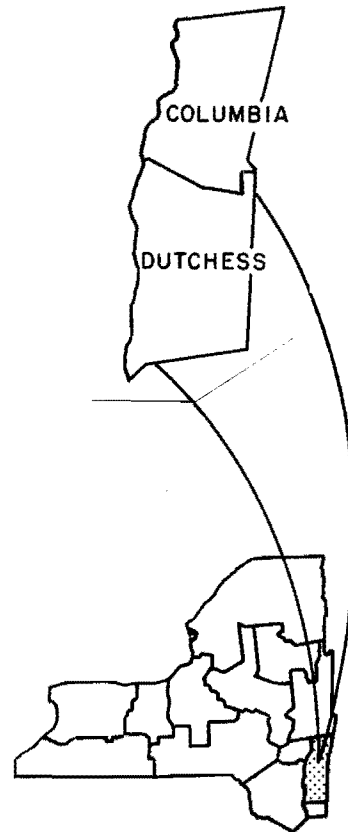


DAIRY FARM BUSINESS SUMMARY

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COLUMBIA AND DUTCHESS COUNTIES 1984



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DAIRY FARM BUSINESS SUMMARY
Columbia and Dutchess Counties

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DAIRY FARM BUSINESS SUMMARY
Columbia and Dutchess Counties

INTRODUCTION

This report is part of your Cooperative Extension Farm Business Management Program. Each year dairy farmers throughout New York State submit business records for summarization and analysis. In addition to this publication, each participating farmer receives an individual farm summary and analysis report for his or her business. The information in this publication is compiled by combining and averaging data submitted by the participating farmers from the region described at the bottom of this page.

Program Objectives

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 performance.

The need for a thorough dairy farm business examination and follow-up plan is greater than ever. The years immediately ahead will bring continued economic pressures on dairy farmers. We must continue to place emphasis on cost control and improvements in operating efficiency to maintain adequate farm incomes. Projecting cash flows, planning for future needs, and recognizing how those needs can be met will be required to survive the current dairy farm financial crisis.

New Developments

This year, several farm management agents and specialists are participating in a Dairy Farm Business Summary Pilot Program. Cooperative Extension Associations with appropriate microcomputers, have the capability to strengthen their dairy farm business analysis activities by calculating and printing the individual farm summary and analysis reports for immediate use by the agent and farmer, at any time. After the individual farm data is entered in the county office using the Micro DFBS computer program, it is sent to the Department of Agricultural Economics at Cornell University for additional review prior to transfer to a mainframe computer program for calculation of regional and state summaries.

Dairy farmers participating in the milk diversion program are included in this report. Since there is a relatively small number from any one region, the data from these farms has not been summarized separately. A separate summary and analysis of milk diversion program farms will be included in the 1984 New York State Dairy Farm Business Summary.

This summary was prepared by the Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University, in cooperation with Cooperative Extension Agents Steve Hadcock, Ken Piester, Dave Tetor, and the Hudson Valley Farm Credit Association.

SUMMARY OF THE FARM BUSINESS

Business Characteristics

Finding the right combination of resources and management strategies is an important part of farming. 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
35 Columbia-Dutchess County Dairy Farms, 1984

Type of Business	Number	Business Records	Number	Dairy Records	Number
Proprietorship	22	CAMIS	6	D.H.I.C.	31
Partnership	9	Account Book	2	Owner Sampler	1
Corporation	4	Agrifax	25	None	3
		Other	2	Other	0
Owner	28				
Renter	7				

Barn Type	Number	Milking System	Number	Number
Stanchion	21	Bucket & Carry	0	Herringbone
Freestall	14	Dumping Station	1	Other Parlor
Other	0	Pipeline	20	

Labor Force	My Farm	Average	Land Use	My Farm	Average
Operator 1.	_____	mo. 12	Total acres owned	_____	320
2 & 3.	_____	mo. 4	Total acres rented	_____	205
Family paid	_____	mo. 3	Total tillable acres	_____	285
Family unpaid	_____	mo. 3	Tillable acres rented	_____	158
Hired	_____	mo. 20			
			<u>Number of Cows</u>	<u>My Farm</u>	<u>Average</u>
Total	_____	mo. 42	Beginning of		
			year (owned)	_____	95
Age of operator(s) 1.	_____	yrs. 50	End of year (owned)	_____	96
2.	_____	yrs. 41	Avg. for year (all)	_____	96
3.	_____	yrs. 46			

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 occur with herd expansion, new machinery, and building additions and appreciation of land, buildings and livestock.

