DAIRY FARM BUSINESS SUMMARY

April 1982 A.E. Ext. 82-15

WESTERN PLAIN REGION 1981

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DAIRY FARM BUSINESS SUMMARY

TABLE OF CONTENTS

WESTERN PLAIN REGION
DAIRY FARM BUSINESS SUMMARY

INTRODUCTION

Dairyfarmers throughout New York State submit business records for summarization and analysis through Cooperative Extension's Farm Business Management Program. Each participating farmer receives an individual farm report containing all the management information found in this publication. Averages from a compilation of the individual farm reports are published in ten regional summaries like this one and in one statewide summary. These publications are used by extension personnel, dairy farmers, and agribusiness people working in many segments of the dairy industry.

Primary objectives of the dairy farm business management program are to (1) assist farmers in developing and maintaining more complete farm business data for use in management decisions and (2) help farmers improve their management skills through appropriate use of farm record data and application of modern decision-making techniques. This report is prepared in workbook form for use in the systematic study of individual farm business operations.

The increasing size of New York Dairy farms and the dynamic nature of the economic environment within which they operate make farm incomes increasingly dependent upon the accuracy of management decisions. An assessment of past business performance combined with careful analysis of future economic conditions and goals of the farm business will greatly enhance the operator's profit potential.

The year ahead will not provide improved economic conditions for the dairy farming industry. Milk prices are expected to be down one-half to one percent while production costs may increase six to eight percent. To prevent a serious cost/price squeeze, dairyfarmers must place renewed emphasis on cost control and operating efficiency. The analysis section of this publication, beginning on page 10, is designed to help one determine the strength of productivity, efficiency and cost control on any individual dairy farm business. With careful determination of the business strengths and weaknesses and careful planning of next year's business operations, a dairyfarmer will be in a better position to manage through the challenges of the 1980's.

Business records for 44 farms in the Western Plain region are summarized in this publication. This year the region contains seven counties: Erie, Genesee, Livingston, Monroe, Niagara, Orleans, and Wyoming.

This summary was prepared by Wayne A. Knoblauch, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University, in cooperation with Cooperative Extension specialists Merville Button and George Allhusen, and Cooperative Extension agent David Thorp.

SUMMARY OF THE FARM BUSINESS

Business Characteristics

The combination of resources and management techniques used to put resources to work is an important part of planning. The tables below show important farm business characteristics, the number of farms reporting these characteristics, and the average level of resources used in production.

MANAGEMENT SYSTEMS, PRODUCTION TECHNOLOGY AND FARM SIZE
44 Western Plain Region Dairy Farms, 1981

Type of Business	Number	Business Records	Number	Dairy Records	Number
Proprietorship	29	CAMIS	3	D.H.I.C.	33
Partnership	13	Account Book	18	Owner Sampler	7
Corporation	2	Agrifax	10	Other	3
		Farm Bureau	1	None	1
Owner	39	Agway	8		
Renter	5	Other	4		

Barn Type	Number	Milking System	Number		Number
Stanchion	14	Bucket & Carry	0	Herringbone	26
Freestall	29	Dumping Station	2	Other Parlor	3
Other	1	Pipeline	13		

Labor Force	My Farm	Average	Land Use	My Farm	Average
Operator 1.	_____ mo.	12	Total acres owned	_____	381
2.	_____ mo.	11	Total acres rented	_____	237
3.	_____ mo.	12	Total tillable acres	_____	411
Family paid	_____ mo.	5	Tillable acres rented	_____	192
Family unpaid	_____ mo.	3			
Hired	_____ mo.	23	Number of Cows	My Farm	Average
Total	_____ mo.	48			
Age of operator(s) 1.	_____ yrs.	43	Beginning of year	_____	117
2.	_____ yrs.	37	End of year	_____	124
3.	_____ yrs.	39	Average for year	_____	120

Capital Investment-Farm Inventory represents the market value of resources committed to the farm business at the beginning and end of the year. Increases in inventory occurs with herd expansion, new machinery, and building additions and appreciation of land, buildings and livestock.

CAPITAL INVESTMENT - FARM INVENTORY
44 Western Plain Region Dairy Farms, 1981

Item	My Farm 1/1/81	My Farm 1/1/82	Average 1/1/81	Average 1/1/82
Livestock	$_____	$_____	$162,735	$180,160
Feed & supplies	_____	_____	58,452	63,652
Machinery & equipment	_____	_____	121,021	137,260
Land & buildings	_____	_____	254,334	290,494
TOTAL	$_____	$_____	$596,542	$671,566

Machinery and Real Estate Inventory Calculations

Capital outlays for machinery, buildings, land and land improvements usually occur in large uneven amounts, but depreciate gradually over a period of time. Machinery depreciation is a charge for use of the machinery complement in production. Appreciation in the value of the machinery complement results from inflation in the value of used machinery; it is calculated as a residual.

MACHINERY & EQUIPMENT INVENTORY
44 Western Plain Region Dairy Farms, 1981

Item	My Farm	Average
End of year market value	(1)$_____	$137,260
Beginning market value	$_____	$121,021
Plus machinery purchased	+_____	+ 27,652
Less machinery sold	-_____	- 714
Less depreciation	-_____	- 19,736
Net end investment	(2)$_____	$128,223
APPRECIATION (1 minus 2)	$_____	$ 9,037

The end of year market value of real estate can be verified by starting with the beginning of year value, making adjustments for purchases and sales, depreciation of buildings and any appreciation in land. Lost capital is the difference between the cost of new buildings or land improvements and the amount these improvements added to the value of the farm. It is not included in farm expenses, since building depreciation is based on the full cost of new buildings and will account for lost capital over the life of the investments. Building depreciation is included as a farm expense. Real estate appreciation is the increase in value of real estate caused by demand and inflation.

REAL ESTATE INVENTORY CALCULATIONS
44 Western Plain Region Dairy Farms, 1981

Item	My Farm	Average
Beginning market value	$_____	$254,334
Cost of new real estate	$_____	$36,644
Less lost capital	_____	- 3,646
Value of new added	+_____	+ 32,998
Less building depreciation	-_____	- 9,091
Less real estate sold	-_____	- 2,250
Total without appreciation	$_____	$275,991
Appreciation of beginning real estate	+_____	+ 14,503
End of year market value	$_____	$290,494

Receipts

Receipts from the business should be large enough to cover all expenses and leave a reasonable return for the operator's labor and management. Cash receipts occur when farm products and livestock are sold or services are performed and payment is received during the year. Noncash receipts do not result from sales, but are due to appreciation in value or increases in physical quantities of inventories that could be readily transformed into a cash receipt.

