AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

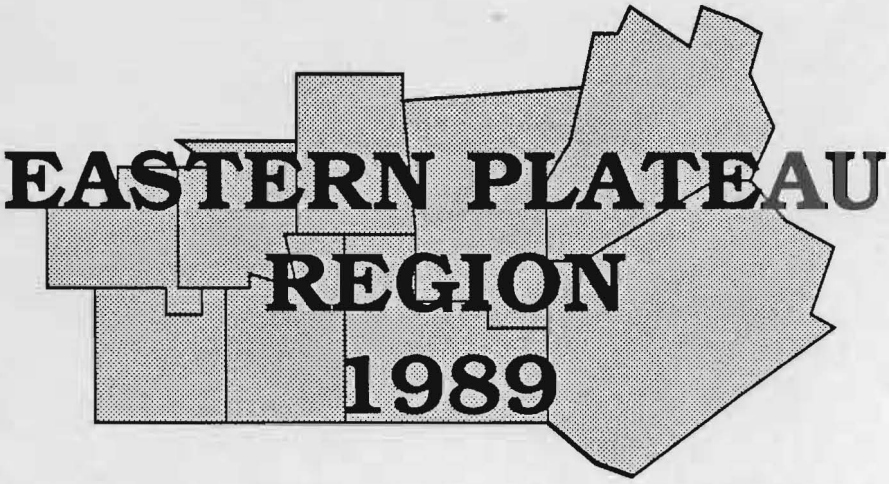
Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

May 1990 A.E. Ext. 90-11

DAIRY FARM BUSINESS SUMMARY



Robert A. Milligan
Linda D. Putnam
Carl Crispell
Gerald A. LeClar
William H. Gengenbach

Department of Agricultural Economics
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York 14853-7801

1989 DAIRY FARM BUSINESS SUMMARY
EASTERN PLATEAU REGION

Table of Contents

	Page
INTRODUCTION	1
Program Objective	1
Format Features	1
SUMMARY AND ANALYSIS OF THE FARM BUSINESS	2
Business Characteristics	2
Income Statement	2
Profitability Analysis	6
Farm and Family Financial Status	8
Cash Flow Statement	11
Repayment Analysis	12
Cropping Analysis	14
Dairy Analysis	16
Capital and Labor Efficiency Analysis	18
COMPARATIVE ANALYSIS OF THE FARM BUSINESS	19
Progress of the Farm Business	19
Farm Business Chart	20
Financial Analysis Chart	22
Comparisons by Type of Barn and Herd Size	23
Herd Size Comparisons	23
IDENTIFY AND SET GOALS	37

1989 DAIRY FARM BUSINESS SUMMARY
EASTERN PLATEAU 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 Eastern Plateau 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 financial strengths and weaknesses of the farm business.

Format Features

This regional report follows the same general format as in the 1989 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.

---

*This summary was prepared by Linda D. Putnam and Robert A. Milligan, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University, in cooperation with Cooperative Extension Agents Carl Crispell, Jerry LeClar, Bill Gengenbach, and Ed Staehr. The Eastern Plateau Region is comprised of Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Tioga, and Tompkins Counties.

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
67 Eastern Plateau Region Dairy Farms, 1989

Type of Farm	Number
Dairy	66
Part-time dairy	0
Dairy cash-crop	1
Part-time cash-crop dairy	0

Type of Ownership	Number
Owner	59
Renter	8

Type of Business	Number
Single proprietorship	46
Partnership	21
Corporation	0

Business Record System	Number
ELFAC	7
Account Book	29
Agrifax (mail-in only)	10
On-Farm Computer	6
Other	15

Type of Barn	Number
Stanchion/Tie-Stall	42
Freestall	19
Combination	6

Milking System	Number
Bucket & carry	0
Dumping station	2
Pipeline	45
Herringbone parlor	19
Other parlor	1

Milking Frequency	Number
2x/day	62
3x/day	4
Other	1

Production Records	Number
DHIC	53
Owner-Sampler	6
Other	3
None	5

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, dairy cash-crop farms, farm renters, and partnerships 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: An increase in inventory is subtracted in computing accrual expenses because it represents an increase in purchased inputs not actually used during the year. A decrease in inventory is added to expenses because it represents the cost of decreased levels of inputs purchased in a prior year and used the following year.

CASH AND ACCRUAL FARM EXPENSES
67 Eastern Plateau Region Dairy Farms, 1989

Expense Item	Cash Paid +	Change in Inventory or Prepaid Expense* +	Change in Accounts Payable =	Accrual Expenses
Hired Labor	$ 22,850	$ 0	$ 8	$ 22,858
Feed				
Dairy grain & conc.	68,357	-1,692	-462	66,203
Dairy roughage	2,425	96	9	2,530
Nondairy	366	5	0	371
Machinery				
Mach. hire, rent/lease	2,472	0	14	2,486
Machinery repairs/parts	12,965	-126	-69	12,770
Auto exp. (farm share)	949	0	0	949
Fuel, oil & grease	5,705	-47	-34	5,624
Livestock				
Replacement livestock	2,262	0	0	2,262
Breeding	3,307	13	-8	3,312
Vet & medicine	4,457	-24	-29	4,404
Milk marketing	9,196	0	-1	9,195
Cattle lease/rent	463	0	-4	459
Other livestock expense	9,172	79	-59	9,192
Crops				
Fertilizer & lime	8,851	-289	122	8,684
Seeds & plants	3,930	-260	-51	3,619
Spray, other crop exp.	3,786	-91	-7	3,688
Real Estate				
Land/bldg./fence repair	4,031	6	-77	3,960
Taxes	6,410	-24	166	6,552
Rent & lease	5,328	0	-10	5,318
Other				
Insurance	4,317	0	0	4,317
Telephone (farm share)	647	0	-2	645
Electricity (farm share)	5,992	0	-51	5,941
Interest paid	17,593	-11	21	17,603
Miscellaneous	2,710	-51	9	2,668
Total Operating	$208,541	$ -2,416	$ -515	$205,610
Expansion livestock	242	0	-15	227
Machinery depreciation				14,117
Building depreciation				7,243
TOTAL ACCRUAL EXPENSES				$227,197

Change in prepaid expenses is a net change in non-inventory expenses that have been paid in advance of their use, for example, 1990 rent paid in 1989. If 1989 funds used to prepay 1990 rent exceeded the amount of 1989 rent prepaid in 1988, the amount of this excess is entered as a negative number to exclude it from 1989 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
67 Eastern Plateau Region Dairy Farms, 1989

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	$241,255				$ 2,230		$243,484
Dairy cattle	17,300		$ 1,525		-14		18,810
Dairy calves	4,079				-18		4,061
Other livestock	212		329		0		541
Crops	2,050		2,324		104		4,477
Government receipts	2,233		0*		0		2,233
Custom machine work	508				16		524
Gas tax refund	144				3		147
Other	3,065				-49		3,016
Less nonfarm noncash cap.**		(-)	8			(-)	8
Total Accrual Receipts	$270,845		$ 4,170		$ 2,271		$277,285

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

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

Changes in inventory are calculated by subtracting beginning of year values from end of year values excluding appreciation. Increases in livestock inventory caused by herd growth and/or quality are added, and decreases caused by herd reduction and/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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Average	My Farm
Total accrual receipts	$277,285	$_____
Appreciation: Livestock	10,076	_____
Machinery	3,178	_____
Real Estate	11,470	_____
Other Stock/Certificates	840	_____
Total Including Appreciation	$302,851	$_____
Total accrual expenses	-227,197	-_____
Net Farm Income (with appreciation)	$ 75,654	$_____
Net Farm Income (without appreciation)	$ 50,090	$_____

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
67 Eastern Plateau Region Dairy Farms, 1989

	Average		My Farm	
Item	With Apprec.	Without Apprec.	With Apprec.	Without Apprec.
Net farm income	$ 75,654	$ 50,090	$_____	$_____
Family labor unpaid @ $750 per month	- 1,903	- 1,903	-_____	-_____
Return to operators' labor, management, & equity	$ 73,751	$ 48,187	$_____	$_____

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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Average	My Farm
Return to operators' labor, management, & equity without appreciation	$ 48,187	$_____
Real interest @ 5% on $387,991 average equity capital	- 19,400	-_____
Labor & Management Income	$ 28,787	$_____
Labor & Management Income per 1.45 Operator/Manager	$ 19,853	$_____

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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Average	My Farm
Return to operators' labor, management, & equity capital with appreciation	$ 73,751	$_____
Value of operators' labor & management	- 31,694	-_____
Return on equity capital with appreciation	$ 42,057	$_____
Interest paid	$ 17,603	$_____
Return on total capital with appreciation	$ 59,660	$_____
Return on equity capital without appreciation	$ 16,493	$_____
Return on total capital without appreciation	$ 34,096	$_____
Rate of return on average equity capital:		
with appreciation	10.8%	_____%
without appreciation	4.3%	_____%
Rate of return on average total capital:		
with appreciation	10.2%	_____%
without appreciation	5.8%	_____%

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.