CAPITAL INVESTMENT - FARM INVENTORY
35 Columbia-Dutchess County Dairy Farms, 1984

Item	My Farm		Average	
	1/1/84	1/1/85	1/1/84	1/1/85
Livestock	\$ _____	\$ _____	\$124,071	\$122,634
Feed & supplies	_____	_____	41,552	42,673
Machinery & equipment	_____	_____	87,724	91,051
Land & buildings	_____	_____	263,915	263,283
TOTAL	\$ _____	\$ _____	\$517,262	\$519,641

Inventory Accounting

The value of the dairy herd is influenced by market prices, herd quality and quantity. Changes in market value caused by inflationary or deflationary price changes, are separated from changes in inventory caused by changes in herd quality and quantity.

CHANGE IN LIVESTOCK INVENTORY
35 Columbia-Dutchess County Dairy Farms, 1984

Item	My Farm	Average
End of year market value	\$ _____	\$122,634
less end at beginning prices	- _____	<u>-125,426</u>
Change due to price	\$ _____	\$-2,792
End inventory at beginning prices	\$ _____	\$125,426
less beginning of year inventory	- _____	<u>-124,071</u>
Change due to quality & quantity	\$ _____	\$ 1,355

Machinery and real estate inventories, based on current market values, include a depreciation charge and are balanced by the residual called appreciation.

MACHINERY AND EQUIPMENT INVENTORY
35 Columbia-Dutchess County Dairy Farms, 1984

Item	My Farm	Average
End of year market value	(1)\$ _____	\$91,051
Beginning market value	\$ _____	\$87,724
Plus machinery purchased	+ _____	+13,960
Less machinery sold	- _____	- 241
Less depreciation	- _____	<u>-13,043</u>
Net end investment	(2)\$ _____	<u>\$88,400</u>
APPRECIATION (1 minus 2)	\$ _____	\$ 2,651

The change in real estate value is affected by market forces, building depreciation, and lost capital which is the portion of a new building investment that is not reflected in the value of the farm.

REAL ESTATE INVENTORY CALCULATIONS
35 Columbia-Dutchess County Dairy Farms, 1984

Item	My Farm	Average
End of year market value	(1)\$ _____	\$263,283
Beginning market value	\$ _____	\$263,915
Cost of new real estate	\$ _____	\$4,227
Less lost capital	- _____	<u>- 710</u>
Value of new added	+ _____	+ 3,517
Less building depreciation	- _____	- 6,579
Less real estate sold	- _____	<u>- 4,857</u>
Net end investment	(2)\$ _____	\$255,996
APPRECIATION (1 minus 2)	\$ _____	\$ 7,287

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 occurred during the year. Most of these items could be readily transformed into cash.

FARM RECEIPTS
35 Columbia-Dutchess County Dairy Farms, 1984

Item	My Farm	Per Farm	Per Cow
CASH RECEIPTS			
Milk sales	\$ _____	\$205,608	\$2,141.75
Crop sales	_____	1,412	14.71
Dairy cattle sold	_____	12,003	125.03
Calves & other livestock sales	_____	2,018	21.02
Gas tax refunds	_____	104	1.08
Government payments	_____	462	4.81
Custom machine work	_____	724	7.54
Other	_____	2,892	30.13
Total Cash Receipts	\$ _____	\$225,223	\$2,346.07
NONCASH RECEIPTS			
Increase in livestock inventory ¹	_____	1,355	14.11
Increase in feed & supplies	_____	1,121	11.68
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION			
	\$ _____	\$227,699	\$2,371.86
Livestock appreciation ²	_____	- 2,792	- 29.08
Machinery appreciation ³	_____	2,651	27.61
Real estate appreciation ³	_____	7,287	75.91
TOTAL FARM RECEIPTS	\$ _____	\$234,845	\$2,446.30

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

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

³Defined on page 3.