FARM RECEIPTS
44 Western Plain Region Dairy Farms, 1981

Item	My Farm	Ave: Amount	Percent
CASH RECEIPTS			
Milk sales	$_____	$252,467	87
Crop sales	_____	12,256	4
Dairy cattle sold	_____	15,721	5
Calves & other livestock sales	_____	4,714	2
Gas tax refunds	_____	327	<1
Government payments	_____	653	<1
Custom machine work	_____	243	<1
Other	_____	4,219	2
Total Cash Receipts	$_____	$290,600	100
NONCASH RECEIPTS			
Increase in livestock inventory[1]	_____	17,246	
Increase in feed & supplies	_____	5,200	
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION	$_____	$313,046	
Livestock appreciation[2]	_____	179	
Machinery appreciation[3]	_____	9,037	
Real estate appreciation[3]	_____	14,503	
TOTAL FARM RECEIPTS	$_____	$336,765	

[1]The increase in herd market value attributed to a change in numbers and/or a definite change in herd quality.

[2]The increase in herd market value, caused by inflationary price increase

[3]Defined on page 3.

Income Analysis provides a means of examining the income producing capability of the farm business.

INCOME ANALYSIS
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	1981	1980
Average price/cwt. milk sold	$_____	$13.56	$12.69
Milk and cattle sales per cow	_____	$2,274	$2,154
Total cash receipts/worker	_____	$72,650	$73,696

Expenses

All farm expenses, cash operating and overhead, are summarized below.

FARM EXPENSES
44 Western Plain Region Dairy Farms, 1981

Item	My Farm	Ave: Amount	Percent
Hired Labor	$	$ 30,859	14
Feed			
Dairy concentrate		52,258	23
Hay and other		2,193	1
Machinery			
Machine hire		3,781	2
Machinery repairs		13,085	6
Auto expense (farm share)		402	--
Gas & oil		12,050	5
Livestock			
Replacement livestock		4,855	2
Breeding fees		3,323	1
Veterinary & medicine		6,714	3
Milk marketing		6,372	3
Other livestock expense		7,979	4
Crops			
Fertilizer & lime		15,750	7
Seeds & plants		4,705	2
Spray, other crop expense		5,752	3
Real Estate			
Land, building, fence repair		4,228	2
Taxes		5,383	2
Insurance		3,806	2
Rent		7,350	3
Other			
Telephone (farm share)		519	<1
Electricity (farm share)		4,341	2
Interest paid		26,500	12
Miscellaneous		3,167	1
Total Cash Expenses	$	$225,372	100
Decrease in livestock and/or feed	$	$ 0	
Expansion livestock		2,815	
Machinery depreciation		19,736	
Building depreciation		9,091	
Unpaid family labor @ $500/month		1,250	
TOTAL FARM EXPENSES EXCLUDING INT. ON EQUITY CAPITAL	$	$258,264	
Interest on equity capital @ 9%		38,509	
TOTAL FARM EXPENSES	$	$296,773	

Farm Business Profitability

The results of management are reflected in the net return from the business. Four common ways to measure the returns from a farm business are reported here.

Net cash farm income reflects the cash available from the year's operation of the business. Family living has first claim on cash income followed by fixed payments on debts. A family may have additional cash available if they have nonfarm income. Cash flow is not a good measure of farm business profits, but it is useful when planning debt repayment programs. Guidelines for annual cash flow planning are presented on page 9. Monthly cash flow planning is also recommended and may be required in order to identify cash flow problems in the year ahead. This is particularly true when major changes in the business are planned or when the price of important factors such as milk or purchased concentrate are expected to change significantly.

NET CASH FARM INCOME
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	Average 1981	Average 1980
Cash Farm Receipts	$_____	$290,600	$282,256
Cash Farm Expenses	_____	225,372	211,608
NET CASH FARM INCOME	$_____	$ 65,228	$ 70,648

Labor and management income is the return to the operator for his or her labor and management input into the business. A nine percent charge for the use of the operator's equity capital in the business has been included as a farm expense. This interest charge reflects what the operator could have earned from this capital had it been invested elsewhere, such as in bank certificates of deposit. Labor and management income is the measure used most commonly when comparing farm businesses. Appreciation in livestock, machinery and real estate inventories is included as ownership income.

LABOR AND MANAGEMENT INCOME
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	Average 1981	Average 1980
Total farm receipts excluding appreciation	$_____	$313,046	$306,248
Total farm expenses	_____	296,773	278,877
LABOR & MANAGEMENT INCOME	$_____	$ 16,273	$ 27,371
Full-time operator-manager equivalents	_____	1.39	1.50
LABOR & MGT. INCOME/OPERATOR-MANAGER	$_____	$ 11,707	$ 18,247

Labor, management and ownership income per operator reflects the combined return to the farmer for his/her triple role of worker-manager, financier and owner. Again, this is not a measure of the cash flow situation of the farm business. A satisfactory labor, management and ownership income does not eliminate cash flow problems if liabilities are large and repayment is rapid.

LABOR, MANAGEMENT AND OWNERSHIP INCOME
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	Average 1981	Average 1980
Total farm receipts	$_____	$336,765	$334,994
Total farm expenses excluding interest on equity capital	_____	258,264	240,684
LABOR, MANAGEMENT AND OWNERSHIP INCOME PER FARM	$_____	$ 78,501	$ 94,310
Full-time operator-manager equivalents	_____	1.39	1.50
LABOR, MANAGEMENT AND OWNERSHIP INCOME/OPERATOR-MANAGER	$_____	$ 56,476	$ 62,873

Return on equity capital can be computed with or without appreciation Both measures are shown below. To compute the rate of return, divide return on equity capital by farm net worth or equity capital.

RETURN ON EQUITY CAPITAL
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	Average 1981	Average 1980
		Including Appreciation	
Labor, mgt. & ownership income/farm	$_____	$ 78,501	$ 94,310
Less value of operator's labor & mgt.*	_____	24,705	25,074
Return on equity capital	$_____	$ 53,796	$ 69,236
RATE OF RETURN ON $_____ EQUITY	_____%	12.6%	16.3%
		Excluding Appreciation	
Return on equity capital (from above)	$_____	$ 53,796	$ 69,236
Less real estate appreciation	_____	14,503	13,942
Less machinery appreciation	_____	9,037	3,394
Less livestock appreciation	_____	179	11,410
Return on equity capital	$_____	$ 77,515	$ 40,490
RATE OF RETURN EXCLUDING APPRECIATION	_____%	7.0%	9.5%

*Value of operator's labor and management estimated by operators.

Farm Family Financial Situation

The financial situation is an important part of the farm business summary. It has a direct affect on current cash outflow and future capital investment decisions. A farmer may have a good labor and management income, but high debt payments may restrict management flexibility. Farm Net Worth is Total Farm Assets less Total Farm Liabilities. Family Net Worth is Total Assets less all Liabilities reported.