1989 FARM BUSINESS & NONFARM BALANCE SHEET
67 Eastern Plateau Region Dairy Farms, 1989

Farm Assets	Jan. 1	Dec. 31
Current		
Farm cash, checking & savings	$ 5,376	$ 6,053
Accounts rec.	20,801	23,072
Prepaid exp.	77	112
Feed & supplies	46,284	50,990
Total	$ 72,538	$ 80,227
Intermediate		
Dairy cows:		
owned	$ 92,168	$ 99,123
leased	373	289
Heifers	37,352	41,848
Bulls/other lvstk.	753	1,232
Mach./eq. owned	105,489	115,313
Mach./eq. leased	1,215	815
FLB/PCA stock	2,519	1,058
Other stock/cert.	1,325	1,959
Total	$241,195	$261,636
Long-Term		
Land/buildings:		
owned	$253,501	$262,613
leased	249	281
Total	$253,750	$262,894
Total Farm Assets	$567,483	$604,757

Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current		
Accounts payable	$ 3,889	$ 3,358
Operating debt	4,869	7,248
Short-term	3,047	2,454
Advanced govt. rec.	0	0
Total	$ 11,804	$ 13,060
Intermediate		
Structured debt 1-10 years	$ 75,592	$ 71,707
Financial lease (cattle/mach.)	1,589	1,103
FLB/PCA stock	2,519	1,058
Total	$ 79,699	$ 73,869
Long Term		
Structured debt ≥10 yrs	$110,205	$107,091
Financial lease (structures)	249	281
Total	$110,454	$107,371
Total Farm Liab.	$201,957	$194,300
FARM NET WORTH	$365,525	$410,457

(Average for 47 farms reporting)

Nonfarm Assets*	Jan. 1	Dec. 31
Personal cash, chkg. & savings	$ 5,320	$ 5,606
Cash value life ins.	8,927	9,711
Nonfarm real estate	6,383	9,883
Auto (personal sh.)	2,957	3,794
Stocks & bonds	4,967	5,438
Household furn.	12,455	12,396
All other	4,717	3,908
Total Nonfarm	$ 45,726	$ 50,735

Nonfarm Liabilities* & Net Worth	Jan. 1	Dec. 31
Nonfarm Liab.	$ 3,471	$ 3,873
NONFARM NET WORTH	$ 42,255	$ 46,862

FARM & NONFARM*	Jan. 1	Dec. 31
Total Assets	$613,209	$655,492
Total Liabilities	205,428	198,173
TOTAL FARM & NON-FARM NET WORTH	$407,781	$457,319

*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 1989, leases were discounted by 11.5 percent.

Advanced government receipts are included as current liabilities. Government payments received in 1989 that are for participation in the 1990 program are the end year balance and payments received in 1988 for participation in the 1989 program are the beginning year balance.

Date _____

1989 FARM BUSINESS & NONFARM BALANCE SHEET

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings			Accounts payable		
Accounts rec.			Operating debt:		
Prepaid expense					
Feed & supplies					
Total			Short Term:		
Intermediate					
Dairy cows:			Adv. govt. rec.		
owned			Total		
leased			Intermediate		
Heifers					
Bulls/other lvstk.					
Mach./eq. owned					
Mach./eq. leased					
FLB/PCA stock			Financial lease (cattle/mach.)		
Other stock/cert.			FLB/PCA stock		
Total			Total		
			Long-Term		
Long-Term					
Land/buildings:					
owned					
leased					
			Financial lease (structures)		
Total			Total		
Total Farm Assets			Total Farm Liab.		
			FARM NET WORTH		

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

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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Average	My Farm
Financial Ratios - Farm:		
Percent equity	68%	_____%
Debt/asset ratio: total	0.32	_____
long-term	0.41	_____
intermediate/current	0.25	_____
Change in Net Worth:		
Without appreciation	$ 19,368	$_____
With appreciation	44,932	$_____
Farm Debt Analysis:		
Accounts payable as % of total debt	2%	_____%
Long-term liabilities as a % of total debt	55%	_____%
Current & inter. liab. as a % of total debt	45%	_____%

Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$ 2,003	$ 1,295	$_____	$_____
Long-term debt	1,107	716	_____	_____
Intermediate & current debt	896	580	_____	_____

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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Avg. of Regional Farms		My Farm	
	R.E.	Mach./Eq.	R.E.	Mach./Eq.
Value beg. of year	$253,501	$105,489	$_____	$_____
Purchases	$ 10,165*	$ 21,687	$_____	$_____
Gift/inheritance	+ 284	+ 9	+_____	+_____
Lost capital	- 1,413	--	-_____	
Sales	- 2,914	- 934	-_____	-_____
Depreciation	- 7,243	- 14,117	-_____	-_____
Net investment	= -1,121	= 6,645	=+_____	=+_____
Appreciation	+ 10,233**	+ 3,178	+_____	+_____
Value end of year	$262,613	$115,313	$_____	$_____

*$ 1,747 land and $ 8,418 buildings and/or depreciable improvements.
**Excludes $1,237 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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Average	My Farm
Cash Inflows		
Beginning farm cash, checking & savings	$ 5,376	$_____
Cash farm receipts	270,845	_____
Sale of assets: Machinery	934	_____
Real estate	3,370	_____
Other stock & certificate	220	_____
Money borrowed (intermediate & long-term)	21,401	_____
Money borrowed (short-term)	535	_____
Increase in operating debt	2,379	_____
Nonfarm income	3,746	_____
Cash from nonfarm capital used in the business	2,123	_____
Money borrowed - nonfarm	638	_____
Total	$311,567	$_____
Cash Outflows		
Cash farm expenses	$208,540	$_____
Capital purchases: Expansion livestock	242	_____
Machinery	21,687	_____
Real estate	10,165	_____
Other stock & certificate	14	_____
Principal payments (intermediate & long-term)	28,399	_____
Principal payments (short-term)	1,127	_____
Decrease in operating debt	0	_____
Personal withdrawals & family expenditures including nonfarm debt payments	34,606	_____
Ending farm cash, checking & savings	6,053	_____
Total	$310,834	$_____
Imbalance (error)	$ 733	$_____

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 1990. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1990 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Same 53 Eastern Plateau Region Dairy Farms, 1988 and 1989

	Average			My Farm		
	1989 Payments		Planned	1989 Payments		Planned
Debt Payments	Planned	Made	1990	Planned	Made	1990
Long-term	$ 15,229	$ 15,519	$ 14,734	$_____	$_____	$_____
Intermediate-term	22,889	31,943	27,223	_____	_____	_____
Short-term	2,049	1,657	945	_____	_____	_____
Operating (net reduction)	286	0	1,587	_____	_____	_____
Accounts payable (net reduction)	353	928	722	_____	_____	_____
Total	$ 40,806	$ 50,047	$ 45,212	$_____	$_____	$_____
Per cow	$ 400	$ 491		$_____	$_____	
Per cwt. 1989 milk	$ 2.25	$ 2.76		$_____	$_____	
Percent of total 1989 receipts	14%	17%		_____	_____	
Percent of 1989 milk receipts	16%	19%		_____	_____	

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 planned payments that could have been made with last year's available cash flow. 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 1990.

CASH FLOW COVERAGE RATIO
Same 53 Eastern Plateau Region Dairy Farms, 1988 and 1989

Item	Average	My Farm
Cash farm receipts	$293,288	$_____
- Cash farm expenses	225,444	_____
+ Interest paid	18,514	_____
- Net personal withdrawals from farm**	33,112	_____
(A) = Amount Available for Debt Service	$ 53,246	$_____
(B) = Debt Payments Planned for 1989 (as of December 31, 1988)	$ 40,806	$_____
(A ÷ B) = Cash Flow Coverage Ratio for 1989	1.30	_____