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

INCOME ANALYSIS
Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Average price/cwt. milk sold	\$ _____	\$14.48	\$14.64
Milk and cattle sales per cow	_____	\$2,288	\$2,353
Total cash receipts/worker	_____	\$64,349	\$63,502

Expenses

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

FARM EXPENSES
35 Columbia-Dutchess County Dairy Farms, 1984

Item	My Farm	Per Farm	Per Cow
<u>Hired Labor</u>	\$ _____	\$ 24,091	\$ 250.95
<u>Feed</u>			
Dairy concentrate	_____	48,484	505.04
Hay and other	_____	2,530	26.35
<u>Machinery</u>			
Machine hire, rent and lease	_____	2,238	23.31
Machinery repairs	_____	10,611	110.53
Auto expense (farm share)	_____	198	2.06
Gas and oil	_____	8,026	83.60
<u>Livestock</u>			
Replacement livestock	_____	1,106	11.52
Breeding fees	_____	3,436	35.79
Veterinary and medicine	_____	4,237	44.14
Milk marketing	_____	19,507	203.20
Cattle lease	_____	60	.63
Other livestock expense	_____	10,124	105.46
<u>Crops</u>			
Fertilizer & lime	_____	10,463	108.99
Seeds and plants	_____	2,892	30.13
Spray, other crop expense	_____	2,320	24.17
<u>Real Estate</u>			
Land, building, fence repair	_____	2,788	29.04
Taxes	_____	5,347	55.70
Insurance	_____	3,755	39.11
Rent and lease	_____	6,584	68.58
<u>Other</u>			
Telephone (farm share)	_____	635	6.61
Electricity (farm share)	_____	5,581	58.14
Interest paid	_____	18,183	189.41
Miscellaneous	_____	3,204	33.38
Total Cash Expenses	\$ _____	\$196,400	\$2,045.83
Expansion livestock	_____	802	8.35
Machinery depreciation	_____	13,043	135.86
Building depreciation	_____	6,579	68.53
Unpaid family labor @ \$500/month	_____	1,271	13.24
TOTAL FARM EXPENSES EXCLUDING INTEREST ON EQUITY CAPITAL	\$ _____	\$218,095	\$2,271.82
Interest on equity capital @ 5%	_____	18,785	195.68
TOTAL FARM EXPENSES	\$ _____	\$236,880	\$2,467.50

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 calculated.

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 grain are expected to change significantly.

NET CASH FARM INCOME Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Cash Farm Receipts	\$ _____	\$225,223	\$233,054
Cash Farm Expenses	_____	<u>196,400</u>	<u>197,773</u>
NET CASH FARM INCOME	\$ _____	\$ 28,823	\$ 35,281

Labor and management income is the return to the operator for his or her labor and management input into the business. A five 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 the long term average rate of return that a farmer might expect to earn in investments with comparable risk to farm businesses in an economy with little or no inflation. 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, not return to operator labor and management.

LABOR AND MANAGEMENT INCOME Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Total farm receipts excluding appreciation	\$ _____	\$227,699	\$238,929
Total farm expenses	_____	<u>236,880</u>	<u>240,034</u>
LABOR & MANAGEMENT INCOME	\$ _____	\$ -9,181	\$ -1,105
Full-time operator-manager equivalents	_____	1.34	1.41
LABOR & MANAGEMENT INCOME PER OPERATOR-MANAGER	\$ _____	\$ -6,851	\$ -784

Labor, management and ownership income per operator reflects the combined return to the farmer for his or 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
Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Total farm receipts	\$ _____	\$234,845	\$235,581
Total farm expenses excluding interest on equity capital	_____	<u>218,095</u>	<u>223,338</u>
LABOR, MANAGEMENT AND OWNERSHIP INCOME PER FARM	\$ _____	\$ 16,750	\$ 12,243
Full-time operator-manager equivalents	_____	1.34	1.41
LABOR, MANAGEMENT AND OWNERSHIP INCOME PER OPERATOR-MANAGER	\$ _____	\$ 12,500	\$ 8,683

Return on equity capital measures the net profit remaining for the farmer's owned or equity capital after earnings have been allocated to the owner-operator's labor and management. The earnings or amount of gross profit allocated to labor and management is the opportunity cost or value of operator's labor and management estimated by the cooperators. Return on equity capital is computed including and excluding appreciation.

