net farm income is the 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, financing, and owning the farm business. This is not a measure of cash available from the year's business operation. Cash flow is evaluated later in this report.

Net farm income is computed 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 FLB and PCA). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

NET FARM INCOME
50 Western Plain Region Dairy Farms, 1990

Item	Average	My Farm
Total accrual receipts	$655,107	$_____
Appreciation: Livestock	395	_____
Machinery	3,632	_____
Real Estate	18,980	_____
Other Stock/Certificates	714	_____
Total Including Appreciation	$678,828	$_____
Total accrual expenses	- 550,349	-_____
Net Farm Income (with appreciation)	$128,479	$_____
Net Farm Income (without appreciation)	$104,758	$_____

Return to operators' labor, management, and equity capital measures the total net farm income for the farm operator(s). It is calculated by deducting a charge for unpaid family labor from net farm income. Operators' labor is not included in unpaid family labor. Return to operators' labor, management, and equity capital has been calculated both with and without appreciation. Appreciation is an important part of the return to ownership of farm assets.

RETURN TO OPERATORS' LABOR, MANAGEMENT, AND EQUITY
50 Western Plain Region Dairy Farms, 1990

	Average		My Farm	
Item	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	$128,479	$104,758	$_____	$_____
Family labor unpaid @ $1,250 per month	- 2,125	- 2,125	-_____	-_____
Return to operators' labor, management, & equity	$126,354	$102,633	$_____	$_____

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

LABOR AND MANAGEMENT INCOME
50 Western Plain Region Dairy Farms, 1990

Item	Average	My Farm
Return to operators' labor, management, & equity without appreciation	$102,633	$_____
Real interest @ 5% on $762,129 average equity capital	- 38,106	-_____
Labor & Management Income	$64,527	$_____
Labor & Management Income per 1.81 Operator/Manager	$35,650	$_____

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

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
50 Western Plain Region Dairy Farms, 1990

Item	Average	My Farm
Return to operators' labor, management, & equity capital with appreciation	$126,354	$_____
Value of operators' labor & management	- 46,463	-_____
Return on equity capital with appreciation	$79,891	$_____
Interest paid	$33,168	$_____
Return on total capital with appreciation	$113,059	$_____
Return on equity capital without appreciation	$56,170	$_____
Return on total capital without appreciation	$89,338	$_____
Rate of return on average equity capital:		
with appreciation	10.48%	_____%
without appreciation	7.37%	_____%
Rate of return on average total capital:		
with appreciation	9.88%	_____%
without appreciation	7.80%	_____%

Farm and Family Financial Status

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

1990 FARM BUSINESS & NONFARM BALANCE SHEET
50 Western Plain Region Dairy Farms, January 1, 1991

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$13,530	$11,838	Accounts payable	$5,690	$8,483
Accounts rec.	46,809	37,648	Operating debt	33,731	41,470
Prepaid exp.	1,842	2,407	Short-term	3,331	10,253
Feed & supplies	97,907	132,863	Advanced govt. rec.	0	0
Total	$160,088	$184,756	Total	$42,752	$60,206
Intermediate					
Dairy cows:			Intermediate		
owned	$176,384	$187,109	Structured debt		
leased	106	56	1-10 years	$134,308	$179,629
Heifers	78,082	90,730	Financial lease		
Bulls/other lvstk.	2,686	2,723	(cattle/mach.)	1,743	1,118
Mach./eq. owned	195,748	226,945	FLB/PCA stock	4,779	8,758
Mach./eq. leased	1,637	1,062			
FLB/PCA stock	4,779	8,758	Total	$140,830	$189,505
Other stock/cert.	31,236	32,403			
Total	$490,658	$549,786	Long Term		
Long-Term			Structured debt		
Land/buildings:			>10 yrs	$137,519	$189,327
owned	$407,836	$491,272	Financial lease		
leased	2,644	2,595	(structures)	2,644	2,595
Total	$410,480	$493,867	Total	$140,163	$191,922
Total Farm Assets	$1,061,226	$1,228,409	Total Farm Liab.	$323,745	$441,633
			FARM NET WORTH	$737,481	$786,776

(Average for 23 farms reporting) Nonfarm Assets*	Jan. 1	Dec. 31	Nonfarm Liabilities* & Net Worth	Jan. 1	Dec. 31
Personal cash, chkg. & savings	$7,480	$23,841	Nonfarm Liab.	$2,719	$2,423
Cash value life ins.	6,459	4,274	NONFARM NET WORTH	$55,391	$75,910
Nonfarm real estate	8,716	9,787	FARM & NONFARM*	Jan. 1	Dec. 31
Auto (personal sh.)	3,461	3,340	Total Assets	$1,119,336	$1,306,742
Stocks & bonds	4,581	5,722	Total Liab.	326,464	444,056
Household furn.	7,217	8,530			
All other	20,195	22,838	TOTAL FARM & NON-		
Total Nonfarm	$58,110	$78,333	FARM NET WORTH	$792,872	$862,686

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

Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business. For 1990, leases were discounted by 11.0 percent.

Advanced government receipts are included as current liabilities. Government payments received in 1990 that are for participation in the 1991 program are the end year balance and payments received in 1989 for participation in the 1990 program are the beginning year balance.

Date _____

1990 FARM BUSINESS & NONFARM BALANCE SHEET

Farm Assets	Jan. 1	Dec. 31
Current		
Farm cash, checking & savings		
Accounts rec.		
Prepaid expense		
Feed & supplies		
Total		
Intermediate		
Dairy cows:		
owned		
leased		
Heifers		
Bulls/other lvstk.		
Mach./eq. owned		
Mach./eq. leased		
FLB/PCA stock		
Other stock/cert.		
Total		
Long-Term		
Land/buildings:		
owned		
leased		
Total		
Total Farm Assets		

Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current		
Accounts payable		
Operating debt:		
Short Term:		
Adv. govt. rec.		
Total		
Intermediate		
Financial lease (cattle/mach.)		
FLB/PCA stock		
Total		
Long-Term		
Financial lease (structures)		
Total		
Total Farm Liab.		
FARM NET WORTH		

Nonfarm Assets	Jan. 1	Dec. 31
Personal cash, chkg. & savings		
Cash val. life ins.		
Nonfarm real est.		
Auto (pres. share)		
Stocks & bonds		
Household furn.		
All other		
Total Nonfarm		

Nonfarm Liabilities & Net Worth	Jan. 1	Dec. 31
Nonfarm Liab.:		
Total Nonfarm Liabilities		
Nonfarm Net Worth		

TOTAL FARM & NONFARM	Jan. 1	Dec. 31
Total Farm & Nonfarm Assets		
Less Total Farm & Nonfarm Liabilities		
Farm & Nonfarm Net Worth		

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. Debt levels per productive unit represent old standards that are still useful if used with measures of cash flow and repayment ability. The change in farm net worth without appreciation is an excellent indicator of farm generated financial progress.

BALANCE SHEET ANALYSIS
50 Western Plain Region Dairy Farms, January 1, 1991

Item	Average	My Farm
Financial Ratios - Farm:		
Percent equity	64%	____%
Debt/asset ratio: total	.36	____
long-term	.39	____
intermediate/current	.34	____
Change in Net Worth:		
Without appreciation	$25,574	$____
With appreciation	49,295	$____
Farm Debt Analysis:		
Accounts payable as % of total debt	2%	____%
Long-term liabilities as a % of total debt	43%	____%
Current & inter. liab. as a % of total debt	57%	____%

Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$2,197	$1,458	$____	$____
Long-term debt	955	633	____	____
Intermediate & current debt	1,242	824	____	____

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
50 Western Plain Region Dairy Farms, 1990

Item	Avg. of Region's Farms		My Farm	
	R.E.	Mach./Eq.	R.E.	Mach./Eq.
Value beg. of year	$407,836	$195,748	$____	$____
Purchases	$107,301*	$55,652	$____	$____
Gift/inheritance	+ 0	+ 0	+____	+____
Lost capital	- 18,978	--	-____	
Sales	- 2,628	- 1,240	-____	-____
Depreciation	- 21,317	- 26,848	-____	-____
Net investment	= 64,378	= 27,564	=+____	=+____
Appreciation	+ 19,057**	+ 3,632	+____	+____
Value end of year	$491,272	$226,945	$____	$____

*$62,513 land and $44,788 buildings and/or depreciable improvements.
**Excludes $-77 of appreciation on assets sold during the year.

Cash Flow Statement

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

The annual cash flow statement is structured to compare all the cash inflows including beginning balances with all the cash outflows including ending balances for the year. By definition, total cash inflows must equal total cash outflows when beginning and ending balances are included. Any imbalance is, therefore, the error from incorrect accounting of cash inflows and cash outflows. Whenever an imbalance exists, all other financial measures may also be in error.