FARM FAMILY FINANCIAL SITUATION
44 Western Plain Region Dairy Farms, 1981

Item	My Farm	Average Per Farm
Assets		
Livestock	$_____	$180,160
Feed and supplies	_____	63,652
Machinery and equipment	_____	137,260
Land and buildings	_____	290,494
Co-op investments	_____	12,253
Accounts receivable	_____	22,170
Cash and checking accounts	_____	3,888
Total Farm Assets	$_____	$709,877
Savings Accounts	$_____	$ 2,951
Cash value life insurance	_____	4,594
Stocks and bonds	_____	1,114
Nonfarm real estate	_____	2,961
Auto (personal share)	_____	1,700
All other	_____	9,063
Total Nonfarm Assets	$_____	$ 22,383
TOTAL ASSETS	$_____	$732,260
Liabilities		
Real estate	$_____	$126,788
Cattle & equipment	_____	97,467
Installment contract	_____	8,912
Other loans over 10 years	_____	11,986
Other loans 1 to 10 years	_____	14,799
Other loans less than 1 year	_____	15,442
Feed store accounts		2,472
Other accounts	_____	4,131
Total Farm Liabilities	$_____	$281,997
Nonfarm Liabilities	_____	1,564
TOTAL LIABILITIES	$_____	$283,561
FARM NET WORTH (EQUITY CAPITAL)	$_____	$427,880
FAMILY NET WORTH	$_____	$448,699

Payment ability is the most important consideration in determining if and how proposed investments should be financed. The farm business must produce sufficient cash income to meet operating expenses, to cover family or personal living expenses, to make payments on debts and to cover cash purchases of capital items that occur during the year.

Payment ability is estimated in the following table. Interest paid and income from off-farm work are added to net cash farm income because planned or budgeted debt payments will include interest as well as principal. Estimate family living expenses for your farm to calculate cash available for debt payment and capital purchases made in cash.

Debt payments planned are the scheduled debt payments as of January. Some farms in the group had scheduled debt payments exceeding 50 percent of the milk receipts. Committing this much cash inflow to debt payments can put a "big squeeze" on cash available for operating the business and family living.

FINANCIAL MEASURES & DEBT COMMITMENT
44 Western Plain Region Dairy Farms, 1981

Item	My Farm	Average
Payment Ability		
Net cash farm income	$_____	$65,228
Plus interest paid	_____	26,500
Plus off-farm income	_____	521
CASH AVAILABLE FOR DEBT SERVICE AND LIVING	$_____	$92,249
Less family living expenses*	_____	24,968
CASH AVAIL. FOR DEBT PAYMT. & CAP. PURCH.	$_____	$67,281
Scheduled Annual Debt Payments		
Real estate mortgage	$_____	$19,015
Cattle and equipment liens	_____	29,812
Installment contracts	_____	3,179
Other loans over 10 years	_____	2,342
Other loans 1 to 10 years	_____	6,374
Other loans	_____	6,578
TOTAL PAYMENTS PLANNED 1982	$_____	$67,300
Measures of Debt Commitment & Equity Position		
Farm debt payments planned per cow	$_____	$ 543
Farm debt pymts. planned as % of milk sales	_____ %	27%
Farm debt per cow	$_____	$ 2,274
Percent equity (total)	_____ %	61%

*Estimated as $9,600 per family plus four percent of cash farm receipts.

ANALYSIS OF THE FARM BUSINESS

In analyzing a farm business, a manager must consider measures or factors that reflect the performance of specified parts of the farm business. One method of doing this is to look at factors of size, production, labor efficiency, capital efficiency and cost control. These factors are considered on the following pages.

Size of Business

Studies have shown that, in general, larger farms are more profitable than smaller farms. Two basic reasons are that larger businesses make possible more efficient use of overhead inputs such as labor and machinery and there are more units of production on which to make a profit. Another reason is that profitable farm businesses with good management have the ability and incentive to become larger. Large farms are not necessarily more profitable and size increases are only profitable with good management.

MEASURES OF SIZE OF BUSINESS
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	Average 1981	Average 1980
Number of cows	_____	120	122
Number of heifers	_____	96	94
Pounds of milk sold	_____	1,861,300	1,863,700
Worker equivalent	_____	4.0	3.8
Total work units	_____	1,359	1,381
Total tillable acres	_____	411	437

In the table below, the 600 New York farms for 1980 are sorted by number of cows and the labor income is shown for each size group. In general, the large farms paid better, but, variability of income was significant.

COWS PER FARM AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Number of Cows	Number of Farms	Percent of Farms	Labor & Management Income Per Operator	Per Cow
Under 40	94	16	-$ 2,404	-$ 82
40 - 54	147	25	- 1,111	- 26
55 - 69	128	21	1,282	27
70 - 84	77	13	- 1,532	- 25
85 - 99	38	6	923	14
100 - 114	26	4	7,434	97
115 - 129	24	4	5,420	62
130 - 149	19	3	- 1,484	- 16
150 - 179	24	4	6,361	58
180 - 199	9	2	17,897	129
200 & over	14	2	24,291	149

Rates of Production

Crop yields and rates of animal production are factors that affect farm incomes. In the table below, we examine the crops grown and yields along with the pounds of milk sold per cow.

CROP YIELDS & MILK SOLD PER COW
44 Western Plain Region Dairy Farms, 1981

Crop	My Farm		Average of Farms Reporting		
	Acres	Yield	Farms	Acres	Yield/Acre
Baled hay	_____		30	74	(combined
Hay crop silage	_____		34	129	below)
Corn silage	_____	_____	42	87	15.6 tons
Other forage	_____	_____	5	37	1.6 tons D.M.
Grain corn	_____	_____	42	110	96.5 bushels
Oats	_____	_____	22	39	72.4 bushels
Wheat	_____	_____	15	48	55.0 bushels
Other crops	_____	_____	9	35	
Tillable pasture	_____		16	23	
Idle tillable land	_____		18	37	
Dry matter:					
All hay crops	_____	_____	44	150	3.2 tons D.M.
All forage crops	_____	_____	44	237	3.9 tons D.M.
Milk sold per cow	_____			15,511 lbs.	

Tons of dry matter of all hay and silage is a good measure of the overall rate of forage production.

The importance of strong milk output per cow is shown in the table below.

MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Feed Bought Per Cow	Labor & Management Income	
				Per Operator	Per Cow
Under 10,000	24	50	$319	-$8,433	-$211
10,000 - 10,999	20	53	393	- 5,816	- 148
11,000 - 11,999	40	60	467	- 3,926	- 75
12,000 - 12,999	68	63	465	- 8,140	- 150
13,000 - 13,999	91	78	477	1,789	30
14,000 - 14,999	137	85	483	5,527	83
15,000 - 15,999	102	77	541	3,561	56
16,000 & over	118	77	572	4,584	76

Labor Efficiency

Labor input is an important factor in farm production. Several measures of accomplishment per worker (labor efficiency) are shown below.

MEASURES OF LABOR EFFICIENCY
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	Average 1981	Average 1980
Worker equivalent	_____	4.0	3.8
Cows per worker	_____	30	32
Lbs. milk sold per worker	_____	465,325	486,600
Work units per worker	_____	340	361

Number of cows per worker is calculated by dividing the average number of cows by the worker equivalent which represents the total farm labor force. Pounds of milk sold per worker is an important measure of labor efficiency on the dairy farm. It measures the ability of the labor force to handle a large number of cows without sacrificing milk output per cow.