**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	1989 Projection
Average number of cows	95	_____		_____	_____
Accrual Oper. Receipts					
Milk	$ 2,563	$_____	$_____	_____	$_____
Dairy cattle	198	_____	_____	_____	_____
Dairy calves	43	_____	_____	_____	_____
Other livestock	6	_____	_____	_____	_____
Crops	47	_____	_____	_____	_____
Misc. receipts	62	_____	_____	_____	_____
Total	$ 2,919	$_____	$_____	_____	$_____
Accrual Oper. Expenses					
Hired labor	$ 241	$_____	$_____	_____	$_____
Dairy grain & conc.	697	_____	_____	_____	_____
Dairy roughage	27	_____	_____	_____	_____
Nondairy feed	4	_____	_____	_____	_____
Mach. hire/rent/lease	26	_____	_____	_____	_____
Mach. rpr./parts & auto	144	_____	_____	_____	_____
Fuel, oil & grease	59	_____	_____	_____	_____
Replacement lvstk.	24	_____	_____	_____	_____
Breeding	35	_____	_____	_____	_____
Vet & medicine	46	_____	_____	_____	_____
Milk marketing	97	_____	_____	_____	_____
Cattle lease	5	_____	_____	_____	_____
Other livestock exp.	97	_____	_____	_____	_____
Fertilizer & lime	91	_____	_____	_____	_____
Seeds & plants	38	_____	_____	_____	_____
Spray/other crop exp.	39	_____	_____	_____	_____
Land, bldg.,fence repair	42	_____	_____	_____	_____
Taxes	69	_____	_____	_____	_____
Real estate rent/lease	56	_____	_____	_____	_____
Insurance	45	_____	_____	_____	_____
Utilities	69	_____	_____	_____	_____
Miscellaneous	28	_____	_____	_____	_____
Total Less Int. Paid	$ 1,979	_____	_____	_____	$_____
Net Accrual Operating Income (without interest paid)	(total) $ 89,288	$_____			$_____
- Change in lvstk./crop inv.*	4,170	_____		_____	_____
- Change in accts. rec.	2,272	_____		_____	_____
+ Change in feed/supply inv.**	-2,416	_____		_____	_____
+ Change in accts. payable***	-537	_____		_____	_____
NET CASH FLOW	$ 79,892	$_____			$_____
- Net personal withdrawals from farm (see footnote on pg. 12)	30,222	_____		_____	_____
Available for Farm Debt Payments & Investments	$ 49,670	$_____			$_____
- Farm debt payments	46,986	_____		_____	_____
Available for Farm Investment	$ 2,684	$_____			$_____
- Capital purchases: cattle, machinery & improvements	$ 32,108	_____		_____	_____
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 which 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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Average			My Farm		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	150	116	266	_____	_____	_____
Nontillable	62	21	84	_____	_____	_____
Other nontillable	113	15	128	_____	_____	_____
Total	325	153	478	_____	_____	_____

Crop Yields	Farms	Acres*	Prod/Acre	Acres	Prod/Acre
Hay crop	67	140	2.89 tn DM	_____	_____ tn DM
Corn silage	63	65	13.03 tn	_____	_____ tn
			4.25 tn DM		_____ tn DM
Other forage	4	19	1.36 tn DM	_____	_____ tn DM
Total forage	67	203	3.29 tn DM	_____	_____ tn DM
Corn grain	37	65	110.51 bu	_____	_____ bu
Oats	13	31	51.10 bu	_____	_____ bu
Wheat	2	48	54.38 bu	_____	_____ bu
Other crops	7	26		_____	
Tillable pasture	20	33		_____	
Idle	23	22		_____	
Total Tillable Acres	67	266		_____	

*This column represents the average acreage for the farms producing that crop. Average acreage including those not producing were hay crop 140, corn silage 61, corn grain 36, oats 6, tillable pasture 10, and idle 8.

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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Average	My Farm
Total tillable acres per cow	2.80	_____
Total forage acres per cow	2.13	_____
Harvested forage dry matter, tons per cow	7.02	_____

Cropping Analysis (continued)

A substantial 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
Eastern Plateau Region Dairy Farms, 1989

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	67	34		34		
Average number of acres	266	126		96		
Fertilizer & lime	$ 32.64	$ 26.40	$ 9.39	$ 49.19	$ 12.27	$ 0.46
Seeds & plants	13.60	7.13	2.54	21.52	5.37	0.20
Spray & other crop expense	13.86	5.67	2.02	25.33	6.32	0.24
Total	$ 60.11	$ 39.20	$ 13.94	$ 96.04	$ 23.96	$ 0.89
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
67 Eastern Plateau Region Dairy Farms, 1989

Machinery Expense Item	Average Total Expenses	Average Per Til. Acre	My Farm Total Expenses	My Farm Per Til. Acre
Fuel, oil & grease	$ 5,624	$ 21.14	$_____	$_____
Machinery repairs & parts	12,770	48.00	_____	_____
Machine hire, rent & lease	2,486	9.35	_____	_____
Auto expense (farm share)	949	3.57	_____	_____
Interest (5%)	5,520	20.75	_____	_____
Depreciation	14,117	53.07	_____	_____
Total	$ 41,466	$ 155.88	$_____	$_____

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
67 Eastern Plateau Region Dairy Farms, 1989

	Dairy Cows		Heifers					
			Bred		Open		Calves	
Item	No.	Value	No.	Value	No.	Value	No.	Value
Beg. year (owned)	96	$ 92,168	29	$ 21,095	26	$ 11,359	21	$ 4,899
+ Change w/o apprec.		489		149		846		39
+ Appreciation		6,466		1,821		1,053		587
End year (owned)	95	$ 99,123	29	$ 23,065	27	$ 13,258	21	$ 5,525
End incl. leased	97							
Average number	95		75 (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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Average	My Farm
Total milk sold, lbs.	1,680,027	_____
Milk sold per cow, lbs.	17,684	_____
Average milk plant test, percent butterfat	3.69	_____

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
67 Eastern Plateau Region Dairy Farms, 1989

	Average			My Farm		
Item	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Costs of Producing Milk						
Operating costs	$172,034	$ 1,811	$ 10.24	$_____	$_____	$_____
Total costs w/o opers' labor, mgmt. & capital	$195,297	$ 2,056	$ 11.62	$_____	$_____	$_____
Total Costs	$246,391	$ 2,594	$ 14.67	$_____	$_____	$_____
Accrual Receipts From Milk	$243,484	$ 2,563	$ 14.49	$_____	$_____	$_____

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
67 Eastern Plateau Region Dairy Farms, 1989

	Average		My Farm	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrates	$ 697	$ 3.94	$_____	$_____
Purchased dairy roughage	27	0.15	_____	_____
Total Purchased Dairy Feed	$ 724	$ 4.09	$_____	$_____
Purchased grain & conc. as % of milk receipts	27%		____%	
Purchased feed & crop exp.	$ 892	$ 5.04	$_____	$_____
Purchased feed & crop exp. as % of milk receipts	35%		____%	
Breeding	$ 35	$ 0.20	$_____	$_____
Veterinary & medicine	46	0.26	_____	_____
Milk marketing	97	0.55	_____	_____
Cattle lease	5	0.03	_____	_____
Other livestock expense	97	0.55	_____	_____

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
67 Eastern Plateau Region Dairy Farms, 1989

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Farm capital	$182,935	$ 6,170	$ 2,203	$ 3,907
Real estate		2,719		1,722
Machinery & equipment	34,774	1,173	419	
Capital turnover, years	1.94			
My Farm:				
Farm capital	$_____	$_____	$_____	$_____
Real estate	_____	_____	_____	_____
Machinery & equipment	_____	_____	_____	_____
Capital turnover, years	_____			

LABOR FORCE INVENTORY AND ANALYSIS
67 Eastern Plateau Region Dairy Farms, 1989

Labor Force	Months	Age	Years of of Educ.	Value of Labor & Mgmt.
Operator number 1	12	46	14	$ 21,970
Operator number 2	5	36	14	8,045
Operator number 3	1	27	14	1,679
Family paid	5			
Family unpaid	3			
Hired	13			
Total	38	÷ 12 =	3.20 Worker Equivalent	
			1.45 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	95	30	_____	_____
Milk sold, pounds	1,680,027	524,356	_____	_____
Tillable acres	266	83	_____	_____
Work units	981	306	_____	_____

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 ($1,050/mo.)	$ 18,383	$ 194	$69.10	$_____	$_____	$_____
Family unpd.($750/mo.)	1,903	20	7.15	_____	_____	_____
Hired	22,858	241	85.93	_____	_____	_____
Total Labor	$ 43,144	$ 454	$162.19	$_____	$_____	$_____
Machinery Cost	$ 41,466	$ 436	$155.88	$_____	$_____	$_____
Total Labor & Mach.	$ 84,610	$ 891	$318.06	$_____	$_____	$_____

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 53 Eastern Plateau Region Dairy Farms, 1988 and 1989