ANNUAL CASH FLOW STATEMENT
50 Western Plain Region Dairy Farms, 1990

Item	Average	My Farm
Cash Inflows		
Beginning farm cash, checking & savings	$ 13,530	$
Cash farm receipts	622,282	
Sale of assets: Machinery	1,240	
Real estate	1,733	
Other stock & certificate	2,152	
Money borrowed (intermediate & long-term)	159,181	
Money borrowed (short-term)	7,532	
Increase in operating debt	7,739	
Nonfarm income	3,441	
Cash from nonfarm capital used in the business	4,173	
Money borrowed - nonfarm	346	
Total	$823,349	$
Cash Outflows		
Cash farm expenses	$499,774	$
Capital purchases: Expansion livestock	16,164	
Machinery	55,652	
Real estate	107,301	
Other stock & certificate	2,605	
Principal payments (intermediate & long-term)	62,052	
Principal payments (short-term)	610	
Decrease in operating debt	0	
Personal withdrawals & family expenditures including nonfarm debt payments	63,925	
Ending farm cash, checking & savings	11,838	
Total	$819,923	$
Imbalance (error)	$3,426	$

Repayment Analysis

The second step in cash flow analysis is to compare the debt payments planned for the last year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business. However, the critical question to many farmers and lenders is whether planned payments can be made in 1991. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1991 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Same 36 Western Plain Region Dairy Farms, 1989 & 1990

	Average			My Farm		
	1990 Payments		Planned	1990 Payments		Planned
Debt Payments	Planned	Made	1991	Planned	Made	1991
Long-term	$17,426	$51,367	$36,162	$_____	$_____	$_____
Intermediate-term	45,940	56,371	53,956	_____	_____	_____
Short-term	5,581	732	7,007	_____	_____	_____
Operating (net reduction)	6,780	0	27,366	_____	_____	_____
Accounts payable (net reduction)	1,636	0	3,274	_____	_____	_____
Total	$77,363	$108,470	$127,765	$_____	$_____	$_____
Per cow	$363	$509		$_____	$_____	
Per cwt. 1990 milk	$1.91	$2.68		$_____	$_____	
Percent of total 1990 receipts	11%	15%		_____	_____	
Percent of 1990 milk receipts	13%	18%		_____	_____	

The cash flow coverage ratio measures the ability of the farm business to meet its planned debt payment schedule. The ratio shows the percentage of payments planned for 1990 (as of December 31, 1989) that could have been made with the amount available for debt service in 1990. Farmers who did not participate in DFBS last year will find in their report a cash flow coverage ratio based on planned debt payments for 1991.

CASH FLOW COVERAGE RATIO
Same 36 Western Plain Region Dairy Farms, 1989 & 1990

Item	Average	My Farm
Cash farm receipts	$684,104	$_____
- Cash farm expenses	551,512	_____
+ Interest paid	37,658	_____
- Net personal withdrawals from farm**	71,710	_____
(A) = Amount Available for Debt Service	$98,540	$_____
(B) = Debt Payments Planned for 1990 (as of December 31, 1989)	$77,363	$_____
(A ÷ B) = Cash Flow Coverage Ratio for 1990	1.27	_____

**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

Item	Regional Average (per cow)	My Farm Total	My Farm Per Cow	Expected Change	1991 Projection
Average number of cows	192.2				
Accrual Oper. Receipts					
Milk	$2,810.35	$	$		$
Dairy cattle	318.67				
Dairy calves	48.57				
Other livestock	6.74				
Crops	139.90				
Misc. receipts	84.24				
Total	$3,408.47	$	$		$
Accrual Oper. Expenses					
Hired labor	$415.69	$	$		$
Dairy grain & conc.	782.87				
Dairy roughage	28.29				
Nondairy feed	4.04				
Mach. hire/rent/lease	37.03				
Mach. rpr./parts & auto	160.40				
Fuel, oil & grease	73.72				
Replacement lvstk.	26.81				
Breeding	32.77				
Vet & medicine	72.46				
Milk marketing	83.97				
Cattle lease	1.59				
Other livestock exp.	131.49				
Fertilizer & lime	102.17				
Seeds & plants	42.77				
Spray/other crop exp.	52.47				
Land, bldg.,fence repair	60.85				
Taxes	44.07				
Real estate rent/lease	73.86				
Insurance	36.47				
Utilities	55.67				
Miscellaneous	36.69				
Total Less Int. Paid	$2,356.15				$
Net Accrual Operating Income (without interest paid)	(total) $202,254	$			$
- Change in lvstk./crop inv.*	41,854				
- Change in accts. rec.	-9,029				
+ Change in feed/supply inv.**	-16,681				
+ Change in accts. payable***	2,883				
NET CASH FLOW	$155,631	$			$
- Net personal withdrawals from farm (see footnote on pg. 12)	60,138				
Available for Farm Debt Payments & Investments	$95,493	$			$
- Farm debt payments	92,614				
Available for Farm Investment	$2,879	$			$
- Capital purchases: cattle, machinery & improvements	$181,722				
Additional Capital Needed		$			$

*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 is often inadequately managed. A complete evaluation of what the available land resources are, how they are being used, how well crops are producing, and what it costs to produce them is required to evaluate alternative cropping and feed purchasing choices.

LAND RESOURCES AND CROP PRODUCTION
50 Western Plain Region Dairy Farms, 1990

Item	Average			My Farm		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	303	260	563			
Nontillable	33	5	38			
Other nontillable	79	16	95			
Total	415	281	696			

Crop Yields	Farms	Acres*	Prod/Acre	Acres	Prod/Acre
Hay crop	50	207	3.15 tn DM		tn DM
Corn silage	48	172	14.30 tn		tn
			4.69 tn DM		tn DM
Other forage	11	36	1.66 tn DM		tn DM
Total forage	50	380	3.79 tn DM		tn DM
Corn grain	37	117	101.77 bu		bu
Oats	15	20	63.80 bu		bu
Wheat	22	55	58.67 bu		bu
Other crops	17	108			
Tillable pasture	15	30			
Idle	30	35			
Total Tillable Acres	50	563			

*This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were hay crop 207, corn silage 165, corn grain 87, oats 6, tillable pasture 9, and idle 21.

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 measures of crop management indicate the relationship between forage production, forage production resources, and the dairy herd.

CROP MANAGEMENT FACTORS
50 Western Plain Region Dairy Farms, 1990

Item	Average	My Farm
Total tillable acres per cow	2.93	
Total forage acres per cow	1.98	
Harvested forage dry matter, tons per cow	7.49	

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.

CROP RELATED ACCRUAL EXPENSES
Western Plain Region Dairy Farms Reporting, 1990

Item	Total Per Till. Acre	Hay Crop Per Acre	Hay Crop Per Ton DM	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Shell Bu.
Number of farms reporting	50	28		28		
Average number of acres	563	178		205		
Fertilizer & lime	$34.88	$26.80	$8.35	$40.03	$8.49	$.42
Seeds & plants	14.60	12.83	4.00	22.99	4.88	.24
Spray & other crop expense	17.91	8.98	2.80	29.32	6.22	.31
Total	$67.39	$48.61	$15.15	$92.34	$19.59	$.97
My Farm:						
Fertilizer & lime	$_____	$_____	$_____	$_____	$_____	$_____
Seeds & plants	_____	_____	_____	_____	_____	_____
Spray & other crop expense	_____	_____	_____	_____	_____	_____
Total	$_____	$_____	$_____	$_____	$_____	$_____

Most machinery costs are associated with crop production and should be analyzed with the crop enterprise. Total machinery expenses include the major fixed costs (interest and depreciation), as well as the accrual operating costs. Although machinery costs have not been allocated to individual crops, they are shown below per total tillable acre.

ACCRUAL MACHINERY EXPENSES
50 Western Plain Region Dairy Farms, 1990

Machinery Expense Item	Average Total Expenses	Average Per Til. Acre	My Farm Total Expenses	My Farm Per Til. Acre
Fuel, oil & grease	$14,169	$25.17	$_____	$_____
Machinery repairs & parts	30,286	53.79	_____	_____
Machine hire, rent & lease	7,117	12.64	_____	_____
Auto expense (farm share)	543	.96	_____	_____
Interest (5%)	10,567	18.77	_____	_____
Depreciation	26,848	47.69	_____	_____
Total	$89,530	$159.02	$_____	$_____

Dairy Analysis

Analysis of the dairy enterprise can reveal a great deal about the strengths and weaknesses of the dairy farm business. Information on this page should be used in conjunction with DHI and other dairy production information. Changes in dairy herd size and market values that occur during the year are identified in the table below. The change in inventory value without appreciation is attributed to physical changes in herd size and quality. Any change in inventory is included as an accrual farm receipt when calculating all of the profitability measures on pages 6 and 7.