RETURN ON EQUITY CAPITAL
Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Labor, management & ownership income per farm	\$ _____	\$16,750	\$12,243
Less value of operator's labor & management	_____	<u>21,657</u>	<u>20,797</u>
Return on equity capital	\$ _____	\$-4,907	\$-8,554
RATE OF RETURN INCLUDING APPRECIATION	_____ %	-1.3%	-2.6%
RATE OF RETURN EXCLUDING APPRECIATION	_____ %	-3.2%	-1.6%

The rate of return on equity capital is computed as the amount returned divided by farm net worth or equity capital.

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. 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. The present values are also listed as assets, representing the future value the item has to the business.

FARM FAMILY NET WORTH
35 Columbia-Dutchess County Dairy Farms, January 1, 1985

Item	My Farm	Average
<u>Assets</u>		
Livestock	\$ _____	\$122,634
Feed and supplies	_____	42,673
Machinery and equipment	_____	92,781
(includes discounted lease payments)*	(1,730)	
Land and buildings	_____	265,472
(includes discounted lease payments)*	(2,189)	
Co-op investments	_____	20,809
Accounts receivable	_____	19,359
Cash and checking accounts	_____	5,166
Total Farm Assets	\$ _____	\$568,894
Savings accounts	\$ _____	\$ 4,622
Cash value life insurance	_____	1,711
Stocks and bonds	_____	5,284
Nonfarm real estate	_____	3,411
Auto (personal share)	_____	252
All Other	_____	3,321
TOTAL FARM & NONFARM ASSETS	\$ _____	\$587,495
<u>Liabilities</u>		
Long term	\$ _____	\$113,123
Intermediate	_____	69,123
Financial lease*	_____	3,919
Short term	_____	903
Other farm accounts	_____	6,119
Total Farm Liabilities	\$ _____	\$193,187
Nonfarm Liabilities	_____	883
TOTAL LIABILITIES	\$ _____	\$194,070
FARM NET WORTH (EQUITY CAPITAL)	\$ _____	\$375,707
FAMILY NET WORTH	\$ _____	\$393,425

*Future payments were discounted at an annual rate of 13 percent.

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 living expenses and to make payments on debts. Interest paid and income from off-farm work are added to net cash farm income because planned debt payments will include interest as well as principal. Estimate your family living expenses to calculate cash available for debt payments and capital purchases made in cash.

A cash flow coverage ratio of less than one indicates that planned cash outflows exceed cash availability determined from 1984 records.

FARM FAMILY DEBT REPAYMENT
35 Columbia-Dutchess County Dairy Farms, January 1, 1985

Item	My Farm	Average
<u>Payment Ability</u>		
Net cash farm income	\$ _____	\$28,823
Plus interest paid	_____	18,183
Plus off-farm income	_____	<u>4,198</u>
CASH AVAILABLE FOR DEBT SERVICE AND LIVING	\$ _____	\$51,204
Less family living expenses ¹	_____	<u>23,614</u>
CASH AVAILABLE FOR DEBT PAYMENTS AND CAPITAL PURCHASES	\$ _____	\$27,590
<u>Scheduled Annual Debt Payments</u>		
Long term	\$ _____	\$15,244
Intermediate	_____	21,296
Short term	_____	626
Other farm accounts	_____	<u>2,567</u>
TOTAL FARM DEBT PAYMENTS	\$ _____	\$39,733
Nonfarm debt payments	_____	<u>429</u>
TOTAL PAYMENTS PLANNED 1985	\$ _____	\$40,162
CASH FLOW COVERAGE RATIO ²	_____	0.69
<u>Commitment and Measures of Debt Equity Position</u>		
Farm debt payments planned per cow	\$ _____	\$405
Farm debt payments as % milk sales	_____ %	19%
Farm debt/asset ratio-long term	_____	0.43
Farm debt/asset ratio-intermediate and short term	_____	0.24
Farm debt per cow	\$ _____	\$1,971
Percent equity (total)	_____ %	67%

¹Estimated as \$10,900 per family plus four percent of cash farm receipts.