	Average of 53 Farms*		My Farm		
Selected Factors	1988	1989	1988	1989	Goal
Size of Business					
Average number of cows	101	102	_____	_____	_____
Average number of heifers	81	82	_____	_____	_____
Milk sold, lbs.	1,736,814	1,815,291	_____	_____	_____
Worker equivalent	3.22	3.30	_____	_____	_____
Total tillable acres	280	280	_____	_____	_____
Rates of Production					
Milk sold per cow, lbs.	17,132	17,810	_____	_____	_____
Hay DM per acre, tons	2.60	2.89	_____	_____	_____
Corn silage per acre, tons	14	13	_____	_____	_____
Labor Efficiency					
Cows per worker	32	31	_____	_____	_____
Milk sold/worker, lbs.	540,153	550,560	_____	_____	_____
Cost Control					
Grain & conc. purchased as % of milk sales	29%	27%	_____%	_____%	_____%
Dairy feed & crop exp. per cwt. milk	$ 4.75	$ 5.08	$_____	$_____	$_____
Labor & mach. costs/cow	$ 809	$ 881	$_____	$_____	$_____
Capital Efficiency**					
Farm capital per cow	$ 5,934	$ 6,214	$_____	$_____	$_____
Mach. & equip. per cow	$ 1,052	$ 1,177	$_____	$_____	$_____
Capital turnover, years	2.13	1.95	_____	_____	_____
Profitability					
Net farm inc. w/o apprec.	$ 40,469	$ 54,395	$_____	$_____	$_____
Net farm inc. w/apprec.	$ 60,574	$ 80,058	$_____	$_____	$_____
Labor & mgt. income per oper./manager	$ 13,188	$ 21,466	$_____	$_____	$_____
Rate of return on eq. capital w/apprec.	7.41%	10.85%	_____%	_____%	_____%
Rate of return on all capital w/apprec.	7.21%	10.23%	_____%	_____%	_____%
Financial Summary					
Farm net worth, end year	$400,703	$448,557	$_____	$_____	$_____
Debt to asset ratio	0.35	0.31	_____	_____	_____
Farm debt per cow	$ 2,095	$ 1,970	$_____	$_____	$_____

*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 406 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
406 New York Dairy Farms, 1988

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)
7.6	302	5,478,274	20,561	4.2	21	50	832,165
4.5	150	2,555,561	18,872	3.5	18	40	666,980
3.6	118	1,965,272	18,058	3.1	16	36	603,280
3.2	99	1,667,766	17,409	2.9	15	33	561,713
2.9	84	1,377,121	16,886	2.6	15	31	514,877
2.6	72	1,156,002	16,298	2.4	14	29	467,076
2.3	62	1,000,552	15,785	2.2	13	27	432,494
2.1	55	857,485	15,024	2.0	12	25	397,092
1.9	47	716,763	14,142	1.7	11	22	347,768
1.3	36	542,182	11,650	1.2	8	17	266,376

Cost Control

Grain Bought Per Cow	% Feed 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)
$286	14%	$219	$ 500	$ 449	$3.00
401	20	282	618	564	3.64
463	23	324	682	623	3.93
522	26	358	726	678	4.22
572	27	387	763	735	4.49
615	29	415	805	785	4.71
655	31	442	854	824	4.94
700	32	480	919	874	5.19
767	35	539	1,000	939	5.54
886	39	664	1,142	1,086	6.47

The next section of the Farm Business Chart provides for comparative analysis of the value and costs of dairy production.

The profitability section shows the variation in farm income by decile and enables a dairy farmer to determine where he or she ranks by using several measures of farm profitability. Remember that each column is independently established and the farms making up the top decile in the first column will not necessarily be on the top of any other column. The dairy farmer who ranks at or near the top of most of these columns is in a very enviable position.

FARM BUSINESS CHART FOR FARM
MANAGEMENT COOPERATORS
406 New York Dairy Farms, 1988

Dairy Receipts Per Cow	Dairy Receipts Per Cwt.	Oper. Cost Milk Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cow	Total Cost Production Per Cwt.
(9)	(9)	(9)	(9)	(9)	(9)
$2,974	$16.53	$ 878	$ 5.97	$1,697	$11.22
2,723	15.33	1,170	7.50	1,980	12.42
2,594	14.89	1,309	8.18	2,092	13.03
2,496	14.62	1,409	8.72	2,206	13.45
2,413	14.37	1,506	9.19	2,303	13.85
2,339	14.17	1,588	9.62	2,383	14.45
2,251	13.98	1,671	10.06	2,489	14.93
2,149	13.72	1,775	10.51	2,613	15.68
1,984	13.30	1,923	11.11	2,749	16.59
1,663	12.65	2,122	12.96	3,085	19.26

Profitability

Net Farm Income		Return to Operator's Labor, Management, & Equity Capital		Labor & Management Income	
With Appreciation	Without Appreciation	With Appreciation	Without Appreciation	Per Farm	Per Operator
(3)	(3)	(3)	(3)	(3)	(3)
$191,562	$152,016	$190,109	$150,408	$100,436	$82,939
91,674	64,178	89,579	62,028	36,434	27,820
71,488	47,392	69,860	45,854	25,726	19,437
59,330	39,075	57,028	37,325	19,032	14,022
48,938	32,619	47,001	30,813	13,156	10,174
40,055	25,596	38,398	24,169	7,890	6,156
32,386	20,332	30,714	17,339	2,740	2,308
24,193	13,859	21,562	11,857	-4,487	-3,781
16,077	6,208	13,720	3,924	-11,265	-9,151
-5	-11,890	-1,766	-13,815	-33,523	-34,040

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 discussed in the section on pages 23-28.

Financial Analysis Chart

The farm financial analysis chart 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
406 New York Dairy Farms, 1988

Liquidity (repayment)				
Debt Payments Made Per Cow	Debt Payments as Percent of Milk Receipts	Cash Flow Coverage Ratio	Available for Debt Service Per Cow	Debt Per Cow
(DFBS pg. 7)	(7)	(7)	(11)	(5)
$ 61	3%	5.65	$845	$ 112
203	9	1.84	660	660
293	14	1.42	572	1,196
373	18	1.21	510	1,585
435	20	1.09	462	1,941
494	23	0.96	415	2,264
563	27	0.83	361	2,630
639	31	0.68	300	2,995
742	36	0.52	222	3,465
1,161	59	-0.29	-23	4,687

Solvency			Efficiency & Profitability		
	Debt/Asset Ratio				
Percent Equity	Current & Intermediate	Long Term	Total Farm Cap. Per Cow	Capital Turnover (years)	Rate of Return on Equity Cap.
(DFBS pg. 5)	(5)	(5)	(10)	(10)	(3)
98%	0.01	0.00	$4,110	1.51	25%
90	0.04	0.01	4,849	1.81	13
82	0.10	0.12	5,231	1.98	10
75	0.17	0.24	5,620	2.13	8
69	0.23	0.33	5,989	2.29	6
65	0.29	0.45	6,334	2.43	4
58	0.36	0.54	6,806	2.56	2
52	0.41	0.63	7,358	2.73	0
43	0.50	0.77	8,214	3.05	-4
28	0.73	1.20	10,357	3.91	-16

Summarize Your Business Performance

The Farm Business and Financial Analysis Charts 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: _____

_____ _____

_____ _____

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 1988 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 $233,809 per farm for the 300 or more herd size group and $12,875 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 1988.

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 15,833 pounds on the farms with 40 to 54 cows to 19,113 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 20 at the lowest herd size category up to 45 at the largest size category.

---

[1]Smith, Stuart F., Wayne A. Knoblauch, and Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1988, Department of Agricultural Economics, Cornell University, A.E. Res. 89-12, August 1989.

SELECTED BUSINESS FACTORS BY TYPE OF BARN
AND HERD SIZE
406 New York Dairy Farms, 1988

Farms with:	Conventional		Freestall	
Item	≤60 Cows	>60 Cows	≤120 Cows	>120 Cows
Number of farms	117	139	65	85
Cropping Program Analysis				
Total Tillable acres	149	292	259	560
Tillable acres rented*	45	98	85	209
Hay crop acres*	96	168	133	237
Corn silage acres*	28	55	59	181
Hay crop, tons DM/acre	2.2	2.5	2.5	2.9
Corn silage, tons/acre	12.8	14.0	14.7	14.3
Oats, bushels/acre	39.4	48.7	40.9	45.3
Forage DM per cow, tons	7.3	7.8	7.5	7.2
Tillable acres/cow	3.2	3.4	3.1	2.6
Fert. & lime exp./til. acre	$21.87	$24.92	$29.68	$34.57
Total machinery costs	$18,754	$35,266	$37,311	$82,010
Machinery cost/tillable acre	$126	$121	$144	$146
Dairy Analysis				
Number of cows	46	87	84	217
Number of heifers	35	72	69	171
Milk sold, lbs.	745,373	1,428,224	1,381,093	3,797,957
Milk sold/cow, lbs.	16,150	16,485	16,496	17,468
Operating cost of prod. milk/cwt.	$9.49	$9.25	$9.36	$9.64
Total cost of prod. milk/cwt.	$15.35	$13.97	$14.14	$12.88
Price/cwt. milk sold	$12.90	$12.88	$13.03	$13.15
Purchased dairy feed/cow	$620	$587	$608	$660
Purchased dairy feed/cwt. milk	$3.84	$3.56	$3.68	$3.78
Purc. grain & conc. as % milk rec.	28%	27%	27%	28%
Purc. feed & crop exp./cwt. milk	$4.59	$4.47	$4.67	$4.70
Capital Efficiency				
Farm capital/worker	$165,397	$190,032	$191,181	$220,397
Farm capital/cow	$6,874	$6,367	$6,391	$5,688
Farm capital/til. acre owned	$3,050	$2,829	$3,075	$3,523
Real estate/cow	$3,637	$3,056	$2,944	$2,574
Machinery investment/cow	$1,242	$1,186	$1,264	$915
Capital turnover, years	2.58	2.38	2.33	1.97
Labor Efficiency				
Worker equivalent	1.92	2.90	2.80	5.61
Operator/manager equivalent	1.17	1.44	1.40	1.43
Milk sold/worker, lbs.	388,601	492,003	493,473	676,903
Cows/worker	24	30	30	39
Work units/worker	252	325	322	395
Labor cost/cow	$427	$390	$388	$431
Labor cost/tillable acre	$132	$115	$126	$167
Profitability & Balance Sheet Analysis				
Net farm income (w/o apprec.)	$15,113	$32,593	$31,035	$86,118
Labor & mgmt. income/operator	$2,387	$8,213	$8,928	$31,202
Farm debt/cow	$2,424	$1,935	$2,265	$2,018
Percent equity	65%	70%	65%	65%