DAIRY HERD INVENTORY
50 Western Plain Region Dairy Farms, 1990

	Dairy Cows		Heifers					
			Bred		Open		Calves	
Item	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	191	$176,384	65	$45,850	44	$20,968	43	$11,263
+ Change w/o apprec.		9,772		9,389		2,200		1,647
+ Appreciation		953		-259		-253		-76
End year (owned)	201	$187,109	81	$54,980	45	$22,915	49	$12,834
End incl. leased	201							
Average number	192		166 (all age groups)					
My Farm:								
Beg. of year (owned)	___	$_____	___	$_____	___	$_____	___	$_____
+ Change w/o apprec.		_____		_____		_____		_____
+ Appreciation		_____		_____		_____		_____
End of year (owned)	___	$_____	___	$_____	___	$_____	___	$_____
End including leased	___							
Average number	___		___ (all age groups)					

Total milk sold and milk sold per cow are extremely valuable measures of 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
50 Western Plain Region Dairy Farms, 1990

Item	Average	My Farm
Total milk sold, lbs.	3,669,841	_____
Milk sold per cow, lbs.	19,096	_____
Average milk plant test, percent butterfat	3.34	_____

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. Total costs of producing milk include the operating costs of producing milk plus depreciation on machinery and buildings, the value of operators' labor and management, and the interest charge for using equity capital. Note that the cost of labor, management, and equity capital has been excluded in the intermediate calculation.

ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK
50 Western Plain Region Dairy Farms, 1990

Item	Average			My Farm		
	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Costs of Producing Milk						
Operating costs	$387,226	$2,015	$10.55	$_____	$_____	$_____
Total costs w/o opers' labor, mgmt. & capital	$437,516	$2,276	$11.92	$_____	$_____	$_____
Total Costs	$522,085	$2,716	$14.23	$_____	$_____	$_____
Accrual Receipts From Milk	$540,149	$2,810	$14.72	$_____	$_____	$_____

The accrual operating expenses most commonly associated with the dairy enterprise are listed in the table below. Evaluating these costs per unit of production enables an evaluation of the dairy enterprise.

DAIRY RELATED ACCRUAL EXPENSES
50 Western Plain Region Dairy Farms, 1990

Item	Average		My Farm	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrates	$783	$4.10	$_____	$_____
Purchased dairy roughage	28	.15	_____	_____
Total Purchased Dairy Feed	$811	$4.25	$_____	$_____
Purchased grain & conc. as % of milk receipts	28%		____%	
Purchased feed & crop exp.	$1,009	$5.28	$_____	$_____
Purchased feed & crop exp. as % of milk receipts	36%		____%	
Breeding	$ 33	$.17	$_____	$_____
Veterinary & medicine	72	.38	_____	_____
Milk marketing	84	.44	_____	_____
Cattle lease	2	.01	_____	_____
Other livestock expense	131	.69	_____	_____

Capital and Labor Efficiency Analysis

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

CAPITAL EFFICIENCY
50 Western Plain Region Dairy Farms, 1990

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	$214,385	$5,956	$2,033	$3,778
Real estate		2,353		1,492
Machinery & equipment	39,831	1,107	378	
Capital turnover, years		1.69		
My Farm:				
Farm capital	$_____	$_____	$_____	$_____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
Capital turnover, years		_____		

LABOR FORCE INVENTORY AND ANALYSIS
50 Western Plain Region Dairy Farms, 1990

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
Operator number 1	11.82	44	13	$27,940
Operator number 2	6.78	42	13	12,703
Operator number 3	3.10	28	12	5,820
Family paid	4.12			
Family unpaid	1.70			
Hired	36.56			
Total	64.08	÷ 12 = 5.34 Worker Equivalent		
		1.81 Operator/Manager Equiv.		
My Farm: Total	____	÷ 12 = _____ Worker Equivalent		
Operator's	____	÷ 12 = _____ Operator/Manager Equiv.		

Labor Efficiency	Average Total	Average Per Worker	My Farm Total	My Farm Per Worker
Cows, average number	192	36	_____	_____
Milk sold, pounds	3,669,841	687,236	_____	_____
Tillable acres	563	105	_____	_____
Work units	2,030	380	_____	_____

Labor Costs	Average Total	Average Per Cow	Average Per Til. Acre	My Farm Total	My Farm Per Cow	My Farm Per Til. Acre
Value of operator(s) labor ($1,250/mo.)*	$27,125	$141	$48.18	$_____	$_____	$_____
Family unpaid ($1,250/mo.)*	2,125	11	3.77	_____	_____	_____
Hired	79,895	416	141.91	_____	_____	_____
Total Labor	$109,145	$568	$193.86	$_____	$_____	$_____
Machinery Cost	$89,530	$466	$159.02	$_____	$_____	$_____
Total Labor & Mach.	$198,675	$1,034	$352.89	$_____	$_____	$_____

*When comparing to previous years' data, please note 1989 constants used in calculations were $1,050 per month for the Value of Operator(s) Labor and $750 per month for Unpaid Family Labor.

COMPARATIVE ANALYSIS OF THE FARM BUSINESS

Progress of the Farm Business

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

PROGRESS OF THE FARM BUSINESS
Same 36 Western Plain Region Dairy Farms, 1989 & 1990

	Average of 36 Farms*		My Farm		
Selected Factors	1989	1990	1989	1990	Goal
Size of Business					
Average number of cows	202	213			
Average number of heifers	169	188			
Milk sold, lbs.	3,793,260	4,045,664			
Worker equivalent	5.47	5.77			
Total tillable acres	534	605			
Rates of Production					
Milk sold per cow, lbs.	18,784	19,001			
Hay DM per acre, tons	2.91	3.27			
Corn silage per acre, tons	12	14			
Labor Efficiency					
Cows per worker	37	37			
Milk sold/worker, lbs.	693,238	701,666			
Cost Control					
Grain & conc. purchased as % of milk sales	26%	27%	%	%	%
Dairy feed & crop exp. per cwt. milk	$4.82	$5.14	$	$	$
Labor & mach. costs/cow	$913	$1,035	$	$	$
Capital Efficiency**					
Farm capital per cow	$5,450	$5,869	$	$	$
Mach. & equip. per cow	$958	$1,059	$	$	$
Capital turnover, years	1.64	1.68			
Profitability					
Net farm inc. w/o apprec.	$127,900	$115,259	$	$	$
Net farm inc. w/apprec.	$160,610	$141,352	$	$	$
Labor & mgt. income per oper./manager	$51,440	$39,636	$	$	$
Rate of return on eq. capital w/apprec.	15%	11%	%	%	%
Rate of return on all capital w/apprec.	13%	10%	%	%	%
Financial Summary					
Farm net worth, end year	$800,272	$838,976	$	$	$
Debt to asset ratio	.31	.38			
Farm debt per cow	$1,653	$2,293	$	$	$

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

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 409 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.

References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
409 New York Dairy Farms, 1989

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	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
(DFBS pg. 10)	(10)	(10)	(9)	(8)	(8)	(10)	(10)
8.1	319	5,936,217	20,998	4.4	21	48	837,710
4.6	151	2,631,025	19,213	3.5	17	39	673,111
3.8	120	2,039,688	18,261	3.1	16	36	607,303
3.3	99	1,686,207	17,610	2.9	15	33	558,972
2.9	83	1,385,769	17,083	2.7	14	30	511,780
2.6	71	1,178,752	16,564	2.5	13	28	460,467
2.3	62	999,365	16,031	2.2	12	26	421,664
2.1	55	867,115	15,228	2.0	11	24	385,456
1.9	46	720,368	14,128	1.8	9	21	335,529
1.4	34	498,429	11,572	1.3	6	16	235,225

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
(9)	(9)	(10)	(10)	(9)	(9)
$306	14%	$240	$ 609	$ 467	$3.16
434	19	310	720	601	3.81
509	22	353	781	675	4.25
566	24	386	828	745	4.52
621	26	420	871	796	4.74
678	28	453	921	849	4.98
721	30	480	972	907	5.24
771	31	519	1,047	965	5.58
840	34	579	1,125	1,030	6.01
975	40	693	1,299	1,177	7.18

FARM BUSINESS CHART (continued)

Milk Receipts Per Cow (9)	Milk Receipts Per Cwt. (9)	Oper. Cost Milk Per Cow (9)	Oper. Cost Milk Per Cwt. (9)	Total Cost Production Per Cow (9)	Total Cost Production Per Cwt. (9)
$3,073	$15.99	$1,044	$ 6.90	$1,898	$12.35
2,805	15.13	1,329	8.42	2,153	13.49
2,662	14.86	1,453	9.10	2,287	14.01
2,560	14.65	1,590	9.67	2,411	14.46
2,463	14.49	1,688	10.11	2,518	14.92
2,376	14.35	1,768	10.58	2,633	15.41
2,289	14.21	1,868	11.05	2,727	15.88
2,172	14.07	1,977	11.55	2,838	16.81
2,041	13.87	2,105	12.24	2,978	18.05
1,696	13.27	2,364	13.98	3,378	21.26

Profitability

Net Farm Income		Return to Operator's Labor, Management, & Equity Capital		Labor & Management Income	
With Appreciation (3)	Without Appreciation (3)	With Appreciation (3)	Without Appreciation (3)	Per Farm (3)	Per Operator (3)
$248,067	$186,279	$246,604	$185,529	$133,487	$105,965
116,937	81,652	115,693	79,586	51,295	35,165
91,414	60,780	88,765	58,912	34,622	25,238
73,523	48,987	71,909	46,653	26,501	19,038
61,475	39,152	58,789	36,992	19,566	15,093
51,477	31,888	49,557	29,804	14,172	11,283
42,996	25,477	40,684	23,070	8,840	7,232
33,929	18,881	31,331	16,245	3,043	2,279
24,761	11,170	22,618	8,857	-6,749	-5,599
3,831	-7,633	31	-11,442	-33,477	-27,966

Farm Business Charts for farms with freestall barns and 120 cows or less and more than 120 cows, and farms with conventional barns with 60 cows or less and more than 60 cows are shown on pages 25-28.