It is important to look at other measures of labor efficiency, such as work units per worker because all dairy farms do not have the same relationship between cows, heifers, and crops grown.

Labor efficiency depends on a number of things. Among these are the amount of mechanization, the field and building layout, the work methods, and the abilities of the workers. All of these are management items under the control of the operator.

Another factor which may influence the productivity of labor is the wage paid to employees. A productive employee will require a reasonable and competitive wage.

MILK SOLD PER WORKER AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Pounds of Milk Sold Per Worker	Number of Farms	Number of Cows	Lbs. Milk Per Cow	Labor & Management Income Per Operator	Labor & Management Income Per Cow
Under 250,000	76	41	11,800	-$ 5,551	-$171
250,000 - 299,999	66	51	12,900	- 4,514	- 108
300,000 - 349,999	86	59	14,000	- 132	- 3
350,000 - 399,999	108	67	14,300	- 790	- 15
400,000 - 449,999	87	76	14,800	2,645	41
450,000 - 499,999	57	86	14,800	1,936	26
500,000 - 599,999	79	103	15,100	8,868	112
600,000 & over	41	154	15,100	13,947	119

Capital Efficiency

Capital is a key resource and a manager must continually analyze its use in the business. The measures of capital efficiency shown in the following table include owned as well as borrowed capital. It is possible for the business to be undercapitalized, but investing too much capital per productive unit is a more common problem.

MEASURES OF CAPITAL EFFICIENCY
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	Average 1981	Average 1980
Farm capital per worker	$_____	$167,892	$164,340
Farm capital per cow	$_____	$5,416	$4,956
Land & buildings per cow	$_____	$2,343	$2,007
Land & buildings/tillable acre owned	$_____	$1,092	$796
Machinery investment per cow	$_____	$1,107	$1,049
Machinery per tillable acre	$_____	$334	$305
Capital turnover	_____yrs.	2.0 yrs.	1.9 yrs.

Land and building investment per crop acre owned shows the relationship between investments in land and buildings. The farmer who owns little cropland but builds many farm buildings will have a relatively large land and building investment per crop acre owned. This could be an indication that capital use is out of balance.

Capital turnover is calculated by dividing the total farm capital (total year end farm inventory) by the total farm receipts for the year The factor is called capital turnover because it measures the number of years of receipts needed to equal or "turnover" farm capital. A fast rate of turnover is more desirable than a slow rate because it means capital purchases can be paid off at a faster rate. This figure also depends upon the enterprise selection of the business.

CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Capital Turnover Rate - Years	Number of Farms	Number of Cows	Capital Investment Per Cow	Capital Investment Per Worker	Labor & Mgmt. Income Per Operator
Less than 1.5	15	112	$3,280	$113,230	$14,481
1.5 to 1.99	122	95	4,550	139,340	6,163
2.0 to 2.49	246	75	5,530	161,630	5,129
2.5 to 2.99	146	63	6,270	177,660	- 4,572
3.0 to 3.49	42	58	7,440	187,630	- 8,598
3.5 and over	29	44	7,880	198,150	- 15,521

Cost Control

The control of costs is a big factor in the success of modern commercial dairy operations. Feed, machinery and labor costs are major items and are examined in detail. However, it is important to check all cost items both large and small. Expenses should be incurred only when the returns from the expense are expected to be greater than the cost incurred.

Feed Costs

Purchased feed is the largest single expenditure on most dairy farms. Two considerations are important in keeping the feed bill down: (1) Be careful that only nutrients required by the cow are being fed. A dairy farmer cannot afford to buy a feed mix that overfeeds energy or protein. (2) Be certain that the required nutrients are being obtained from their cheapest source. For example, what is the cheapest source of protein? urea? soybean meal? a commercial protein? Help in answering these questions can come from budgeting, from agribusiness people selling feeds, and from dairy and management extension agents. Extension is supporting two computerized decision aids to assist in answering these questions: a NEWPLAN program of Least-Cost Balanced Dairy Rations, and the NYDHIC forage balancing program.

The size and productivity of the crop program has an important influence on the size of the purchased feed bill. Increased production of either roughages or grains should reduce the purchased feed expense unless cow numbers are increased. Also, heifer raising practices affect feed costs. The overall feed situation must be examined and evaluated as a "system".

FEED COSTS AND RELATED MEASURES
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	Average 1981	Average 1980
Dairy concentrate purchased per cow	$_____	$435	$406
Dairy concentrate purchased per cwt. of milk sold	$_____	$2.81	$2.66
Percent dairy concentrate is of milk receipts	_____ %	21%	21%
Crop expense per cow	$_____	$218	$202
Feed & crop expense/cwt. milk	$_____	$4.22	$3.98
Forage dry matter harvested/cow (tons)	_____	7.8	8.8
Acres of forage per cow	_____	2.0	2.1
Total tillable acres per cow	_____	3.4	3.6
Fertilizer and lime/tillable acre	$_____	$38	$33
Heifers as % of cow numbers	_____ %	80%	77%

Machinery, Labor and Miscellaneous Costs

Labor and machinery operate as a team on a modern farm. The challenge is to obtain an efficient combination that will result in a reasonable cost per unit of output.

MACHINERY & LABOR COSTS
Western Plain Region Dairy Farms, 1981 & 1980

Item		My Farm	Average 1981	Average 1980
Machinery:	Depreciation[1]	$_____	$19,736	$18,384
	Interest[2]	_____	11,623	11,188
	Operating expense[3]	_____	29,318	29,587
Total machinery		$_____	$60,677	$59,159
	Per cow	_____	506	485
	Per tillable acre	_____	148	135
Labor:	Value of operators[4]	$_____	$12,511	$13,500
	Unpaid family[5]	_____	1,250	1,000
	Hired	_____	30,859	28,536
Total labor		$_____	$44,620	$43,036
	Per cow	_____	372	353
	Per cwt. milk	_____	2.40	2.31
Labor & machinery costs/cwt. milk		$_____	$5.66	$5.48

[1]Regular depreciation from last year's tax plus 10 percent of new purchases.
[2]Nine percent of average machinery investment.
[3]Machine hire, repairs, farm share auto expense, and gas and oil.
[4]$750 per month.
[5]$500 per month.

MISCELLANEOUS COST CONTROL MEASURES
Western Plain Region Dairy Farms, 1981 & 1980

Item	My Farm	Average 1981	Average 1980
Livestock expense per cow	$_____	$203	$188
Real estate expense per cow	$_____	$173	$155
Total farm expense per cow	$_____	$2,473	$2,286

Livestock expense per cow includes breeding fees, veterinary and medicine, milk marketing, dairy supplies, bedding and DHIC fees. Real estate expenses include repairs, taxes, insurance and rent.

YEARLY CASH FLOW PLANNING & ANALYSIS

The worksheet below is a valuable tool in planning expansions and for setting goals for improving the farm business. The average is from 44 Western Plain region farms except where owner costs are indicated.