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

FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARM
117 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1988

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)
3.0	58	1,069,621	20,399	3.8	20	40	672,046
2.4	56	952,284	18,512	3.1	18	33	562,928
2.2	54	883,230	17,716	2.8	17	29	469,994
2.1	51	828,725	17,216	2.6	15	27	433,894
2.0	49	760,558	16,604	2.4	14	25	414,271
2.0	46	716,896	16,054	2.3	13	24	385,463
1.7	43	676,549	15,273	2.0	12	23	353,856
1.5	40	628,044	14,721	1.9	10	21	330,435
1.3	37	566,471	13,809	1.7	10	19	292,749
1.0	29	427,103	11,901	1.2	7	15	226,460

Cost Control

Grain Bought Per Cow	% Feed 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)
$318	23%	$197	$ 554	$ 455	$3.02
418	28	250	692	550	3.57
466	31	315	755	600	3.93
518	33	364	804	644	4.22
554	35	392	841	713	4.47
593	36	426	899	759	4.68
641	38	451	941	812	4.90
710	40	488	1,013	872	5.18
781	44	538	1,069	952	5.58
896	50	647	1,192	1,092	6.70

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. Income Per Farm	Labor & Mgmt. Income Per Oper.
(9)	(9)	(9)	(3)	(3)	(3)	(3)
$2,631	$ 6.23	$12.22	$66,048	$40,605	$26,515	$25,175
2,411	7.69	13.25	45,717	31,042	18,240	15,171
2,289	8.23	14.00	38,199	24,592	12,447	10,259
2,200	8.68	14.57	31,413	20,824	8,024	6,890
2,122	9.22	15.09	27,367	16,987	5,314	4,522
2,064	9.64	15.62	22,397	13,416	2,240	2,113
1,975	10.09	16.24	19,247	9,008	-1,921	-1,703
1,886	10.53	16.70	16,846	6,522	-5,605	-5,125
1,756	11.26	17.41	10,388	2,017	-9,948	-8,298
1,545	13.48	21.06	-402	-9,679	-24,960	-21,802

FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS
139 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1988

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent (DFBS Pg. 10)	No. of Cows (10)	Pounds Milk Sold (10)	Pounds Milk Sold Per Cow (9)	Tons Hay Crop DM/Acre (8)	Tons Corn Silage Per Acre (8)	Cows Per Worker (10)	Pounds Milk Sold Per Worker (10)
4.7	141	2,455,689	19,800	4.1	21	47	755,830
3.7	112	1,887,601	18,638	3.5	17	38	651,861
3.3	98	1,724,659	18,106	3.1	16	35	591,353
3.1	93	1,531,719	17,463	2.8	15	33	541,449
2.9	83	1,396,207	16,959	2.6	15	31	510,816
2.6	78	1,286,389	16,331	2.4	14	29	476,869
2.5	73	1,172,462	15,846	2.2	13	28	445,549
2.4	67	1,086,160	15,340	2.0	12	26	410,818
2.1	64	992,080	14,294	1.7	11	23	373,760
1.8	61	822,664	11,490	1.2	8	19	293,815

Cost Control

Grain Bought Per Cow (9)	% Feed is of Milk Receipts (9)	Machinery Costs Per Cow (10)	Labor & Machinery Costs Per Cow (10)	Feed & Crop Expenses Per Cow (9)	Feed & Crop Expenses Per Cwt. Milk (9)
$272	24%	$221	$526	$429	$3.01
371	28	285	647	541	3.57
433	30	327	698	607	3.82
502	32	358	750	658	4.02
565	33	391	787	701	4.27
605	35	418	838	751	4.53
648	37	441	879	801	4.77
700	39	475	939	847	5.03
757	41	519	1,035	915	5.36
883	48	660	1,173	1,068	6.14

Value and Cost of Production			Profitability			
			Net Farm Income			
Milk Receipts Per Cow (9)	Oper. Cost Milk Per Cwt. (9)	Total Cost Production Per Cwt. (9)	With Apprec. (3)	Without Apprec. (3)	Labor & Mgmt. Income Per Farm (3)	Labor & Mgmt. Income Per Oper. (3)
$2,590	$ 6.33	$11.06	$113,623	$69,808	$45,158	$40,726
2,425	7.33	12.27	79,373	54,563	33,225	23,975
2,339	7.95	12.97	67,707	46,491	26,185	19,075
2,256	8.42	13.28	59,750	41,639	20,956	15,497
2,174	8.91	13.58	51,694	35,314	16,765	11,634
2,120	9.27	14.05	46,333	31,497	11,988	8,446
2,024	9.76	14.55	40,463	26,457	6,807	4,985
1,940	10.27	15.13	34,299	21,668	-1,047	-585
1,820	10.94	16.09	24,116	11,595	-9,842	-7,205
1,480	12.89	18.79	2,703	-10,487	-30,954	-21,750

FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS
65 Freestall Barn Dairy Farms with 120 or Less Cows, New York, 1988

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)
4.2	115	2,135,755	20,957	3.9	21	46	738,383
3.5	108	1,909,121	19,580	3.4	20	39	637,748
3.3	105	1,771,060	18,347	3.1	18	36	582,787
3.1	100	1,688,234	17,512	2.9	16	34	559,711
3.0	92	1,505,063	16,867	2.8	15	31	525,414
2.8	84	1,365,945	16,271	2.5	15	29	474,472
2.6	78	1,191,775	15,778	2.3	14	28	455,536
2.3	70	1,061,328	14,891	2.0	12	27	429,339
2.1	59	872,566	13,601	1.6	11	25	376,468
1.6	42	610,624	11,393	1.1	8	18	277,940

Cost Control

Grain Bought Per Cow	% Feed 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)
$258	23%	$234	$ 530	$ 480	$2.91
416	28	302	662	587	3.65
454	31	346	719	629	3.98
511	35	369	767	685	4.47
583	37	396	807	761	4.78
635	38	439	852	800	5.00
672	40	510	900	839	5.28
712	41	561	1,036	896	5.51
781	44	603	1,153	995	5.89
883	53	767	1,344	1,152	6.95

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. Income Per Farm	Labor & Mgmt. Income Per Oper.
(9)	(9)	(9)	(3)	(3)	(3)	(3)
$2,677	$ 5.99	$11.76	$122,057	$80,538	$50,935	$41,222
2,502	7.65	12.36	86,612	59,942	36,940	28,176
2,361	8.34	13.01	72,241	46,332	27,220	20,081
2,269	8.71	13.42	60,248	40,507	22,245	14,792
2,175	9.29	14.01	51,410	36,770	16,212	11,783
2,106	9.77	14.68	43,786	28,683	12,431	9,286
2,060	10.07	15.56	33,786	21,707	7,906	5,326
1,965	10.61	16.33	22,275	15,781	-1,726	-1,838
1,792	11.56	17.14	11,783	9,142	-10,710	-7,666
1,567	13.45	18.97	226	-13,498	-24,719	-22,741

FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS
85 Freestall Barn Dairy Farms with More Than 120 Cows, New York, 1988

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)
12.1	532	10,258,979	21,283	4.8	19	60	1,027,141
7.7	309	5,748,053	19,739	4.1	18	47	839,146
6.5	253	4,450,040	18,818	3.8	17	44	742,700
6.0	224	3,683,829	17,827	3.4	16	41	685,010
5.4	194	3,237,071	17,274	3.1	15	39	648,889
4.8	173	2,920,311	16,940	2.9	14	37	613,465
4.2	153	2,550,953	16,266	2.6	13	34	579,478
3.9	136	2,313,893	15,745	2.4	12	33	555,146
3.6	127	2,088,296	14,707	2.1	11	31	510,554
2.9	121	1,660,164	12,411	1.5	10	27	423,675

Cost Control

Grain Bought Per Cow	% Feed 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	24%	$263	$ 543	$ 487	$3.17
454	30	295	642	644	3.97
527	32	320	726	737	4.32
587	34	349	756	775	4.53
623	36	382	784	811	4.71
653	37	407	831	839	4.91
675	39	423	900	869	5.13
702	41	453	947	912	5.30
776	42	507	989	949	5.60
897	47	617	1,093	1,057	6.31