Financial Analysis Chart

The farm financial analysis chart on the following page is designed just like the Farm Business Chart and may be used to measure the financial health of the farm business. Most of the financial measures used in the chart are defined on pages 7, 10, 12, and 18 of this publication. References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FINANCIAL ANALYSIS CHART
409 New York Dairy Farms, 1989

Liquidity (repayment)				
Debt Payments Per Cow (DFBS pg. 7)	Available for Debt Service Per Cow (11)	Cash Flow Coverage Ratio (7)	Debt Payments as Percent of Milk Sales (7)	Debt Per Cow (5)
$ 53	$942	7.00	2%	$ 129
180	762	2.25	7	682
254	663	1.75	10	1,156
333	580	1.49	13	1,542
389	514	1.21	16	1,863
440	460	1.07	18	2,212
487	399	0.93	20	2,643
549	327	0.77	23	3,051
631	244	0.55	28	3,541
889	-50	-0.27	39	4,655

Solvency			Profitability	
	Debt/Asset Ratio		Percent Rate of Return with appreciation on:	
Percent Equity (5)	Current & Intermediate (5)	Long Term (5)	Equity (3)	Investment* (3)
98	0.01	0.00	30	19
89	0.05	0.00	17	14
83	0.10	0.08	13	12
77	0.17	0.20	11	10
71	0.22	0.29	9	9
66	0.27	0.39	7	7
61	0.33	0.51	5	6
54	0.39	0.60	3	5
46	0.49	0.73	0	3
32	0.74	1.05	-14	-2

Efficiency (Capital)				
Capital Turnover (years) (10)	Real Estate Investment Per Cow (10)	Machinery Investment Per Cow (10)	Total Farm Assets Per Cow (10)	Change in Net Worth w/Appreciation (5)
1.40	$1,420	$ 563	$ 4,248	$184,415
1.69	1,973	759	5,080	77,982
1.83	2,297	906	5,571	55,765
1.96	2,570	1,029	5,916	44,425
2.10	2,837	1,138	6,287	36,412
2.26	3,081	1,255	6,653	28,486
2.41	3,445	1,391	7,224	21,656
2.59	3,940	1,567	7,810	15,973
2.90	4,646	1,786	8,820	9,520
4.19	7,175	2,505	11,461	-14,836

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

Comparisons 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 used has as many of the same physical characteristics as possible as the farm being analyzed. To assist in this endeavor, dairy farms in the 1989 State Summary[1] have been divided into those with freestall and those with conventional housing. Within each group is a further classification by size of the dairy herd.

The table on page 24 shows the average values for the resulting four groups of dairy farms. Within each housing type, the larger herd size has the highest crop yields and pounds of milk sold per cow. The total cost of producing milk was lower on the larger farms and labor efficiency greater. Profitability was also greater on the larger farms within each housing type.

Farm business charts have been computed for each of the four housing and herd size categories. References to DFBS output page numbers for participating dairy farmers are provided in the table headings. From these charts on pages 25-28 the range in size of business, rates of production, labor efficiency, value and cost of producing milk, and profitability can be observed. The range in every category of business performance is tremendous.

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. Farm managers should remember, however, that their competition is not limited to the other farms in their own barn type and herd size category. They should observe how their management performance compares with farms in other categories as well.

Herd Size Comparisons

A detailed comparison of profitability, financial situation, and business analysis factors across herd sizes is contained on pages 29-36. As herd size increases, the average profitability also increases (pages 29-30). Net farm income without appreciation was $291,433 per farm for the 300 or more herd size group and $13,766 per farm for those with less than 40 cows. This relationship holds for all measures of profitability including rate of return on equity capital.

As herd size increases, percent equity generally decreases (pages 31-34). However, farm net worth increases substantially as herd size increases. The average net worth for all size farms increased during 1989.

Crop yields generally increased as herd size increased, but fertilizer and lime expenses and machinery cost per tillable acre also increased (pages 35-36). Milk sold per cow generally increased as herd size increased, ranging from 15,507 pounds on the farms with less than 40 cows to 19,250 pounds on farms with 300 or more cows. Farm capital per worker increased as herd size increased, while farm capital per cow decreased as herd size increased. Cows per worker increased dramatically as herd size increased, ranging from 18 at the lowest herd size category up to 44 at the largest size category.

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[1]Smith, Stuart F., Wayne A. Knoblauch, and Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1989, Department of Agricultural Economics, Cornell University, A.E. Res. 90-11, November 1990.

SELECTED BUSINESS FACTORS BY TYPE OF BARN
AND HERD SIZE
381 New York Dairy Farms, 1989

Farms with:	Conventional		Freestall	
Item	≤60 Cows	>60 Cows	≤120 Cows	>120 Cows
Number of farms	122	109	65	85
Cropping Program Analysis				
Total Tillable acres	167	294	270	585
Tillable acres rented*	53	115	100	217
Hay crop acres*	103	172	146	251
Corn silage acres*	28	56	67	201
Hay crop, tons DM/acre	2.3	2.6	2.5	2.9
Corn silage, tons/acre	12.2	13.8	13.7	13.4
Oats, bushels/acre	49.6	58.7	60.0	54.7
Forage DM per cow, tons	7.7	8.1	8.1	7.2
Tillable acres/cow	3.6	3.4	3.2	2.6
Fert. & lime exp./til. acre	$22.30	$24.69	$30.57	33.16
Total machinery costs	$21,279	$36,427	$40,470	$90,526
Machinery cost/tillable acre	$127	$124	$150	$155
Dairy Analysis				
Number of cows	46	87	85	227
Number of heifers	37	71	69	177
Milk sold, lbs.	743,605	1,453,839	1,415,556	4,098,891
Milk sold/cow, lbs.	16,157	16,697	16,585	18,066
Operating cost of prod. milk/cwt.	$10.11	$10.42	$10.29	$10.68
Total cost of prod. milk/cwt.	$16.41	$15.19	$15.45	$13.92
Price/cwt. milk sold	$14.40	$14.43	$14.58	$14.62
Purchased dairy feed/cow	$649	$664	$658	$723
Purchased dairy feed/cwt. milk	$4.01	$3.98	$3.97	$4.00
Purc. grain & conc. as % milk rec.	27%	27%	26%	26%
Purc. feed & crop exp./cwt. milk	$4.90	$4.86	$5.00	$4.93
Capital Efficiency				
Farm capital/worker	$168,798	$199,109	$205,751	$221,387
Farm capital/cow	$7,429	$6,765	$6,882	$5,812
Farm capital/til. acre owned	$2,998	$3,292	$3,437	$3,593
Real estate/cow	$3,824	$3,248	$3,176	$2,582
Machinery investment/cow	$1,391	$1,205	$1,417	$973
Capital turnover, years	2.48	2.30	2.26	1.81
Labor Efficiency				
Worker equivalent	2.02	2.96	2.86	5.96
Operator/manager equivalent	1.22	1.44	1.44	1.51
Milk sold/worker, lbs.	367,285	491,277	495,572	688,163
Cows/worker	23	29	30	38
Work units/worker	245	314	316	390
Labor cost/cow	$498	$447	$430	$483
Labor cost/tillable acre	$137	$133	$136	$187
Profitability & Balance Sheet Analysis				
Net farm income (w/o apprec.)	$20,720	$39,553	$39,227	$112,143
Labor & mgmt. income/operator	$5,437	$11,836	$11,533	$45,387
Farm debt/cow	$2,375	$2,055	$2,116	$2,024
Percent equity	68%	70%	69%	65%

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

FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARM
122 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1989