Item	Average Per Cow	My Farm, Per Cow	My Farm, Total	Cows Goal
CASH RECEIPTS				
Milk sales	$2,104	$	$	$
Crop sales	102			
Dairy cattle	131			
Calves & other livestock	39			
Other	45			
Total Cash Receipts	$2,421	$	$	$
CASH EXPENSES				
Hired labor	$ 257	$	$	$
Dairy concentrate	435			
Hay and other	18			
Machine hire	32			
Machine repair & auto expense	112			
Gas & oil	100			
Replacement livestock	40			
Breeding fees	28			
Vet & medicine	56			
Milk marketing (ADA, Dues)	53			
Other livestock expense	66			
Fertilizer & lime	131			
Seeds & plants	39			
Spray & other	48			
Land, bldg. fence repair (owner)	35			
Taxes (owner)	45			
Insurance (owner)	32			
Rent (owner)	61			
Telephone (farm share)	4			
Electricity (farm share)	36			
Miscellaneous	26			
Total Cash Expenses[1]	$1,654	$	$	$
Total Cash Receipts	$2,421			
Total Cash Expenses[1]	-1,654	-	-	-
Net Cash Flow	$ 767	$	$	$
Cash Family Living Expense[2]	- 208	-	-	-
Amount Left for Debt Service, Capital Investment & Retained Earnings	$ 559	$	$	$
Scheduled Debt Service	- 543	-	-	-
Available for Capital Investment	$ 16	$	$	$
Planned Expansion Livestock Purch.				
Planned Equipment Purchase				
Borrowed or Equity Funds Needed		$	$	$

[1]Interest paid excluded for it is contained in Scheduled Debt Service.

[2]Estimated: $9,600 per family and four percent of cash farm receipts.

PROGRESS OF THE FARM BUSINESS

Comparing your business with that of other farmers is one part of a business checkup. It is equally important to compare your current year's business with that of earlier years to show the progress you are making, and to plan ahead, by setting business targets or goals.

Item	1979	1980	1981	1982 Goal
Size of Business				
Number of cows				
Number of heifers				
Pounds of milk sold				
Worker equivalent				
Total tillable acres				
Rates of Production				
Lbs. milk sold per cow				
Tons hay D.M. per acre				
Tons corn silage per acre				
Labor Efficiency				
Cows per worker				
Lbs. milk sold per worker				
Cost Control				
Purch. feed as % milk sold	$	$	$	$
Feed & crop exp./cwt. milk	$	$	$	$
Labor & mach. cost per cow	$	$	$	$
Capital Efficiency				
Farm capital per cow	$	$	$	$
Capital turnover	$	$	$	$
Price				
Price per cwt. milk	$	$	$	$
Financial Summary				
Net cash farm income	$	$	$	$
Labor & mgmt. inc./oper.	$	$	$	$
Farm net worth	$	$	$	$
Rate of return on equity	%	%	%	%
Percent equity	%	%	%	%
Farm debt per cow	$	$	$	$

MEASURE YOUR PERFORMANCE

After you have entered your farm business data on the pages of this workbook, categorize your farm business performance into three groups. List the strong points, those which indicate average performance and those areas which need improvement. Your business factors that exceed the regional average should be listed as strong points, factors that are close to the regional average should be identified as average, and factors that are below average should be listed under need improvement.

The Farm Business Chart on the next page can also be used to identify strengths and weaknesses by comparing your business with a large number of New York dairy farms summarized for the previous year. It is recommended that you use more than one standard for comparison when analyzing the farm business.

STRONG POINTS:

_____

_____

_____

_____

AVERAGE:

_____

_____

_____

_____

NEED IMPROVEMENT:

_____

_____

_____

After identifying opportunities for improvement, consider alternative ways of solving each problem. List each alternative and analyze the consequences in detail. Extension conducts many schools, meetings, and provides many printed materials that should be of assistance. Local agribusinesses often provide helpful information and assistance. Seek out information related to the problem under consideration.

Another way to measure your management performance is to compare your current business factors with those from previous years. Page 17 is provided for this purpose. Answering the following questions may also help evaluate your farm business progress.

1) Do livestock numbers, labor force, and crop acres make up a well balanced unit of resources?

2) Have rates of production shown a steady increase?

3) When will milk output per worker reach 600,000 pounds?

4) Have increases in costs been limited to the effects of inflation?

5) Is growth in net worth keeping up with increased capital investment?

6) Is net cash farm income increasing fast enough to meet your needs?

7) Have you reached the business goals set for 1981 and have you set new goals for 1982?

MANAGEMENT PERFORMANCE OF STATEWIDE COOPERATORS

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 ten percent of the 600 farms for that factor. The other figures in each column are the average for the second ten percent, third ten percent, etc. Each column of the chart is independent of the others. The farms which are in the top ten percent for one factor would not necessarily be the same farms which make up the top ten percent for any other factor.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
600 New York Dairy Farms, 1980

Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons D.M./ Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
5.3	185	2,773,200	17,600	4.5	21	44	641,600
3.7	113	1,642,100	16,400	3.5	18	36	529,500
3.2	86	1,261,400	15,600	3.1	16	32	472,700
2.8	73	1,073,300	15,100	2.8	15	29	428,000
2.5	64	942,500	14,600	2.6	15	27	396,300
2.3	58	831,800	14,200	2.3	14	26	368,400
2.0	52	736,300	13,600	2.0	13	24	338,500
1.9	45	629,100	13,000	1.8	11	22	303,900
1.6	39	512,300	12,100	1.5	9	20	262,100
1.3	30	358,700	10,000	1.2	5	16	194,300

Feed Bought Per Cow	% Feed is of Milk Receipts	Machinery Cost Per Cow	Labor and Machinery Cost Per Cow	Feed and Crop Expense Per Cwt. Milk
$223	13	$242	$ 524	$2.77
333	19	308	611	3.48
395	23	344	659	3.87
443	25	374	703	4.17
485	27	403	740	4.42
528	29	438	777	4.64
570	31	468	814	4.93
611	33	503	870	5.20
671	36	560	943	5.50
792	41	686	1,112	6.26

The cost control factors are ranked from low to high, but the lowest cost is not necessarily the most profitable. Many things affect the level of costs, and these items must be taken into account when analyzing the factors.