Value and Cost of Production			Profitability			
			Net Farm Income		Labor & Mgmt. Income	
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	With Apprec.	Without Apprec.	Per Farm	Per Oper.
(9)	(9)	(9)	(3)	(3)	(3)	(3)
$2,767	$ 5.23	$10.40	$367,659	$308,013	$225,699	$195,726
2,585	7.66	11.77	223,987	166,492	115,331	74,508
2,466	8.92	12.33	158,470	114,554	69,277	48,997
2,365	9.39	12.87	123,985	87,002	50,003	37,563
2,293	9.85	13.20	105,605	71,945	39,841	24,763
2,232	10.29	13.63	90,906	62,101	27,489	18,851
2,145	10.51	13.88	74,583	44,749	15,425	12,052
2,045	10.77	14.36	63,368	33,199	-177	133
1,949	11.11	14.85	41,941	20,940	-15,048	-12,035
1,650	12.23	16.60	12,620	-12,543	-50,857	-43,219

FARM BUSINESS SUMMARY BY HERD SIZE
406 New York Dairy Farms, 1988

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	29	67	81	53	36
ACCRUAL EXPENSES					
Hired labor	$ 2,392	$ 4,607	$ 9,317	$ 14,404	$ 19,414
Dairy grain & concentrate	18,877	27,003	34,299	43,702	56,902
Dairy roughage	2,095	1,749	916	1,524	580
Nondairy feed	348	144	263	685	63
Machine hire/rent/lease	915	1,517	1,421	1,436	1,229
Machine repairs/parts	3,293	4,837	7,323	8,357	13,107
Auto expense (farm share)	469	415	687	665	781
Fuel, oil & grease	1,554	2,208	3,423	4,240	5,632
Replacement livestock	1,926	1,023	1,516	1,318	1,523
Breeding	1,104	1,568	2,064	2,436	3,102
Veterinary & medicine	1,269	1,675	2,645	3,397	4,035
Milk marketing	3,505	4,900	5,727	7,365	7,354
Cattle lease/rent	10	52	0	352	14
Other livestock expense	2,963	4,874	5,534	6,974	9,024
Fertilizer & lime	1,698	3,465	5,162	6,944	8,272
Seeds & plants	732	1,340	1,961	2,953	3,680
Spray & other crop expense	718	1,021	1,713	2,178	3,045
Land/building/fence repair	1,398	1,478	2,359	2,200	3,661
Taxes & rent	2,979	5,209	6,374	7,877	8,324
Telephone & electricity	2,877	3,635	4,572	5,304	5,994
Interest paid	6,223	9,444	10,280	12,466	15,535
Misc. (including insurance)	2,576	3,135	4,550	5,601	6,315
Total Operating Expenses	$59,921	$ 85,299	$112,106	$142,378	$177,586
Expansion livestock	672	337	176	537	1,253
Machinery depreciation	4,924	6,528	9,639	11,715	15,214
Building depreciation	2,415	3,573	4,964	5,960	6,460
Total Accrual Expenses	$67,932	$ 95,737	$126,885	$160,590	$200,513
ACCRUAL RECEIPTS					
Milk sales	$69,058	$ 96,366	$126,139	$162,315	$206,315
Dairy cattle	6,296	7,934	10,340	15,094	18,421
Dairy calves	1,809	2,074	2,580	2,899	3,494
Other livestock	479	131	115	369	318
Crops	1,936	977	2,558	4,576	4,331
Misc. receipts	1,230	3,258	4,976	5,572	6,316
Total Accrual Receipts	$80,807	$110,742	$146,708	$190,826	$239,195
PROFITABILITY ANALYSIS					
Net farm income (w/o apprec.)	$12,875	$15,005	$19,823	$30,236	$38,682
Net farm income (w/apprec.)	$20,258	$28,129	$33,894	$45,986	$61,521
Labor & mgmt. income	$2,331	$3,228	$3,284	$11,721	$17,960
Number of operators	1.10	1.16	1.36	1.41	1.31
Labor & mgmt. inc./oper.	$2,119	$2,782	$2,415	$8,313	$13,710
Rates of return on:					
Equity capital w/o apprec.	-4.3%	-4.0%	-2.6%	0.5%	2.9%
Equity capital w/apprec.	0.0%	2.8%	2.2%	5.2%	9.1%
All capital w/o apprec.	-0.4%	0.5%	0.6%	2.9%	4.7%
All capital w/apprec.	2.5%	4.7%	3.9%	6.1%	8.9%

FARM BUSINESS SUMMARY BY HERD SIZE
406 New York Dairy Farms, 1988

Item — Farm Size:	100 to 149 Cows	150 to 199 Cows	200 to 299 Cows	300 or More Cows
Number of farms	81	25	21	13
ACCRUAL EXPENSES				
Hired labor	$ 25,129	$ 52,976	$ 79,337	$ 200,247
Dairy grain & concentrate	68,636	107,553	153,329	323,183
Dairy roughage	1,652	1,725	3,503	11,127
Nondairy feed	301	0	374	2,971
Machine hire/rent/lease	3,137	2,027	3,590	6,976
Machine repairs/parts	14,690	24,337	32,025	44,595
Auto expense (farm share)	606	548	1,040	949
Fuel, oil & grease	7,046	11,674	14,884	22,566
Replacement livestock	1,505	180	12,690	2,072
Breeding	3,404	5,874	6,885	13,345
Veterinary & medicine	4,970	8,862	12,037	29,107
Milk marketing	11,218	16,822	17,375	28,057
Cattle lease/rent	112	864	0	1,700
Other livestock expense	10,996	14,902	21,193	44,593
Fertilizer & lime	10,849	15,467	24,072	30,893
Seeds & plants	4,544	6,168	9,696	12,581
Spray & other crop expense	4,179	5,727	9,390	16,835
Land/building/fence repair	3,965	7,811	10,295	18,413
Taxes & rent	12,154	17,290	16,508	36,340
Telephone & electricity	7,515	10,434	13,990	22,305
Interest paid	20,245	30,488	38,183	82,861
Misc. (including insurance)	7,728	11,427	15,598	27,380
Total Operating Expenses	$224,581	$353,156	$505,994	$ 979,096
Expansion livestock	1,445	2,175	3,046	42,433
Machinery depreciation	16,826	23,211	33,872	51,018
Building depreciation	8,646	13,367	19,946	47,793
Total Accrual Expenses	$251,498	$391,909	$562,858	$1,120,340
ACCRUAL RECEIPTS				
Milk sales	$256,607	$376,291	$530,450	$1,148,224
Dairy cattle	19,533	33,320	50,614	122,913
Dairy calves	4,526	6,676	10,489	20,435
Other livestock	556	472	2,292	2,655
Crops	6,714	9,520	11,087	26,097
Misc. receipts	10,966	18,255	27,459	33,826
Total Accrual Receipts	$298,902	$444,533	$632,391	$1,354,149
PROFITABILITY ANALYSIS				
Net farm income (w/o apprec.)	$47,404	$52,624	$69,533	$233,809
Net farm income (w/apprec.)	$71,193	$100,639	$98,371	$280,953
Labor & mgmt. income	$20,551	$16,348	$25,100	$162,342
Number of operators	1.48	1.56	1.42	1.47
Labor & mgmt. inc./oper.	$13,886	$10,480	$17,676	$110,437
Rate of return on:				
Equity capital w/o apprec.	2.8%	2.5%	3.9%	13.4%
Equity capital w/apprec.	7.6%	9.4%	7.2%	16.8%
All capital w/o apprec.	4.6%	4.6%	5.4%	11.3%
All capital w/apprec.	7.9%	9.2%	7.6%	13.3%

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
406 New York Dairy Farms, 1988