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent (DFBS pg. 10)	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
	(10)	(10)	(9)	(8)	(8)	(10)	(10)
3.2	59	1,082,881	20,110	3.7	21	35	587,841
2.5	56	958,974	18,349	3.1	17	29	499,136
2.3	54	892,052	17,564	2.8	16	27	450,294
2.1	52	827,657	16,984	2.6	15	26	422,701
2.0	49	783,358	16,434	2.5	13	24	397,144
2.0	45	719,950	15,944	2.2	12	23	374,075
1.9	43	650,096	15,271	2.0	11	22	345,055
1.7	40	584,651	14,520	1.9	10	20	303,273
1.4	35	530,551	13,332	1.7	8	17	258,421
1.1	26	359,661	11,239	1.1	4	13	177,369

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
(9)	(9)	(10)	(10)	(9)	(9)
$316	14%	$217	$ 664	$ 464	$3.17
442	20	299	771	562	3.75
487	22	362	822	624	4.05
541	24	410	868	687	4.44
578	26	448	916	744	4.66
622	28	473	972	790	4.90
688	30	504	1,036	842	5.12
732	32	543	1,093	927	5.55
812	34	597	1,151	1,020	6.12
977	41	717	1,400	1,194	7.54

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income With Apprec.	Net Farm Income Without Apprec.	Labor & Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(9)	(9)	(9)	(3)	(3)	(3)	(5)
$2,973	$ 6.19	$13.34	$77,328	$48,104	$26,023	$56,366
2,688	8.05	14.29	57,624	35,025	18,388	37,798
2,566	9.03	14.76	45,724	31,524	14,483	31,255
2,453	9.40	15.15	39,848	26,540	12,362	26,731
2,339	9.81	15.56	35,068	22,584	9,906	21,857
2,243	10.12	16.02	32,068	19,706	6,256	18,070
2,160	10.61	17.04	27,705	15,506	2,400	14,531
2,066	11.22	17.97	23,549	11,515	-1,429	11,710
1,870	12.19	19.30	15,708	3,658	-7,860	6,889
1,617	14.13	23.57	551	-8,603	-24,176	-6,541

FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS
109 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1989

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent (DFBS pg. 10)	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
	(10)	(10)	(9)	(8)	(8)	(10)	(10)
5.0	148	2,535,927	20,872	4.7	21	44	735,247
3.9	110	1,927,801	19,003	3.7	17	37	635,498
3.3	97	1,674,576	18,148	3.2	16	35	578,731
3.0	91	1,490,911	17,659	3.0	15	33	555,010
2.9	81	1,378,256	17,136	2.7	14	31	528,601
2.6	76	1,282,035	16,615	2.4	13	29	478,090
2.5	71	1,204,144	16,073	2.2	12	28	434,996
2.3	68	1,121,221	15,296	2.0	11	25	409,259
2.1	65	1,016,738	14,152	1.8	9	23	363,710
1.9	62	852,073	11,564	1.3	6	19	301,588

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
(9)	(9)	(10)	(10)	(9)	(9)
$ 287	13%	$230	$ 584	$ 415	$2.96
387	19	296	690	570	3.72
507	21	331	748	667	4.24
581	24	363	800	749	4.50
645	27	403	841	787	4.69
690	29	437	887	828	4.87
733	30	469	929	892	5.11
772	31	494	977	945	5.44
844	33	550	1,061	998	5.69
1,022	40	626	1,181	1,184	6.82

Value and Cost of Production			Profitability			
			Net Farm Income			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	With Apprec.	Without Apprec.	Labor &. Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(9)	(9)	(9)	(3)	(3)	(3)	(5)
$3,077	$ 7.09	$12.08	$114,433	$88,805	$49,904	$91,501
2,729	8.23	13.18	94,259	65,165	31,977	63,463
2,620	8.88	13.91	77,085	55,430	24,453	48,723
2,523	9.66	14.33	66,467	47,313	18,813	40,634
2,443	10.21	14.83	59,917	41,312	15,344	33,677
2,382	10.68	15.30	54,078	34,051	10,150	25,419
2,331	11.12	15.85	50,247	28,701	5,622	20,441
2,185	11.49	16.51	42,611	22,779	-23	15,025
2,045	12.22	17.64	26,362	12,470	-7,495	8,067
1,663	13.72	19.28	7,372	-4,472	-30,414	-15,456

FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS
65 Freestall Barn Dairy Farms with 120 or Less Cows, New York, 1989

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent (DFBS pg. 10)	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
	(10)	(10)	(9)	(8)	(8)	(10)	(10)
4.1	117	2,099,489	20,204	3.7	19	49	818,478
3.6	110	1,937,211	19,154	3.2	18	39	658,565
3.3	104	1,768,897	18,170	3.0	16	36	588,100
3.1	96	1,652,918	17,494	2.7	15	33	550,232
3.0	87	1,435,527	16,761	2.6	14	30	506,410
2.7	79	1,255,415	16,149	2.5	13	28	468,429
2.5	73	1,167,685	15,604	2.2	12	27	441,999
2.3	67	992,268	14,639	2.0	12	24	396,308
2.0	61	886,048	13,300	1.7	10	22	339,922
1.5	45	657,390	11,473	1.3	6	18	253,660

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
(9)	(9)	(10)	(10)	(9)	(9)
$262	11%	$262	$ 629	$ 499	$3.18
414	18	335	685	598	3.65
481	21	361	726	648	4.03
529	23	387	807	695	4.39
559	24	416	848	747	4.75
619	26	442	892	823	5.10
711	29	486	946	884	5.37
786	31	581	1,028	985	5.72
827	35	627	1,150	1,066	6.23
927	39	772	1,319	1,166	7.47

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income With Apprec.	Net Farm Income Without Apprec.	Labor &. Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(9)	(9)	(9)	(3)	(3)	(3)	(5)
$2,931	$ 7.42	$12.82	$131,181	$92,002	$42,876	$120,849
2,746	8.41	13.67	108,370	70,904	29,632	71,555
2,627	8.78	13.95	86,558	59,498	24,712	53,730
2,535	9.32	14.44	71,185	47,335	17,710	45,227
2,389	9.91	14.83	63,492	39,374	12,181	39,713
2,340	10.38	15.55	49,919	32,611	9,253	30,475
2,271	10.74	16.16	45,678	23,502	5,595	24,566
2,163	11.42	16.96	40,668	17,094	433	19,880
2,026	12.08	18.09	28,633	12,468	-6,569	12,909
1,786	14.23	21.47	6,011	-9,408	-30,033	-22,467

FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS
85 Freestall Barn Dairy Farms with More Than 120 Cows, New York, 1989

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
(DFBS pg. 10)	(10)	(10)	(9)	(8)	(8)	(10)	(10)
13.5	599	11,715,283	21,902	4.7	21	57	974,828
7.9	309	5,924,952	20,191	3.9	17	45	834,516
6.4	241	4,151,273	19,033	3.5	15	42	758,862
5.9	202	3,477,166	18,235	3.1	15	40	679,571
5.4	176	3,076,850	17,527	2.9	14	38	648,794
4.7	158	2,716,435	17,113	2.7	14	36	622,961
4.3	147	2,587,680	16,618	2.5	13	33	591,466
4.0	135	2,401,491	16,199	2.3	12	30	555,013
3.6	129	2,208,918	15,276	2.0	10	29	477,645
2.9	124	1,747,481	12,827	1.4	8	24	394,681

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
(9)	(9)	(10)	(10)	(9)	(9)
$350	15%	$269	$ 570	$ 557	$3.34
447	18	311	713	659	3.99
542	21	347	755	763	4.37
612	24	367	806	824	4.55
675	26	385	841	871	4.72
697	27	412	884	910	5.03
735	29	446	944	940	5.35
791	30	473	999	986	5.66
854	32	523	1,089	1,033	5.99
933	38	637	1,214	1,135	6.79

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income With Apprec.	Net Farm Income Without Apprec.	Labor &. Mgmt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(9)	(9)	(9)	(3)	(3)	(3)	(5)
$3,158	$ 7.53	$11.77	$489,502	$388,784	$263,374	$386,727
2,943	8.97	12.78	224,879	166,354	81,107	148,869
2,826	9.63	13.41	175,229	125,725	55,887	114,322
2,690	10.12	13.79	149,071	104,032	39,787	93,275
2,588	10.72	14.03	128,645	89,598	30,944	75,711
2,514	11.14	14.37	112,208	74,194	24,061	61,278
2,411	11.53	14.82	95,648	58,276	18,210	48,408
2,317	11.83	15.31	82,467	48,720	12,879	39,145
2,194	12.23	15.86	62,456	31,784	4,109	19,973
1,931	13.85	18.47	11,693	-5,278	-33,414	-28,227