²Cash available for debt payments and capital purchases divided by total payments planned.

ANALYSIS OF THE FARM BUSINESS

When analyzing a farm business, a manager must consider measures or factors that reflect the performance of specified parts of the farm business. To do this one must look at factors of size, rates of production, labor efficiency, capital efficiency and cost control. These measures and factors are detailed on the following pages.

Size of Business

Studies have shown that, in general, larger farms are more profitable than smaller farms. 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 earn a profit. Profitable farm businesses with good management have the ability and incentive to become larger. Large farms are not necessarily more profitable however, and size increases are only profitable with good management.

MEASURES OF SIZE OF BUSINESS
Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Number of cows	_____	96	96
Number of heifers	_____	81	77
Pounds of milk sold	_____	1,420,400	1,425,800
Worker equivalent	_____	3.50	3.67
Total work units	_____	1,064	1,052
Total tillable acres	_____	285	294

In the table below, the 510 New York farms for 1983 are sorted by number of cows and the labor and management income is shown for each size group. In general, the large farms paid better, but, variability of income was significant.

FARM SIZE AND FARM INCOME MEASURES
510 New York Dairy Farms, 1983

Number of Cows	Number of Farms	Worker Equivalent	Net Cash Farm Income	Labor, Management & Owner- ship Income Per Operator
Under 40	51	1.67	\$12,955	\$ 2,541
40 to 54	103	2.08	19,443	6,279
55 to 69	95	2.42	32,659	14,886
70 to 84	79	2.83	33,688	11,517
85 to 99	54	3.08	43,739	19,509
100 to 149	64	3.75	50,521	21,210
150 to 199	38	4.58	62,048	7,458
200 to 249	13	6.00	100,374	43,033
250 & over	13	8.42	180,903	99,327

Rates of Production

Crop yields and rates of animal production are factors that have a significant impact on farm incomes. Here is a description of crops grown and yields along with the pounds of milk sold per cow.

CROP YIELDS & MILK SOLD PER COW
35 Columbia-Dutchess County Dairy Farms, 1984

Crop	My Farm		Average of Farms Reporting		
	Acres	Yield	Farms	Acres	Yield/Acre
Dry hay	_____		34	(combined below)	
Hay crop silage	_____		19	(combined below)	
Total hay crops	_____	_____	34	142	2.7 tons D.M.
Corn silage	_____	_____	34	82	12.9 tons
Other forage	_____	_____	3	30	1.0 tons
Total forage crops	_____	_____	34	226	3.3 tons D.M.
Grain corn	_____	_____	18	87	98.3 bushels
Oats	_____	_____	4	16	65.9 bushels
Other crops	_____	_____	4	11	
Tillable pasture	_____		8	24	
Idle tillable land	_____		14	29	
<hr/>					
Milk sold per cow	_____			14,796 pounds	

Tons of dry matter per acre from 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
510 New York Dairy Farms, 1983

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Labor & Mgmt. Income/Oper.	Labor, Mgmt., & Ownership Income/Operator
Under 11,000	26	58	\$-4,275	\$ -903
11,000 to 11,999	35	62	-1,323	370
12,000 to 12,999	44	71	-3,493	5,074
13,000 to 13,999	56	79	-1,391	5,411
14,000 to 14,999	85	87	4,607	13,504
15,000 to 15,999	95	101	2,804	11,607
16,000 to 16,999	80	101	13,797	28,297
17,000 to 17,999	49	96	12,335	31,231
18,000 & over	40	101	18,716	36,819

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
Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Worker equivalent		3.50	3.67
Cows per worker		27	26
Lbs. milk sold per worker		405,829	388,501
Work units per worker		304	287

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
510 New York Dairy Farms, 1983