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.	$ 4,457	$ 3,074	$ 2,714	$ 2,675	$ 3,845	$ 4,036
Accounts receivable	5,424	6,196	8,003	9,132	10,443	11,770
Prepaid expenses	0	15	0	0	74	52
Feed & supplies	11,232	13,321	16,895	17,800	26,495	28,566
Livestock*	42,673	45,140	56,489	60,707	79,513	83,341
Machinery & equipment*	43,066	46,651	54,871	57,184	77,112	79,800
FLB & PCA stock	935	912	1,403	1,289	2,559	2,629
Other stock & cert.	1,333	1,131	2,194	2,311	3,363	3,660
Land & buildings*	133,717	139,670	163,123	169,451	213,256	223,496
Total Farm Assets	$242,837	$256,110	$305,692	$320,550	$416,659	$437,350
Pers. cash/chkg./sav.	$ 1,701	$ 2,830	$ 2,898	$ 3,147	$ 8,002	$ 9,051
Cash value of life ins.	1,045	1,171	2,772	3,806	3,668	3,967
Nonfarm real estate	17,714	20,095	29,421	34,017	34,463	37,286
Auto (personal share)	1,386	2,943	2,892	3,659	3,040	3,456
Stocks & bonds	2,509	3,068	1,618	2,885	3,577	3,682
Household furnishings	7,095	7,619	8,468	9,336	7,775	7,790
All other	4,939	4,436	2,587	2,757	1,870	2,462
Tot. Nonfarm Assets**	$ 36,389	$ 42,162	$ 50,657	$ 59,608	$ 62,394	$ 67,694
Total Farm & Nonfarm Assets	$279,226	$298,272	$356,349	$380,158	$479,053	$505,044
LIABILITIES						
Accounts payable	$ 1,502	$ 1,478	$ 4,338	$ 4,799	$ 3,275	$ 3,769
Operating debt	388	451	1,462	1,912	851	1,026
Short term	933	1,648	1,216	1,265	1,481	1,291
Advanced gov't. rec.	0	0	0	0	0	0
Intermediate***	23,857	23,556	38,415	38,787	46,980	47,843
Long term*	54,881	53,469	78,049	74,337	80,272	79,627
Total Farm Liab.	$ 81,562	$ 80,602	$123,480	$121,099	$132,859	$133,556
Tot. Nonfarm Liab.**	805	1,247	2,009	2,308	2,738	6,958
Total Farm & Nonfarm Liabilities	$ 82,367	$ 81,849	$125,489	$123,407	$135,597	$140,514
Farm Net Worth (Equity Capital)	$161,275	$175,508	$182,212	$199,451	$283,801	$303,794
Farm & Nonfarm Net Worth	$196,859	$216,423	$230,860	$256,751	$343,456	$364,530

FINANCIAL MEASURES	Less than 40 Cows	40 to 54 Cows	55 to 69 Cows
Percent equity	69%	62%	69%
Debt/asset ratio-long term	0.38	0.44	0.36
Debt/asset ratio-inter. & current	0.23	0.31	0.25
Change in net worth with apprec.	$14,232	$17,238	$19,993
Total farm debt per cow	$2,303	$2,577	$2,154
Debt payments made per cow	$430	$445	$432
Debt payments as % of milk sales	21%	21%	21%
Amount avail. for debt service	$14,628	$23,140	$28,374
Cash flow coverage ratio for 1988	1.08	1.15	1.20

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1988.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
406 New York Dairy Farms, 1988

Farms with:	70 to 84 Cows		85 to 99 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 4,510	$ 5,046	$ 3,641	$ 6,787
Accounts receivable	14,084	15,293	16,866	19,378
Prepaid expenses	0	4	0	0
Feed & supplies	34,010	37,259	41,775	46,435
Livestock*	97,948	104,483	115,682	124,050
Machinery & equipment*	92,466	95,936	108,882	112,275
FLB & PCA stock	3,019	3,159	3,693	3,717
Other stock & cert.	4,751	5,093	2,489	3,235
Land & buildings*	232,751	239,667	240,295	255,043
Total Farm Assets	$483,539	$505,940	$533,323	$570,919
Pers. cash/chkg./savings	$ 7,611	$ 7,892	$ 12,975	$ 11,777
Cash value of life ins.	4,076	6,006	3,144	3,960
Nonfarm real estate	6,368	6,368	30,100	48,300
Auto (personal share)	3,311	4,115	2,716	2,404
Stocks & bonds	2,287	3,771	6,916	7,214
Household furnishings	8,600	8,776	6,280	6,400
All other	2,392	2,370	4,590	7,585
Total Nonfarm Assets**	$ 34,644	$ 39,297	$ 66,722	$ 87,641
Total Farm & Nonfarm Assets	$518,183	$545,237	$600,045	$658,560
LIABILITIES				
Accounts payable	$ 5,742	$ 4,956	$ 5,422	$ 5,940
Operating debt	1,422	2,410	2,663	4,065
Short term	1,712	2,109	3,093	981
Advanced gov't. rec.	176	0	0	0
Intermediate***	54,621	56,760	75,449	75,857
Long term*	92,638	89,206	101,029	98,083
Total Farm Liab.	$156,310	$155,441	$187,656	$184,926
Total Nonfarm Liab.**	1,080	1,058	1,128	3,084
Total Farm & Nonfarm Liabilities	$157,390	$156,499	$188,784	$188,010
Farm Net Worth (Equity Capital)	$327,229	$350,500	$345,667	$385,993
Farm & Nonfarm Net Worth	$360,793	$388,738	$411,261	$470,550

FINANCIAL MEASURES	70 to 84 Cows	85 to 99 Cows
Percent equity	69%	68%
Debt/asset ratio-long term	0.37	0.38
Debt/asset ratio-inter. & current	0.25	0.27
Change in net worth with apprec.	$23,271	$40,327
Total farm debt per cow	$1,968	$1,926
Debt payments made per cow	$470	$579
Debt payments as % of milk sales	22%	27%
Amount avail. for debt service	$32,687	$43,561
Cash flow coverage ratio for 1988	1.15	1.05

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1988.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
406 New York Dairy Farms, 1988

Farms with:	100 to 149 Cows		150 to 199 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 10,907	$ 15,024	$ 9,184	$ 15,950
Accounts receivable	22,149	25,052	34,103	37,876
Prepaid expenses	0	62	57	0
Feed & supplies	55,111	60,700	79,415	86,404
Livestock*	149,876	159,687	223,016	233,323
Machinery & equipment*	136,228	141,737	179,605	182,784
FLB & PCA stock	6,146	5,896	13,047	12,959
Other stock & cert.	5,952	6,261	16,900	16,437
Land & buildings*	327,973	335,407	468,814	493,711
Total Farm Assets	$714,342	$749,826	$1,024,141	$1,079,444
Pers. cash/chkg./savings	$ 5,805	$ 5,810	$ 2,693	$ 2,738
Cash value of life ins.	5,260	5,825	10,159	12,195
Nonfarm real estate	91,000	110,969	42,571	51,143
Auto (personal share)	2,101	2,189	1,971	4,979
Stocks & bonds	2,549	3,483	836	945
Household furnishings	6,500	7,138	9,750	9,964
All other	2,871	2,711	1,854	14,863
Total Nonfarm Assets**	$116,086	$138,124	$ 69,834	$ 96,827
Total Farm & Nonfarm Assets	$830,428	$887,950	$1,093,975	$1,176,271
LIABILITIES				
Accounts payable	$ 4,179	$ 4,376	$ 9,549	$ 10,589
Operating debt	2,860	2,775	5,399	9,025
Short term	3,442	2,818	3,088	7,270
Advanced gov't. rec.	69	0	0	0
Intermediate***	99,192	99,795	137,202	129,905
Long term*	135,158	131,475	197,395	196,886
Total Farm Liab.	$244,900	$241,239	$ 352,633	$ 353,676
Total Nonfarm Liab.**	1,147	945	1,177	575
Total Farm & Nonfarm Liabilities	$246,047	$242,184	$ 353,810	$ 354,251
Farm Net Worth (Equity Capital)	$469,442	$508,587	$ 671,508	$ 725,768
Farm & Nonfarm Net Worth	$584,381	$645,766	$ 740,165	$ 822,020

FINANCIAL MEASURES	100 to 149 Cows	150 to 199 Cows
Percent equity	68%	67%
Debt/asset ratio-long term	0.39	0.40
Debt/asset ratio-inter. & current	0.26	0.27
Change in net worth with apprec.	$39,145	$54,260
Total farm debt per cow	$2,010	$2,033
Debt payments made per cow	$471	$501
Debt payments as % of milk sales	22%	24%
Amount avail. for debt service	$55,340	$70,113
Cash flow coverage ratio for 1988	1.09	1.06

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1988.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
406 New York Dairy Farms, 1988