FARM BUSINESS SUMMARY BY HERD SIZE
409 New York Dairy Farms, 1989

Item / Farm Size:	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows	85 to 99 Cows
Number of farms	30	71	76	54	36
ACCRUAL EXPENSES					
Hired labor	$ 2,395	$ 5,539	$ 9,109	$ 15,465	$ 22,322
Dairy grain & concentrate	20,568	30,134	36,734	49,960	60,192
Dairy roughage	978	1,689	812	2,099	610
Nondairy feed	328	465	407	569	351
Machine hire/rent/lease	583	1,437	1,539	2,098	1,825
Machine repairs/parts	3,894	5,685	8,000	9,136	14,575
Auto expense (farm share)	651	633	629	741	868
Fuel, oil & grease	1,977	2,520	3,768	4,439	5,814
Replacement livestock	2,190	1,797	1,598	1,921	2,990
Breeding	981	1,686	2,188	2,644	3,502
Veterinary & medicine	1,468	2,001	3,023	3,357	4,676
Milk marketing	3,179	4,852	5,862	6,959	9,584
Cattle lease/rent	695	172	250	376	172
Other livestock expense	3,501	5,198	6,492	7,439	10,961
Fertilizer & lime	1,756	3,597	5,177	6,899	9,512
Seeds & plants	810	1,476	2,356	2,997	3,283
Spray & other crop expense	907	1,243	1,784	2,247	3,696
Land/building/fence repair	1,515	1,612	3,045	2,884	5,343
Taxes & rent	3,127	4,856	7,101	8,123	9,936
Telephone & electricity	2,749	3,676	4,860	5,251	6,905
Interest paid	5,053	9,735	11,524	12,863	15,730
Misc. (including insurance)	2,457	3,453	5,050	5,690	6,297
Total Operating Expenses	$61,762	$ 93,456	$121,308	$154,157	$199,144
Expansion livestock	1	444	737	495	781
Machinery depreciation	4,874	7,916	10,386	12,113	15,505
Building depreciation	1,986	3,152	5,531	5,758	9,294
Total Accrual Expenses	$68,623	$104,968	$137,962	$172,523	$224,724
ACCRUAL RECEIPTS					
Milk sales	$71,242	$108,664	$148,487	$180,271	$235,827
Dairy cattle	6,649	8,678	11,397	13,504	19,819
Dairy calves	1,561	2,108	2,604	4,225	3,750
Other livestock	121	939	422	329	174
Crops	664	1,940	1,201	684	3,590
Misc. receipts	2,152	2,840	3,279	5,381	5,547
Total Accrual Receipts	$82,389	$125,169	$167,390	$204,394	$268,707
PROFITABILITY ANALYSIS					
Net farm income (w/o apprec.)	$13,766	$20,201	$29,428	$31,871	$43,983
Net farm income (w/apprec.)	$24,047	$36,347	$48,781	$51,376	$70,303
Labor & mgmt. income	$2,102	$6,606	$11,438	$11,758	$18,041
Number of operators	1.15	1.17	1.42	1.39	1.42
Labor & mgmt. inc./oper.	$1,828	$5,646	$8,055	$8,459	$12,705
Rates of return on:					
Equity capital w/o apprec.	-4.6%	-1.7%	0.3%	0.8%	2.9%
Equity capital w/apprec.	1.4%	5.7%	6.4%	6.4%	8.4%
All capital w/o apprec.	-1.1%	1.8%	2.7%	3.0%	4.6%
All capital w/apprec.	3.0%	6.5%	6.9%	6.9%	8.7%

FARM BUSINESS SUMMARY BY HERD SIZE
409 New York Dairy Farms, 1989

Item — Farm Size:	100 to 149 Cows	150 to 199 Cows	200 to 299 Cows	300 or More Cows
Number of farms	80	31	17	14
ACCRUAL EXPENSES				
Hired labor	$ 30,190	$ 55,322	$ 83,642	$ 253,181
Dairy grain & concentrate	76,521	119,199	172,054	373,816
Dairy roughage	3,495	4,313	5,709	6,332
Nondairy feed	454	749	967	0
Machine hire/rent/lease	2,725	3,914	5,586	19,081
Machine repairs/parts	17,077	23,034	34,450	60,444
Auto expense (farm share)	901	789	752	2,637
Fuel, oil & grease	7,190	10,677	14,698	22,618
Replacement livestock	2,260	3,079	16,880	8,915
Breeding	3,604	5,568	6,418	14,190
Veterinary & medicine	5,842	8,792	14,636	34,474
Milk marketing	9,982	15,135	18,727	27,913
Cattle lease/rent	64	272	988	6,948
Other livestock expense	12,307	16,189	20,429	45,722
Fertilizer & lime	11,174	15,645	23,013	37,238
Seeds & plants	4,629	6,865	9,554	21,154
Spray & other crop expense	4,851	5,425	10,219	20,085
Land/building/fence repair	5,306	7,937	15,079	23,226
Taxes & rent	13,533	17,365	27,240	41,176
Telephone & electricity	8,315	11,241	13,898	25,755
Interest paid	22,613	32,977	42,676	89,048
Misc. (including insurance)	9,421	11,400	19,671	25,496
Total Operating Expenses	$252,454	$375,887	$557,286	$1,159,449
Expansion livestock	1,012	3,114	14,821	29,024
Machinery depreciation	16,740	25,779	30,127	53,395
Building depreciation	8,762	12,154	20,363	55,376
Total Accrual Expenses	$278,968	$416,934	$622,597	$1,297,244
ACCRUAL RECEIPTS				
Milk sales	$296,217	$424,114	$624,999	$1,426,857
Dairy cattle	22,779	31,675	69,534	137,679
Dairy calves	4,544	7,831	10,033	23,397
Other livestock	287	2,423	353	-294
Crops	6,136	9,456	3,941	-19,703
Misc. receipts	8,498	11,811	23,551	20,741
Total Accrual Receipts	$338,461	$487,310	$732,411	$1,588,677
PROFITABILITY ANALYSIS				
Net farm income (w/o apprec.)	$59,493	$70,376	$109,814	$291,433
Net farm income (w/apprec.)	$89,182	$106,904	$147,102	$380,250
Labor & mgmt. income	$31,767	$30,493	$65,406	$210,774
Number of operators	1.51	1.67	1.49	1.41
Labor & mgmt. inc./oper.	$21,038	$18,259	$43,897	$149,485
Rate of return on:				
Equity capital w/o apprec.	4.4%	4.2%	7.9%	15.1%
Equity capital w/apprec.	10.3%	9.0%	12.2%	20.6%
All capital w/o apprec.	5.9%	5.8%	8.3%	12.8%
All capital w/apprec.	9.7%	9.0%	11.0%	16.2%

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
409 New York Dairy Farms, 1989

Farms with:	Less than 40 Cows		40 to 54 Cows		55 to 69 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS						
Farm cash/chkg./sav.	$ 2,524	$ 4,952	$ 3,145	$ 3,115	$ 3,664	$ 7,866
Accounts receivable	5,781	6,583	8,661	9,928	12,079	14,717
Prepaid expenses	15	16	0	75	49	60
Feed & supplies	13,423	13,293	18,305	20,065	29,450	30,543
Livestock*	44,604	48,981	61,678	71,795	83,263	92,798
Machinery & equipment*	50,078	51,956	59,262	62,317	83,363	89,969
FLB & PCA stock	593	364	1,252	819	2,242	1,683
Other stock & cert.	811	822	2,344	2,420	3,784	3,700
Land & buildings*	129,350	134,060	176,176	181,000	227,568	234,459
Total Farm Assets	$247,179	$261,027	$330,823	$351,534	$445,462	$475,795
Pers. cash/chkg./sav.	$ 4,567	$ 5,041	$ 3,024	$ 3,426	$ 6,013	$ 6,130
Cash value of life ins.	1,328	1,902	3,108	3,460	4,387	4,314
Nonfarm real estate	17,909	18,136	20,159	19,118	16,809	18,298
Auto (personal share)	3,101	2,405	2,382	3,310	3,709	4,729
Stocks & bonds	2,617	3,728	2,997	3,230	2,885	3,227
Household furnishings	9,173	8,773	9,849	10,911	8,619	9,321
All other	4,461	3,398	3,543	3,181	2,369	2,056
Tot. Nonfarm Assets**	$ 43,157	$ 43,383	$ 45,063	$ 46,636	$ 44,790	$ 48,075
Total Farm & Nonfarm Assets	$290,336	$304,410	$375,886	$398,170	$490,252	$523,870
LIABILITIES						
Accounts payable	$ 2,375	$ 2,208	$ 4,264	$ 4,239	$ 3,106	$ 2,386
Operating debt	419	819	1,166	1,436	1,585	1,687
Short term	636	1,094	1,217	911	1,343	1,620
Advanced gov't. rec.	0	0	0	27	0	0
Intermediate***	31,656	31,720	44,740	46,022	49,114	51,799
Long term*	47,283	45,499	70,569	67,504	86,602	86,107
Total Farm Liab.	$ 82,369	$ 81,340	$121,956	$120,139	$141,750	$143,599
Tot. Nonfarm Liab.**	694	829	3,040	4,591	2,496	2,779
Total Farm & Nonfarm Liabilities	$ 83,063	$ 82,169	$124,996	$124,730	$144,246	$146,378
Farm Net Worth (Equity Capital)	$164,810	$179,687	$208,867	$231,395	$303,712	$332,196
Farm & Nonfarm Net Worth	$207,273	$222,241	$250,890	$273,440	$346,006	$377,492