FARM BUSINESS SUMMARY BY HERD SIZE
600 New York Dairy Farms, 1980

Item	Farms with: Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows
Capital Investment (end of year)				
Livestock	$ 54,339	$ 78,545	$101,619	$121,590
Feed & supplies	9,559	16,998	24,639	32,756
Machinery & equipment	38,191	56,972	70,913	83,426
Land & buildings	104,763	141,412	181,640	218,856
TOTAL INVESTMENT	$206,852	$293,927	$378,811	$456,628
Receipts				
Milk sales	$ 54,745	$ 85,404	$116,064	$141,913
Dairy cattle sold	4,961	7,471	8,960	11,901
Other livestock sales	1,515	2,000	2,417	3,144
Crop sales	279	833	1,162	1,464
Miscellaneous receipts	685	1,508	1,809	2,399
Total Cash Receipts	$ 62,185	$ 97,216	$130,412	$160,821
Increase in livestock	2,453	3,562	5,183	5,991
Increase in feed & supplies	953	2,523	3,754	5,009
Appreciation	13,219	15,782	20,285	23,790
TOTAL FARM RECEIPTS	$ 78,810	$119,083	$159,634	$195,611
TOTAL FARM REC. EXCL. APPREC.	$ 65,591	$103,301	$139,349	$171,821
Expenses				
Hired labor	$ 1,521	$ 4,397	$ 6,489	$ 12,538
Dairy feed	16,643	24,351	31,706	36,913
Other feed	961	1,242	823	1,444
Machine hire	419	798	1,074	1,199
Machinery repair	2,387	3,913	5,906	7,274
Auto expense (farm share)	383	367	433	380
Gas & oil	2,433	3,399	4,983	6,110
Replacement animals	1,475	2,821	2,749	1,779
Breeding fees	702	1,125	1,547	1,930
Veterinary & medicine	1,046	1,710	2,189	2,639
Milk marketing	1,342	2,154	3,271	4,151
Other livestock expense	2,059	3,459	4,545	5,359
Fertilizer & lime	1,902	3,739	5,912	7,882
Seeds & plants	582	1,285	1,712	2,398
Spray & other crop expense	546	873	1,443	1,838
Land, bldg., fence repair	1,274	1,387	2,004	2,789
Taxes & insurance	2,703	3,910	4,953	7,017
Electricity & phone (farm share)	1,520	2,147	2,653	3,316
Interest paid	4,913	8,653	10,440	12,504
Miscellaneous expenses	1,526	2,193	3,466	4,141
Total Cash Expenses	$ 46,337	$ 73,923	$ 98,298	$123,601
Expansion livestock	1,209	761	1,371	3,627
Machinery depreciation	4,770	7,491	9,539	11,862
Building depreciation	1,688	2,624	3,297	4,541
Unpaid family labor	1,500	2,000	2,000	2,000
Interest on equity @ 9%	12,779	17,735	23,178	28,090
TOTAL FARM EXPENSES	$ 68,283	$104,534	$137,683	$173,721
Financial Summary				
NET CASH FARM INCOME	$ 15,848	$ 23,293	$ 32,114	$ 37,220
Labor & Management Income	-$ 2,692	-$ 1,233	$ 1,666	-$ 1,900
Number of Operators	1.1	1.1	1.3	1.2
LABOR & MGMT. INCOME/OPER.	-$ 2,404	-$ 1,111	$ 1,282	-$ 1,532
LABOR, MGMT. & OWNSHP. INC./OPER.	$ 20,809	$ 29,085	$ 34,715	$ 40,306

FARM BUSINESS SUMMARY BY HERD SIZE
600 New York Dairy Farms, 1980

Item	Farms with: 85 to 99 cows	100 to 114 cows	115 to 129 cows	130 to 149 cows	150 or more cows
Capital Investment (end of year)					
Livestock	$140,537	$163,684	$178,490	$211,769	$291,447
Feed & supplies	35,689	46,833	56,236	64,004	84,542
Machinery & equipment	90,559	105,440	112,871	129,847	171,375
Land & buildings	218,883	257,788	277,605	306,443	467,004
TOTAL INVESTMENT	$485,668	$573,745	$625,202	$712,063	$1,014,368
Receipts					
Milk sales	$162,772	$204,439	$220,211	$255,592	$373,858
Dairy cattle sold	13,068	15,801	15,741	23,150	28,378
Other livestock sales	3,223	3,914	4,608	4,048	6,738
Crop sales	1,602	3,056	4,640	2,946	6,789
Miscellaneous receipts	2,337	3,207	3,195	3,328	6,341
Total Cash Receipts	$183,002	$230,417	$248,395	$289,064	$422,104
Increase in livestock	4,407	9,435	8,385	8,284	19,153
Increase in feed & supplies	6,316	7,987	8,356	10,223	12,677
Appreciation	25,912	35,349	36,672	44,532	55,233
TOTAL FARM RECEIPTS	$219,637	$283,188	$301,808	$352,103	$509,167
TOTAL FARM REC. EXCL. APPREC.	$193,725	$247,839	$265,136	$307,571	$453,934
Expenses					
Hired labor	$ 14,518	$ 18,271	$ 23,093	$ 28,845	$ 48,842
Dairy feed	45,420	54,403	62,330	71,320	92,339
Other feed	3,143	952	2,034	1,500	3,882
Machine hire	1,381	1,606	1,283	1,653	3,272
Machinery repair	8,371	10,817	11,088	15,192	18,418
Auto expense (farm share)	549	487	445	395	455
Gas & oil	7,642	8,932	9,906	10,570	15,233
Replacement animals	2,562	3,414	1,579	7,116	10,283
Breeding fees	1,731	2,453	2,224	3,354	4,645
Veterinary & medicine	2,786	3,437	4,165	4,803	7,328
Milk marketing	3,916	6,073	6,293	7,985	9,647
Other livestock expense	5,605	6,965	7,652	11,088	12,260
Fertilizer & lime	8,694	11,640	12,865	14,227	20,369
Seeds & plants	2,375	3,432	4,022	4,700	6,111
Spray & other crop expense	1,927	2,945	2,917	3,797	5,370
Land, bldg., fence repair	3,103	2,791	3,343	2,720	5,399
Taxes & insurance	6,613	8,213	9,186	9,178	13,501
Electricity & phone (farm share)	3,486	4,581	4,688	5,590	6,182
Interest paid	16,952	19,752	17,825	22,182	32,036
Miscellaneous expenses	5,055	4,951	6,739	8,806	10,615
Total Cash Expenses	$145,829	$176,115	$193,677	$235,021	$326,187
Expansion livestock	1,026	4,792	419	0	4,210
Machinery depreciation	11,984	14,373	17,077	19,468	27,020
Building depreciation	5,335	6,702	6,729	8,986	13,058
Unpaid family labor	2,000	1,000	500	1,000	500
Interest on equity @ 9%	26,296	34,598	39,308	45,322	61,958
TOTAL FARM EXPENSES	$192,470	$237,580	$257,710	$309,797	$432,933
Financial Summary					
NET CASH FARM INCOME	$ 37,173	$ 54,302	$ 54,718	$ 54,043	$ 95,917
Labor & Management Income	$ 1,255	$ 10,259	$ 7,426	-$ 2,226	$ 21,001
Number of Operators	1.4	1.4	1.4	1.5	1.5
LABOR & MGMT. INCOME/OPER.	$ 923	$ 7,434	$ 5,420	-$ 1,484	$ 14,001
LABOR, MGMT. & OWNSHP. INC./OPER.	$ 39,311	$ 58,120	$ 60,880	$ 58,419	$ 92,128