Farms with:	200 to 299 Cows		More than 300 Cows	
Item	Jan. 1	Dec. 31	Jan. 1	Dec. 31
ASSETS				
Farm cash/chkg./savings	$ 6,852	$ 6,047	$ 11,551	$ 17,077
Accounts receivable	42,654	46,641	80,033	102,600
Prepaid expenses	0	381	3,601	5,032
Feed & supplies	110,563	120,265	261,579	288,123
Livestock*	294,678	310,431	496,895	564,900
Machinery & equipment*	196,810	218,866	314,866	338,523
FLB & PCA stock	13,911	15,602	15,888	21,595
Other stock & cert.	22,919	22,927	66,023	68,053
Land & buildings*	606,656	616,437	1,032,410	1,132,831
Total Farm Assets	$1,295,043	$1,357,597	$2,282,846	$2,538,735
Pers. cash/chkg./savings	$ 10,227	$ 11,091	$ 1,616	$ 8,145
Cash value of life ins.	7,164	7,318	1,451	1,505
Nonfarm real estate	25,273	24,818	25,600	34,000
Auto (personal share)	3,773	4,159	2,935	3,900
Stocks & bonds	25,527	28,617	16,473	17,730
Household furnishings	10,000	10,455	8,600	9,200
All other	16,588	18,481	13,919	5,930
Total Nonfarm Assets**	$ 98,552	$ 104,939	$ 70,595	$ 80,411
Total Farm & Nonfarm Assets	$1,393,595	$1,462,536	$2,353,441	$2,619,146
LIABILITIES				
Accounts payable	$ 9,504	$ 13,705	$ 9,653	$ 11,539
Operating debt	10,964	10,809	57,635	89,818
Short term	12,095	19,329	15,232	24,590
Advanced gov't. rec.	0	0	0	0
Intermediate***	210,412	211,558	392,319	463,532
Long term*	209,592	207,354	469,520	461,387
Total Farm Liab.	$ 452,568	$ 462,755	$ 944,359	$1,050,866
Total Nonfarm Liab.**	12,723	10,245	0	0
Total Farm & Nonfarm Liabilities	$ 465,291	$ 473,000	$ 944,359	$1,050,866
Farm Net Worth (Equity Capital)	$ 842,475	$ 894,843	$1,338,487	$1,487,869
Farm & Nonfarm Net Worth	$ 928,304	$ 989,536	$1,409,082	$1,568,280

FINANCIAL MEASURES	200 to 299 Cows	More than 300 Cows
Percent equity	66%	59%
Debt/asset ratio-long term	0.34	0.41
Debt/asset ratio-inter. & current	0.34	0.42
Change in net worth with apprec.	$52,367	$149,382
Total farm debt per cow	$1,851	$2,198
Debt payments made per cow	$537	$496
Debt payments as % of milk sales	23%	20%
Amount avail. for debt service	$120,532	$303,053
Cash flow coverage ratio for 1988	1.22	1.56

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1988.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

SELECTED BUSINESS FACTORS BY HERD SIZE
406 New York Dairy Farms, 1988

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	29	67	81	53	36
Cropping Program Analysis					
Total Tillable acres	107	156	219	252	296
Tillable acres rented*	31	49	67	76	108
Hay crop acres*	78	98	131	139	168
Corn silage acres*	15	28	37	48	63
Hay crop, tons DM/acre	2.0	2.2	2.4	2.5	2.6
Corn silage, tons/acre	12.6	13.4	12.7	13.9	13.8
Oats, bushels/acre	3.0	33.4	58.1	42.8	41.5
Forage DM per cow, tons	6.7	7.4	7.7	7.5	7.9
Tillable acres/cow	3.2	3.3	3.6	3.3	3.2
Fert. & lime exp./til. acre	$15.84	$22.18	$23.56	$27.58	$27.97
Total machinery costs	$13,368	$18,263	$26,363	$31,093	$41,459
Machinery cost/tillable acre	$125	$117	$120	$123	$140
Dairy Analysis					
Number of cows	33	47	61	77	93
Number of heifers	22	36	51	66	77
Milk sold, lbs.	544,550	742,474	979,950	1,252,616	1,608,344
Milk sold/cow, lbs.	16,264	15,833	16,006	16,165	17,356
Operating cost of prod. milk/cwt.	$8.97	$9.60	$9.36	$9.13	$9.08
Total cost of prod. milk/cwt.	$15.57	$15.30	$15.16	$14.17	$13.31
Price/cwt. milk sold	$12.68	$12.98	$12.87	$12.96	$12.83
Purchased dairy feed/cow	$626	$613	$575	$584	$620
Purchased dairy feed/cwt. milk	$3.85	$3.87	$3.59	$3.61	$3.57
Purchased grain & conc. as % of milk receipts	27%	28%	27%	27%	28%
Purchased feed & crop expense/cwt. milk	$4.43	$4.66	$4.50	$4.57	$4.51
Capital Efficiency					
Farm capital/worker	$150,202	$167,498	$176,466	$181,148	$189,902
Farm capital/cow	7,451	6,677	6,975	6,385	5,958
Farm capital/til. acre owned	3,240	2,926	2,809	2,811	2,937
Real estate/cow	4,082	3,546	3,567	3,048	2,673
Machinery investment/cow	1,340	1,195	1,281	1,216	1,193
Capital turnover, years	2.83	2.53	2.66	2.39	2.11
Labor Efficiency					
Worker equivalent	1.66	1.87	2.42	2.73	2.91
Operator/manager equivalent	1.10	1.16	1.36	1.41	1.31
Milk sold/worker, lbs.	327,861	397,172	404,979	458,644	553,188
Cows/worker	20	25	25	28	32
Work units/worker	205	263	285	303	352
Labor cost/cow	$532	$444	$449	$425	$406
Labor cost/tillable acre	$166	$133	$126	$131	$127

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

SELECTED BUSINESS FACTORS BY HERD SIZE
406 New York Dairy Farms, 1988

Item — Farms with:	100 to 149 Cows	150 to 199 Cows	200 to 299 Cows	300 or More Cows
Number of farms	81	25	21	13
Cropping Program Analysis				
Total tillable acres	367	500	618	919
Tillable acres rented*	134	216	214	295
Hay crop acres*	190	241	243	309
Corn silage acres*	84	140	226	382
Hay crop, tons DM/acre	2.6	2.8	2.8	3.4
Corn silage, tons/acre	14.7	13.6	14.2	15.1
Oats, bushels/acre	44.7	58.3	35.3	54.6
Forage DM per cow, tons	7.7	7.6	7.2	6.5
Tillable acres/cow	3.1	2.9	2.6	2.0
Fert. & lime exp./til. acre	$29.56	$30.94	$38.94	$33.63
Total machinery costs	$49,168	$70,776	$95,583	$141,975
Machinery cost/tillable acre	$134	$142	$155	$155
Dairy Analysis				
Number of cows	119	172	241	453
Number of heifers	96	148	179	343
Milk sold, lbs.	1,959,901	2,864,891	4,099,894	8,665,733
Milk sold/cow, lbs.	16,531	16,656	17,036	19,113
Operating cost of prod. milk/cwt.	$9.37	$10.02	$9.93	$9.41
Total cost of prod. milk/cwt.	$13.65	$13.73	$13.17	$11.87
Price/cwt. milk sold	$13.09	$13.13	$12.94	$13.25
Purchased dairy feed/cow	$593	$635	$652	$737
Purchased dairy feed/cwt. milk	$3.59	$3.81	$3.83	$3.86
Purchased grain & conc. as % of milk receipts	27%	29%	29%	28%
Purchased feed & crop expense/cwt. milk	$4.58	$4.77	$4.88	$4.55
Capital Efficiency				
Farm capital/worker	$206,856	$214,798	$220,180	$236,828
Farm capital/cow	6,175	6,115	5,511	5,317
Farm capital/til. acre owned	3,142	3,703	3,283	3,870
Real estate/cow	2,798	2,798	2,541	2,388
Machinery investment/cow	1,172	1,053	864	721
Capital turnover, years	2.27	2.14	2.01	1.72
Labor Efficiency				
Worker equivalent	3.54	4.90	6.02	10.18
Operator/manager equivalent	1.48	1.56	1.42	1.47
Milk sold/worker, lbs.	553,786	585,070	680,615	851,294
Cows/worker	33	35	40	45
Work units/worker	351	371	405	438
Labor cost/cow	$383	$425	$405	$482
Labor cost/tillable acre	$124	$146	$158	$238

*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

Other Agricultural Economics Extension Publications

No. 89-37	New York Economic Handbook 1990, Agriculture Situation and Outlook	Extension Staff
No. 89-38	Census of Agricultural Highlights, New York State, 1987	B. Stanton W. Knoblauch L. Putnam
No. 90-1	Micro DFBS, A Guide to Processing Dairy Farm Business Summaries in County and Regional Extension Offices for Micro DFBS V 2.4	L. D. Putnam W. A. Knoblauch S. F. Smith
No. 90-2	Poultry Farm Business Summary, New York, 1988	D. P. Snyder S. Ackerman K. Park
No. 90-3	The Economics of Concord and Niagara Grape Production in the Great Lakes Region of New York, 1989	G. B. White J. S. Kamas
No. 90-4	Agricultural District Legislation in New York as Amended Through 1989	K. V. Gardner
No. 90-5	Agricultural Lending Policy of New York Commercial Banks	J. M. Thurgood E. L. LaDue
No. 90-6	Proceedings of Managing Farm Personnel in the 90's	Bernie Erven Guy Hutt Tom Maloney Bob Milligan
No. 90-7	The U.S. Dairy Situation and Outlook for 1990	Andrew M. Novakovic
No. 90-8	Dairy Farm Business Summary, Northern New York, 1989	Stuart F. Smith Linda D. Putnam
No. 90-9	Dairy Farm Business Summary, Western Plain Region, 1989	Stuart F. Smith Linda D. Putnam
No. 90-10	Dairy Farm Business Summary, Central New York and Central Plain Regions, 1989	Wayne A. Knoblauch Linda D. Putnam