FINANCIAL MEASURES	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows
Percent equity	69%	66%	70%
Debt/asset ratio-long term	0.34	0.37	0.37
Debt/asset ratio-inter. & current	0.28	0.31	0.24
Change in net worth with apprec.	$14,877	$22,528	$28,484
Total farm debt per cow	$2,392	$2,503	$2,279
Debt payments made per cow	$504	$501	$487
Debt payments as % of milk sales	21%	21%	20%
Amount avail. for debt service	$18,764	$23,403	$30,378
Cash flow coverage ratio for 1989	1.37	1.13	1.16

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1989.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
409 New York Dairy Farms, 1989

Farms with:	70 to 84 Cows		85 to 99 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 4,356	$ 4,829	$ 10,185	$ 11,878
Accounts receivable	15,076	17,283	19,203	22,459
Prepaid expenses	96	154	0	42
Feed & supplies	36,556	36,738	50,109	51,786
Livestock*	101,318	109,932	128,625	143,711
Machinery & equipment*	96,463	100,690	121,493	129,779
FLB & PCA stock	3,565	2,233	4,033	2,683
Other stock & cert.	5,548	5,605	6,792	7,166
Land & buildings*	231,804	244,714	282,422	297,409
Total Farm Assets	$494,782	$522,178	$622,862	$666,913
Pers. cash/chkg./savings	$ 7,819	$ 9,562	$ 12,444	$ 12,771
Cash value of life ins.	6,444	6,915	6,313	7,589
Nonfarm real estate	1,297	1,297	68,940	71,340
Auto (personal share)	3,278	3,262	3,974	4,604
Stocks & bonds	2,326	2,855	9,066	10,275
Household furnishings	7,540	7,663	12,040	12,140
All other	2,817	2,738	6,061	6,228
Total Nonfarm Assets**	$ 31,521	$ 34,291	$118,837	$124,947
Total Farm & Nonfarm Assets	$526,303	$556,469	$741,699	$791,860
LIABILITIES				
Accounts payable	$ 4,658	$ 6,543	$ 4,023	$ 4,139
Operating debt	1,821	1,719	3,098	3,563
Short term	2,730	2,190	429	458
Advanced gov't. rec.	0	79	46	0
Intermediate***	70,943	68,082	70,924	70,201
Long term*	81,571	83,708	86,553	84,557
Total Farm Liab.	$161,723	$162,321	$165,073	$162,918
Total Nonfarm Liab.**	730	946	1,434	1,396
Total Farm & Nonfarm Liabilities	$162,453	$163,267	$166,507	$164,314
Farm Net Worth (Equity Capital)	$333,059	$359,857	$457,789	$503,995
Farm & Nonfarm Net Worth	$363,850	$393,202	$575,192	$627,546

FINANCIAL MEASURES	70 to 84 Cows	85 to 99 Cows
Percent equity	69%	76%
Debt/asset ratio-long term	0.34	0.28
Debt/asset ratio-inter. & current	0.28	0.21
Change in net worth with apprec.	$26,798	$46,206
Total farm debt per cow	$2,081	$1,715
Debt payments made per cow	$436	$470
Debt payments as % of milk sales	18%	18%
Amount avail. for debt service	$34,691	$50,507
Cash flow coverage ratio for 1989	1.21	1.50

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1989.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
409 New York Dairy Farms, 1989

Farms with:	100 to 149 Cows		150 to 199 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 13,511	$ 14,250	$ 8,934	$ 5,412
Accounts receivable	25,047	29,370	35,526	41,319
Prepaid expenses	124	145	0	119
Feed & supplies	57,495	63,078	76,415	87,952
Livestock*	160,348	181,423	229,484	243,888
Machinery & equipment*	141,672	151,849	192,342	211,823
FLB & PCA stock	6,027	3,729	11,558	7,862
Other stock & cert.	5,705	5,736	12,425	12,461
Land & buildings*	337,200	343,338	526,377	549,276
Total Farm Assets	$747,129	$792,918	$1,093,061	$1,160,112
Pers. cash/chkg./savings	$ 4,720	$ 5,529	$ 2,219	$ 4,553
Cash value of life ins.	3,937	4,748	9,007	10,411
Nonfarm real estate	100,995	100,995	71,588	72,088
Auto (personal share)	3,124	3,435	2,162	3,094
Stocks & bonds	3,053	3,888	4,256	6,244
Household furnishings	7,768	7,402	5,912	6,118
All other	4,608	8,487	27,577	26,508
Total Nonfarm Assets**	$128,206	$134,484	$ 122,722	$ 129,017
Total Farm & Nonfarm Assets	$875,335	$927,402	$1,215,783	$1,289,129
LIABILITIES				
Accounts payable	$ 7,374	$ 5,669	$ 10,369	$ 9,279
Operating debt	5,270	7,241	6,989	8,798
Short term	3,012	3,166	3,793	1,410
Advanced gov't. rec.	0	16	0	12
Intermediate***	98,620	96,360	131,263	137,994
Long term*	150,454	145,360	206,439	211,119
Total Farm Liab.	$264,730	$257,812	$ 358,853	$ 368,612
Total Nonfarm Liab.**	2,304	4,184	12,740	11,684
Total Farm & Nonfarm Liabilities	$267,034	$261,996	$ 371,593	$ 380,296
Farm Net Worth (Equity Capital)	$482,399	$535,106	$ 734,208	$ 791,500
Farm & Nonfarm Net Worth	$608,301	$665,406	$ 844,190	$ 908,833

FINANCIAL MEASURES	100 to 149 Cows	150 to 199 Cows
Percent equity	67%	68%
Debt/asset ratio-long term	0.42	0.38
Debt/asset ratio-inter. & current	0.25	0.26
Change in net worth with apprec.	$52,707	$57,292
Total farm debt per cow	$2,079	$2,168
Debt payments made per cow	$467	$552
Debt payments as % of milk sales	19%	22%
Amount avail. for debt service	$60,506	$89,986
Cash flow coverage ratio for 1989	1.15	1.11

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1989.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
409 New York Dairy Farms, 1989

Farms with:	200 to 299 Cows		More than 300 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 5,943	$ 8,040	$ 16,017	$ 24,860
Accounts receivable	46,621	55,131	101,657	127,502
Prepaid expenses	471	324	5,068	8,214
Feed & supplies	117,606	124,257	280,374	291,873
Livestock*	304,035	340,842	553,509	629,735
Machinery & equipment*	230,326	246,739	324,924	385,629
FLB & PCA stock	13,717	9,240	18,213	13,921
Other stock & cert.	21,440	22,793	68,664	69,218
Land & buildings*	558,197	591,508	1,082,573	1,155,431
Total Farm Assets	$1,298,356	$1,398,874	$2,450,999	$2,706,383
Pers. cash/chkg./savings	$ 7,411	$ 8,267	$ 2,040	$ 2,328
Cash value of life ins.	22,877	22,846	1,505	1,632
Nonfarm real estate	12,000	14,778	34,000	33,000
Auto (personal share)	5,411	6,444	3,900	2,900
Stocks & bonds	32,971	35,919	16,667	22,049
Household furnishings	5,778	5,889	6,800	8,060
All other	10,887	8,623	8,792	7,942
Total Nonfarm Assets**	$ 97,336	$ 102,765	$ 73,704	$ 77,912
Total Farm & Nonfarm Assets	$1,395,692	$1,501,639	$2,524,703	$2,784,295
LIABILITIES				
Accounts payable	$ 19,458	$ 13,985	$ 13,502	$ 19,014
Operating debt	20,588	29,323	90,589	103,588
Short term	10,610	20,582	14,800	9,189
Advanced gov't. rec.	0	0	0	0
Intermediate***	251,316	255,598	453,813	446,311
Long term*	165,971	168,870	417,087	393,113
Total Farm Liab.	$ 467,943	$ 488,358	$ 989,791	$ 971,215
Total Nonfarm Liab.**	161	1,739	0	50
Total Farm & Nonfarm Liabilities	$ 468,104	$ 490,097	$ 989,791	$ 971,265
Farm Net Worth (Equity Capital)	$ 830,413	$ 910,516	$1,461,208	$1,735,168
Farm & Nonfarm Net Worth	$ 927,588	$1,011,542	$1,534,912	$1,813,030