Pounds of Milk Sold Per Worker	Number of Farms	Number of Cows	Pounds of Milk Per Cow	Labor & Mgmt. Income Per Operator	Labor, Mgmt., & Ownership Income Per Operator
Under 250,000	46	44	11,386	\$-2,734	\$ 926
250,000 to 299,999	38	48	13,298	-1,281	4,804
300,000 to 349,999	56	64	14,128	860	5,896
350,000 to 399,999	70	75	14,793	993	9,853
400,000 to 449,000	95	77	15,319	6,463	17,787
450,000 to 499,999	68	89	15,293	3,590	13,037
500,000 to 599,999	81	104	15,710	5,968	19,317
600,000 & over	56	187	16,473	26,312	48,943

Capital Efficiency

Capital is a key resource in dairy farm businesses 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
Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Farm capital per worker	\$ _____	\$148,469	\$132,854
Farm capital per cow	\$ _____	5,302	4,975
Machinery investment per cow	\$ _____	929	879
Machinery per tillable acre	\$ _____	319	293
Land & buildings per cow	\$ _____	2,687	2,452
Land & buildings/tillable acre owned	\$ _____	1,447	1,313
Capital turnover (years)	_____	2.2	2.1

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
510 New York Dairy Farms, 1983

Capital Turnover Rate - Years	Number of Farms	Number of Cows	<u>Capital Investment</u>		Labor & Mgmt. Income Per Operator
			Per Cow	Per Worker	
less than 1.5	14	126	\$3,178	\$105,385	\$ 34,525
1.5 to 1.99	92	121	4,493	153,029	15,742
2.0 to 2.49	168	97	5,246	163,826	5,682
2.5 to 2.99	113	74	6,239	170,148	3,794
3.0 to 3.49	66	63	6,364	168,003	-2,369
3.5 & over	57	60	7,601	206,061	-8,415

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 should be examined in detail. 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 least expensive source. For example, is the lowest cost source of protein, urea, soybean meal or 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 computerized decision aids to assist in answering these questions including the NEWPLAN program, Least-Cost Balanced Dairy Rations, and the dairy ration analyzers.

The size and productivity of the cropping program has an important influence on the amount 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
Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Dairy concentrate purchased per cow	\$ _____	\$505	\$476
Dairy concentrate purchased per cwt. of milk sold	\$ _____	\$3.41	\$3.21
Percent dairy concentrate is of milk receipts	_____ %	24%	22%
Crop expense per cow	\$ _____	\$163	\$178
Feed & crop expense/cwt. milk	\$ _____	\$4.70	\$4.57
Forage dry matter harv./cow (tons)	_____	7.8	7.9
Acres of forage per cow	_____	2.4	2.4
Total tillable acres per cow	_____	3.0	3.1
Fertilizer and lime/tillable acre	\$ _____	\$37	\$37
Heifers as % of cow numbers	_____ %	84%	80%

Machinery, Labor and Miscellaneous Costs

Labor and machinery operate as a team on a dairy farm. The challenge is to obtain an efficient combination of these two inputs that will result in a low cost per unit of output.

MACHINERY AND LABOR COSTS
Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
<u>Machinery:</u> Depreciation ¹	\$ _____	\$13,043	\$13,618
Interest ²	_____	4,469	4,292
Operating expense ³	_____	<u>21,073</u>	<u>21,463</u>
Total machinery	\$ _____	\$38,585	\$39,373
Per cow	_____	\$402	\$410
<u>Labor:</u> Value of operators ⁴	\$ _____	\$12,193	\$12,426
Unpaid family ⁵	_____	1,271	1,243
Hired	_____	<u>24,091</u>	<u>24,192</u>
Total labor	\$ _____	\$37,555	\$37,861
Per cow	_____	\$391	\$394
Per cwt. milk	_____	\$2.64	\$2.66
Labor & machinery costs per cow	_____	\$793	\$804
Labor & machinery costs/cwt. milk	\$ _____	\$5.36	\$5.42

¹Regular depreciation from last year's tax plus 10 percent of new purchases.

²Five percent of average machinery investment.

³Machine hire, repairs, farm share auto expense, and gas and oil.

⁴\$750 per month.

⁵\$500 per month.