SELECTED BUSINESS FACTORS BY HERD SIZE
600 New York Dairy Farms, 1980

Item	Farms with: Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows
Number of farms	94	147	128	77
Size of Business				
Number of cows	33	47	62	76
Number of heifers	26	35	46	59
Pounds of milk sold	431,000	669,300	905,600	1,110,600
Worker equivalent	1.6	2.0	2.4	2.9
Total work units	368	525	687	853
Total tillable acres	122	169	218	255
(Tillable acres rented)	(34)	(41)	(64)	(80)
Rates of Production				
Milk sold per cow	13,000	14,200	14,600	14,600
Tons hay crops per acre	1.9	2.2	2.4	2.5
Tons corn silage per acre	13.0	13.9	13.3	14.0
Bushels of oats per acre	47	51	59	55
Labor Efficiency				
Cows per worker	21	24	26	26
Pounds milk sold per worker	272,700	334,600	374,200	380,300
Work units per worker	233	263	284	292
Feed Costs				
Feed purchased per cow	$504	$518	$511	$486
Crop expense per cow	$92	$125	$146	$159
Feed cost per cwt. milk	$3.86	$3.64	$3.50	$3.32
Feed & crop exp. per cwt. milk	$4.56	$4.52	$4.50	$4.41
% feed is of milk receipts	30%	29%	27%	26%
Hay equivalent per cow	7.0T	8.2T	8.4T	8.4T
Tillable acres per cow	3.7	3.6	3.5	3.4
Fertilizer & lime/crop acre	$16	$22	$27	$31
Machinery & Labor Costs				
Total machinery costs	$13,556	$20,786	$27,915	$33,936
Machinery cost per cow	$411	$442	$450	$447
Machinery cost per cwt. milk	$3.15	$3.11	$3.08	$3.06
Labor cost per cow	$387	$344	$330	$339
Labor cost per cwt. milk	$2.96	$2.41	$2.26	$2.32
Capital Efficiency				
Investment per worker	$130,919	$146,964	$156,533	$156,379
Investment per cow	$5,910	$6,123	$5,919	$5,700
Investment per cwt. milk	$48	$44	$42	$41
Land & buildings per cow	$2,993	$2,946	$2,838	$2,736
Machinery investment per cow	$1,091	$1,187	$1,108	$1,043
Capital turnover	2.6	2.5	2.4	2.3
Other				
Price per cwt. milk sold	$12.70	$12.76	$12.82	$12.78
Acres hay crops	81	101	123	135
Acres corn silage	22	35	45	62

SELECTED BUSINESS FACTORS BY HERD SIZE
600 New York Dairy Farms, 1980

Item	Farms with: 85 to 99 cows	100 to 114 cows	115 to 129 cows	130 to 149 cows	150 or more cows
Number of farms	38	26	24	19	47
Size of Business					
Number of cows	90	106	120	139	198
Number of heifers	73	75	103	105	138
Pounds of milk sold	1,260,700	1,568,400	1,723,500	1,969,700	1,932,800
Worker equivalent	3.0	3.5	3.6	4.1	5.1
Total work units	1,024	1,145	1,361	1,514	2,126
Total tillable acres	319	321	386	403	560
(Tillable acres rented)	(122)	(122)	(133)	(171)	(167)
Rates of Production					
Milk sold per cow	14,000	14,700	14,300	14,100	14,800
Tons hay crops per acre	2.6	2.6	2.5	2.6	2.9
Tons corn silage per acre	14.6	14.8	16.4	15.7	16.0
Bushels of oats per acre	60	60	59	77	70
Labor Efficiency					
Cows per worker	30	30	34	34	39
Pounds milk sold per worker	420,200	448,100	481,400	482,700	577,300
Work units per worker	341	327	380	371	419
Feed Costs					
Feed purchased per cow	$505	$513	$519	$513	$466
Crop expense per cow	$144	$170	$165	$163	$161
Feed cost per cwt. milk	$3.60	$3.47	$3.62	$3.62	$3.15
Feed & crop exp. per cwt. milk	$4.63	$4.62	$4.77	$4.77	$4.23
% feed is of milk receipts	28%	27%	28%	28%	25%
Hay equivalent per cow	8.8T	7.5T	8.3T	8.1T	8.1T
Tillable acres per cow	3.5	3.0	3.2	2.9	2.8
Fertilizer & lime/crop acre	$27	$36	$33	$35	$36
Machinery & Labor Costs					
Total machinery costs	$37,490	$45,157	$49,370	$58,135	$78,939
Machinery cost per cow	$417	$426	$411	$418	$399
Machinery cost per cwt. milk	$2.97	$2.88	$2.86	$2.95	$2.69
Labor cost per cow	$317	$302	$297	$312	$317
Labor cost per cwt. milk	$2.26	$2.04	$2.07	$2.20	$2.14
Capital Efficiency					
Investment per worker	$161,889	$163,927	$174,637	$174,525	$199,679
Investment per cow	$5,222	$5,312	$5,002	$5,015	$4,948
Investment per cwt. milk	$39	$37	$36	$36	$35
Land & buildings per cow	$2,354	$2,387	$2,221	$2,158	$2,278
Machinery investment per cow	$974	$976	$903	$914	$836
Capital turnover	2.2	2.0	2.1	2.0	2.0
Other					
Price per cwt. milk sold	$12.91	$13.03	$12.78	$12.98	$12.75
Acres hay crops	174	159	185	186	240
Acres corn silage	64	74	92	120	161

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
600 New York Dairy Farms, January 1, 1981