FINANCIAL MEASURES	200 to 299 Cows	More than 300 Cows
Percent equity	65%	64%
Debt/asset ratio-long term	0.29	0.34
Debt/asset ratio-inter. & current	0.40	0.37
Change in net worth with apprec.	$80,103	$273,960
Total farm debt per cow	$1,908	$1,805
Debt payments made per cow	$501	$473
Debt payments as % of milk sales	19%	17%
Amount avail. for debt service	$135,476	$353,893
Cash flow coverage ratio for 1989	1.29	1.63

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1989.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

SELECTED BUSINESS FACTORS BY HERD SIZE
409 New York Dairy Farms, 1989

Item / Farms with:	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows	85 to 99 Cows
Number of farms	30	71	76	54	36
Cropping Program Analysis					
Total Tillable acres	116	171	225	275	309
Tillable acres rented*	33	56	70	105	132
Hay crop acres*	80	108	130	154	172
Corn silage acres*	17	29	37	56	61
Hay crop, tons DM/acre	2.2	2.2	2.5	2.5	2.8
Corn silage, tons/acre	11.7	13.0	12.6	11.8	13.2
Oats, bushels/acre	55.0	46.4	54.2	59.7	53.3
Forage DM per cow, tons	7.5	7.9	7.9	7.9	8.1
Tillable acres/cow	3.6	3.6	3.7	3.6	3.3
Fert. & lime exp./til. acre	$15.14	$21.04	$23.01	$25.08	$30.78
Total machinery costs	$14,489	$21,196	$28,625	$33,422	$44,870
Machinery cost/tillable acre	$125	$124	$127	$122	$145
Dairy Analysis					
Number of cows	32	47	62	76	93
Number of heifers	25	37	51	63	73
Milk sold, lbs.	497,255	756,545	1,019,196	1,256,591	1,613,365
Milk sold/cow, lbs.	15,507	16,044	16,569	16,482	17,426
Operating cost of prod. milk/cwt.	$10.18	$10.23	$10.12	$10.39	$10.35
Total cost of prod. milk/cwt.	$17.64	$16.30	$16.04	$15.52	$15.25
Price/cwt. milk sold	$14.33	$14.36	$14.57	$14.35	$14.62
Purchased dairy feed/cow	$671	$674	$611	$683	$657
Purchased dairy feed/cwt. milk	$4.33	$4.21	$3.68	$4.14	$3.77
Purchased grain & conc. as % of milk receipts	29%	28%	25%	28%	26%
Purchased feed & crop expense/cwt. milk	$5.03	$5.04	$4.60	$5.11	$4.79
Capital Efficiency					
Farm capital/worker	$143,810	$170,134	$187,911	$179,989	$208,333
Farm capital/cow	$7,916	$7,228	$7,490	$6,673	$6,964
Farm capital/til. acre owned	$3,025	$2,967	$2,991	$2,991	$3,643
Real estate/cow	$4,103	$3,784	$3,756	$3,127	$3,131
Machinery investment/cow	$1,589	$1,288	$1,409	$1,294	$1,357
Capital turnover, years	2.74	2.41	2.47	2.27	2.19
Labor Efficiency					
Worker equivalent	1.77	2.01	2.45	2.83	3.10
Operator/manager equivalent	1.15	1.17	1.42	1.39	1.42
Milk sold/worker, lbs.	281,421	377,263	415,775	444,802	521,203
Cows/worker	18	23	25	27	30
Work units/worker	194	253	272	290	320
Labor cost/cow	$620	$486	$474	$469	$455
Labor cost/tillable acre	$172	$134	$129	$130	$136

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

SELECTED BUSINESS FACTORS BY HERD SIZE
409 New York Dairy Farms, 1989

Item — Farms with:	100 to 149 Cows	150 to 199 Cows	200 to 299 Cows	300 or More Cows
Number of farms	80	31	17	14
Cropping Program Analysis				
Total tillable acres	381	525	599	964
Tillable acres rented*	153	211	206	339
Hay crop acres*	198	260	244	326
Corn silage acres*	94	146	257	432
Hay crop, tons DM/acre	2.9	2.5	3.1	3.2
Corn silage, tons/acre	14.4	14.0	12.6	13.7
Oats, bushels/acre	54.6	57.9	33.8	62.5
Forage DM per cow, tons	8.5	8.0	7.5	5.9
Tillable acres/cow	3.2	3.1	2.5	1.9
Fert. & lime exp./til. acre	$29.33	$29.80	$38.42	$38.63
Total machinery costs	$51,786	$74,086	$97,355	$175,380
Machinery cost/tillable acre	$136	$141	$163	$182
Dairy Analysis				
Number of cows	121	170	244	505
Number of heifers	99	140	181	381
Milk sold, lbs.	2,047,224	2,885,439	4,343,897	9,718,642
Milk sold/cow, lbs.	16,909	17,018	17,790	19,250
Operating cost of prod. milk/cwt.	$10.32	$10.94	$10.70	$10.56
Total cost of prod. milk/cwt.	$14.61	$14.90	$13.81	$13.03
Price/cwt. milk sold	$14.47	$14.70	$14.39	$14.68
Purchased dairy feed/cow	$661	$729	$728	$753
Purchased dairy feed/cwt. milk	$3.91	$4.28	$4.09	$3.91
Purchased grain & conc. as % of milk receipts	26%	28%	28%	26%
Purchased feed & crop expense/cwt. milk	$4.92	$5.25	$5.08	$4.72
Capital Efficiency				
Farm capital/worker	$214,342	$228,974	$219,354	$225,760
Farm capital/cow	$6,359	$6,647	$5,523	$5,107
Farm capital/til. acre owned	$3,377	$3,576	$3,432	$4,126
Real estate/cow	$2,810	$3,173	$2,354	$2,216
Machinery investment/cow	$1,212	$1,192	$977	$704
Capital turnover, years	2.09	2.15	1.75	1.54
Labor Efficiency				
Worker equivalent	3.59	4.92	6.15	11.42
Operator/manager equivalent	1.51	1.67	1.49	1.41
Milk sold/worker, lbs.	569,861	586,452	706,539	850,851
Cows/worker	34	35	40	44
Work units/worker	357	367	402	433
Labor cost/cow	$425	$461	$423	$538
Labor cost/tillable acre	$135	$149	$172	$282

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

IDENTIFY AND SET GOALS

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

1. Goals should be specific.

2. Goals should be realistic and achievable.

3. The achievement of the goal should be verifiable.

4. You should designate a time when each goal will be achieved.

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

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

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

a. Begin with a general philosophy statement which incorporates both business and family goals.

b. Identify 4-6 long range goals.

c. Identify specific short range goals for a given time period (i.e., one year).

Worksheet for Setting Goals

I. General Philosophy and Objectives

_____

_____

_____

_____

_____

_____

_____

_____

_____

Worksheet for Setting Goals (continued)

II. Long Range Goals (require two or more years to achieve)

_____

_____

_____

_____

_____

III. Short Range Goals (possible to achieve in one or two years).

What	How	When

NOTE: Once long and short range goals have been identified, it is helpful to rank them in order of priority.

Prepared by T.R. Maloney, Extension Associate, Cornell University

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Summarize Your Business Performance

The Farm Business and Financial Analysis Charts on pages 20-22 and 25-28 can be used to help identify strengths and weaknesses of your farm business. Identify three major strengths and three areas of your farm business that need improvement.

Strengths: _____ Need Improvement: _____

_____ _____

_____ _____

_____ _____

Other Agricultural Economics Extension Publications

No. 90-27	Farm Income Tax Management and Reporting	George L. Casler Stuart F. Smith
No. 90-28	Pro-Dairy Financial Data Collection Workbook	Jonas B. Kauffman Stuart F. Smith
No. 90-29	Changes in the New York State Farm Minimum Wage Law	Thomas R. Maloney Kay Embrey
No. 90-30	New York Economic Handbook 1991 Agricultural Situation and Outlook	Extension Staff
No. 91-1	Estimating Principal Due in Next 12 Months with Monthly Payments	Eddy L. LaDue
No. 91-2	Micro DFBS A Guide to Processing Dairy Farm Business Summaries in County and Regional Extension Offices for Micro DFBS v 2.5	Linda D. Putnam Wayne A. Knoblauch Stuart F. Smith
No. 91-3	The National Dry Onion Market: A Monthly Analysis of New York State's Competitive Position in Eastern Markets	Enrique Figueroa
No. 91-4	Property Tax Relief from New York's Farmland Assessments and Agricultural Buildings Exemptions in the 1980's	Richard N. Boisvert Nelson L. Bills
No. 91-5	Dairy Farm Cash Flow, Debt Repayment Ability and Financial Analysis	George L. Casler
No. 91-6	Agricultural District Legislation in New York, as Amended through 1990	Kenneth Gardner Nelson Bills
No. 91-7	CAPVEST A Computer Program to Analyze Profitability and Financial Feasibility of Major Capital Investments	George Casler Eddy L. LaDue
No. 91-8	Dairy Farm Worker Training at Tompkins Cortland Community College	Thomas R. Maloney Timothy S. SanJule