MISCELLANEOUS COST CONTROL MEASURES
Columbia-Dutchess County Dairy Farms, 1984 & 1983

Item	My Farm	35 Farms 1984	37 Farms 1983
Livestock expense per cow	\$ _____	\$389	\$367
Real estate expense per cow	\$ _____	\$192	\$222
Total farm expense per cow	\$ _____	\$2,467	\$2,500

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

This worksheet is a valuable tool in financial planning, expansions and for setting goals for improving the farm business.

Item	35 Columbia-Dutchess Co. Farms		My Farm,		Cows
	Avg. Per Cow	Per Cow	Total	Goal	
CASH RECEIPTS					
Milk sales	\$2,142	\$	\$	\$	
Crop sales	15				
Dairy cattle	125				
Calves & other livestock	21				
Other	43				
Total Cash Receipts	\$2,346	\$	\$	\$	
CASH EXPENSES					
Hired labor	\$ 251	\$	\$	\$	
Dairy concentrate	505				
Hay and other	26				
Machine hire	23				
Machine repair & auto expense	113				
Gas & oil	84				
Replacement livestock	11				
Breeding fees	36				
Vet & medicine	44				
Milk marketing (ADA, Dues)	203				
Other livestock exp. (Incl. <\$1 lease)	106				
Fertilizer & lime	109				
Seeds & plants	30				
Spray & other	24				
Land, bldg. fence repair	29				
Taxes	56				
Insurance	39				
Rent	69				
Telephone & elec. (farm share)	65				
Miscellaneous	33				
Total Cash Expenses ¹	\$1,856	\$	\$	\$	
Total Cash Receipts	\$2,346				
Total Cash Expenses ¹	-1,856	-	-	-	
Net Cash Flow	\$ 490	\$	\$	\$	
Cash Family Living Expense ²	- 246	-	-	-	
Amount Left for Debt Service, Capital Investment & Retained Earnings	\$ 244	\$	\$	\$	
Scheduled Farm Debt Service	- 405	-	-	-	
Available for Capital Investment	\$ -161	\$	\$	\$	
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: \$10,900 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. Data from 32 identical Columbia-Dutchess County dairy farms is included to provide a basis for comparison.

Item	Average of 32 Columbia-Dutchess County Farms*		My Farm		
	1983	1984	1983	1984	Goal
<u>Size of Business</u>					
Number of cows	92	94	_____	_____	_____
Number of heifers	76	79	_____	_____	_____
Milk sold (cwt.)	13,797	13,791	_____	_____	_____
Worker equivalent	3.33	3.42	_____	_____	_____
Total tillable acres	283	289	_____	_____	_____
<u>Rates of Production</u>					
Pounds milk sold per cow	14,997	14,671	_____	_____	_____
Tons hay D.M. per acre	3.0	2.7	_____	_____	_____
Tons corn silage per acre	11.8	13.0	_____	_____	_____
<u>Labor Efficiency</u>					
Cows per worker	28	27	_____	_____	_____
Pounds milk sold/worker	414,324	403,246	_____	_____	_____
<u>Cost Control</u>					
Purch. feed as % milk sold	21%	24%	_____ %	_____ %	_____ %
Feed & crop exp./cwt. milk	\$4.43	\$4.82	\$ _____	\$ _____	\$ _____
Labor & machinery cost/cow	\$822	\$789	\$ _____	\$ _____	\$ _____
<u>Capital Efficiency</u>					
Farm capital per cow	\$5,260	\$5,293	\$ _____	\$ _____	\$ _____
Capital turnover (years)	2.2	2.2	_____	_____	_____
<u>Price</u>					
Price per cwt. milk	\$14.64	\$14.49	\$ _____	\$ _____	\$ _____
<u>Financial Summary</u>					
Net cash farm income	\$36,273	\$26,407	\$ _____	\$ _____	\$ _____
Labor & mgmt. income/oper.	\$-604	\$-8,275	\$ _____	\$ _____	\$ _____
Farm net worth	\$349,527	\$353,338	\$ _____	\$ _____	\$ _____
Rate of return on equity	-2.4%	-2.3%	_____ %	_____ %	_____ %
Percent equity	66%	65%	_____ %	_____ %	_____ %
Farm debt per cow	\$1,997	\$2,054	\$ _____	\$ _____	\$ _____

*Average of the same 32 farms for 1983 and 1984.