Item	Farm with: Less than 40 cows	40 to 54 cows	55 to 69 cows	70 to 84 cows	85 to 99 cows
Number of farms	94	147	128	77	38
Assets					
Livestock	$ 54,339	$ 78,545	$101,619	$121,590	$140,537
Feed & supplies	9,559	16,998	24,639	32,756	35,689
Machinery & equipment	38,191	56,972	70,913	83,426	90,559
Land & buildings	104,763	141,412	181,640	218,856	218,883
Co-op investment	672	2,611	3,168	5,927	5,770
Accounts receivable	4,134	7,184	9,495	12,226	13,955
Cash & checking accounts	1,934	2,066	2,929	2,645	3,179
Total Farm Assets	$213,592	$305,788	$394,403	$477,426	$508,572
Savings accounts	3,555	2,822	3,926	5,183	2,027
Cash value life insurance	3,287	3,315	2,574	2,995	2,861
Stocks & bonds	3,071	2,288	2,396	3,707	1,434
Nonfarm real estate	3,505	2,271	4,079	13,965	4,724
Auto (personal share)	1,061	1,230	1,392	1,541	1,591
All other	5,484	5,921	5,553	6,114	4,788
Total Nonfarm Assets	$ 19,963	$ 17,847	$ 19,920	$ 33,505	$ 17,425
TOTAL ASSETS	$233,555	$323,635	$414,323	$510,931	$525,997
Liabilities					
Real estate mortgage	$ 40,301	$ 64,598	$ 80,059	$100,920	$115,538
Liens on cattle & equipment	21,792	34,044	42,995	47,991	80,831
Installment contracts	2,170	3,347	3,901	6,712	3,835
Other loans over 10 years	461	574	1,400	1,007	3,183
Other loans 1 to 10 years	3,110	2,208	2,772	2,703	4,628
Other loans less than 1 year	1,698	827	2,112	1,927	2,953
Feed store & other accounts	2,076	3,140	3,635	4,055	5,423
Total Farm Liabilities	$ 71,608	$108,738	$136,874	$165,315	216,391
Total Nonfarm Liabilities	815	917	1,563	873	1,335
TOTAL LIABILITIES	$ 72,423	$109,655	$138,437	$166,188	$217,726
Farm Net Worth (Equity Cap.)	$141,984	$197,050	$257,529	$312,111	$292,181
FAMILY NET WORTH	$161,132	$213,980	$275,886	$344,743	$308,271
Financial Measures					
Percent equity	69%	66%	67%	67%	59%
Farm debt per cow	$2,046	$2,265	$2,139	$2,066	$2,327
Available for debt service & living	$23,008	$33,182	$43,169	$50,873	$54,751
Scheduled annual debt payment	$13,305	$20,758	$27,433	$32,891	$43,150
Scheduled debt payment/cow	$380	$432	$429	$411	$464
Payment as % of milk check	24%	24%	24%	23%	27%
Debt/Asset ratio - long term	0.39	0.46	0.45	0.47	0.54
Debt/Asset ratio - intermediate	0.28	0.26	0.25	0.24	0.33
Cash flow coverage ratio	0.79	0.93	0.96	1.02	0.82

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
600 New York Dairy Farms, January 1, 1981

Item	Farm with: 100 to 114 cows	115 to 129 cows	130 to 149 cows	150 or more cows
Number of farms	26	24	19	47
Assets				
Livestock	$163,684	$178,490	$211,769	$ 291,447
Feed & supplies	46,833	56,236	64,004	84,542
Machinery & equipment	105,440	112,871	129,847	171,375
Land & buildings	257,788	277,605	306,443	467,004
Co-op investment	10,227	6,690	14,429	15,212
Accounts receivable	18,853	16,996	21,478	32,337
Cash & checking accounts	2,019	4,480	3,346	5,007
Total Farm Assets	$604,844	$653,368	$751,316	$1,066,924
Savings accounts	3,331	4,504	4,549	5,215
Cash value life insurance	2,119	4,549	6,421	4,400
Stocks & bonds	8,554	4,399	1,168	7,715
Nonfarm real estate	6,654	4,250	11,053	12,632
Auto (personal share)	1,069	1,344	1,026	3,548
All other	4,959	10,237	12,361	7,820
Total Nonfarm Assets	$ 26,686	$ 29,283	$ 36,578	$ 41,330
TOTAL ASSETS	$631,530	$682,651	$787,894	$1,108,254
Liabilities				
Real estate mortgage	$132,513	$102,080	$130,731	$194,505
Liens on cattle & equipment	63,676	66,522	91,724	132,256
Installment contracts	8,492	17,581	5,378	9,800
Other loans over 10 years	1,225	8,198	1,311	11,792
Other loans 1 to 10 years	7,160	15,473	5,527	14,764
Other loans less than 1 year	3,455	1,329	3,207	8,524
Feed store & other accounts	3,898	5,425	9,862	6,862
Total Farm Liabilities	$220,419	$216,608	$247,740	$378,503
Total Nonfarm Liabilities	2,148	792	3,262	3,144
TOTAL LIABILITIES	$222,567	$217,400	$251,002	$381,647
Farm Net Worth (Equity Cap.)	$384,425	$436,760	$503,576	$688,421
FAMILY NET WORTH	$408,963	$465,251	$536,892	$726,607
Financial Measures				
Percent equity	65%	68%	68%	66%
Farm debt per cow	$2,041	$1,733	$1,745	$1,846
Available for debt service & living	$74,698	$73,585	$80,326	$129,667
Scheduled annual debt payment	$45,416	$44,330	$50,171	$83,799
Scheduled debt payment/cow	$421	$355	$353	$409
Payment as % of milk check	22%	20%	20%	22%
Debt/Asset ratio - long term	0.52	0.40	0.43	0.44
Debt/Asset ratio - intermediate	0.25	0.27	0.25	0.28
Cash flow coverage ratio	1.15	1.16	1.10	1.18

RELATIONSHIP OF FARM DEBT AND EQUITY TO OTHER FACTORS

A simple comparison of the relationship debt per cow and percent equity have to other business factors is tabulated below.

FARM DEBT PER COW AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Farm Debt Per Cow	Number of Farms	Number of Cows	Lbs. Milk Sold Per Cow	Lbs. Milk Sold Per Worker	Labor & Management Income Per Operator
None	19	45	13,800	310,500	-$6,350
$1 - $599	67	67	14,200	370,700	2,219
$600 - $1,199	80	91	14,700	447,300	8,535
$1,200 - $1,799	100	79	14,500	406,100	33
$1,800 - $2,399	101	80	14,100	411,600	- 549
$2,400 - $2,999	85	76	13,900	412,200	62
$3,000 - $3,599	66	71	14,800	421,000	3,148
$3,600 & over	82	61	14,600	369,100	- 1,057

FARM DEBT PER COW AND RELATED BUSINESS FACTORS
600 New York Dairy Farms, 1980

Farm Debt Per Cow	Age of Operator	Percent Equity	Debt Payment Per Cow	Debt Payment % Milk	Available For Living & Investment
None	50	100%	$ 0	0%	$29,315
$1 - $599	50	95	124	7	36,900
$600 - $1,199	48	84	259	14	40,000
$1,200 - $1,799	46	75	347	19	21,254
$1,800 - $2,399	42	63	436	25	13,900
$2,400 - $2,999	41	53	526	31	8,200
$3,000 - $3,599	39	47	597	33	5,600
$3,600 & over	36	41	707	38	- 600

PERCENT EQUITY AND LABOR AND MANAGEMENT INCOME
600 New York Dairy Farms, 1980

Percent Equity*	Number of Farms	Number of Cows	Lbs. Milk Sold Per Cow	Lbs. Milk Sold Per Worker	Labor & Mgmt. Inc. Per Oper.	Avail. For Living & Inv.
Less than 40%	53	68	14,100	372,600	$2,530	-$ 5,700
40 - 49	85	75	14,100	424,000	1,930	5,800
50 - 59	116	76	14,300	434,800	1,040	8,906
60 - 69	83	78	14,300	418,100	- 1,430	11,768
70 - 79	87	81	14,800	423,700	4,370	25,900
80 - 89	88	77	14,800	415,200	2,550	35,112
90 - 99	68	68	14,400	379,800	1,170	38,100
100	20	51	14,000	330,900	- 6,920	31,700

*Based on Family Net Worth.