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DAIRY FARM BUSINESS SUMMARY

A large, stylized graphic of the number '82' is centered on the page. The number is filled with a dense halftone dot pattern. The '8' is on the left and the '2' is on the right, both rendered in a bold, blocky font.

**EASTERN PLATEAU REGION
AND
SOUTHEASTERN NEW YORK
1982**

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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 several regional summaries and in one statewide summary.

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 operations.

The year ahead will bring increased economic pressures on the dairy farming industry. Milk prices are expected to be down three to five percent while feed and other production costs will increase. Dairyfarmers must continue to place emphasis on operating efficiency and cost control in order to maintain adequate farm incomes.

Changes in Computation

The interest charge made for using equity capital in the farm business has been reduced to five percent. This real rate of interest is intended to reflect the long time 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 does not include appreciation of farm assets, therefore, appreciation has been excluded in determining the use charge for equity capital.

Renting and leasing farm assets is becoming more common on New York dairy farms. Rental and lease payments are included as cash farm expenses. The discounted values of future financial lease payments have been added to the farm balance sheet to reflect the farmer's committed liability as well as the eventual value of the asset.

Dairy farm business and financial data from eight Eastern Plateau and three Southeastern New York counties have been combined in this report. This summary was prepared by Stuart F. Smith, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University, in cooperation with the following Cooperative Extension agents and specialist: Bernice Potter Masler, David Bradstreet, Tom Donnelly, Earl Feinman, Jerry Skoda, and Richard Eschler.

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
98 Eastern Plateau and Southeastern New York Dairy Farms, 1982

Type of Business	Number	Business Records	Number	Dairy Records	Number
Proprietorship	71	CAMIS	22	D.H.I.C.	71
Partnership	26	Account Book	16	Owner Sampler	14
Corporation	1	Agrifax	17	Other	4
		Farm Bureau	1	None	9
Owner	92	Agway	1		
Renter	6	Other	13		
Barn Type	Number	Milking System	Number		Number
Stanchion	68	Bucket & Carry	0	Herringbone	11
Freestall	24	Dumping Station	6	Other Parlor	3
Other	6	Pipeline	13		
Labor Force	My Farm	Average	Land Use	My Farm	Average
Operator 1.	_____	mo. 12	Total acres owned	_____	264
2.	_____	mo. 3	Total acres rented	_____	127
3.	_____	mo. 1	Total tillable acres	_____	209
Family paid	_____	mo. 4	Tillable acres rented	_____	91
Family unpaid	_____	mo. 3			
Hired	_____	mo. 8	Number of Cows	_____	_____
Total	_____	mo. 31			
Age of operator(s) 1.	_____	yrs. 43	Beginning of year	_____	72
2.	_____	yrs. 36	End of year	_____	75
3.	_____	yrs. 43	Average for year	_____	72

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
98 Eastern Plateau & Southeastern New York Dairy Farms, 1982

Item	My Farm		Average	
	1/1/82	1/1/83	1/1/82	1/1/83
Livestock	\$ _____	\$ _____	\$105,829	\$105,115
Feed & supplies	_____	_____	27,078	27,259
Machinery & equipment	_____	_____	79,815	81,476
Land & buildings	_____	_____	174,799	182,718
TOTAL	\$ _____	\$ _____	\$387,521	\$396,568

Inventory Accounting

The value of the dairy herd is influenced by market prices, herd quality and quantity. Here the 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
98 Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	Average
End of year market value	\$ _____	\$105,115
less end at beginning prices	- _____	-110,584
Change due to price	\$ _____	\$-5,469
End inventory at beginning prices	\$ _____	\$110,584
less beginning of year inventory	- _____	-105,829
Change due to quality & quantity	\$ _____	\$ 4,755

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

MACHINERY AND EQUIPMENT INVENTORY
98 Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	Average
End of year market value	(1)\$ _____	\$81,476
Beginning market value	\$ _____	\$ 79,815
Plus machinery purchased	+ _____	+ 11,074
Less machinery sold	- _____	- 525
Less depreciation	- _____	- 11,914
Net end investment	(2)\$ _____	\$78,450
APPRECIATION (1 minus 2)	\$ _____	\$ 3,028

The change in real estate value is also affected by lost capital which is the amount of a new building investment that does not increase the value of the farm.

REAL ESTATE INVENTORY CALCULATIONS
98 Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	Average
End of year market value	(1)\$ _____	\$182,718
Beginning market value	\$ _____	\$174,799
Cost of new real estate	\$ _____	\$9,939
Less lost capital	- _____	-2,154
Value of new added	+ _____	+ 7,785
Less building depreciation	- _____	- 4,541
Less real estate sold	- _____	- 153
Net end investment	(2)\$ _____	\$177,890
APPRECIATION (1 minus 2)	\$ _____	\$ 4,828

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
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
CASH RECEIPTS			
Milk sales	\$ _____	\$148,557	\$109,814
Crop sales	_____	1,875	1,874
Dairy cattle sold	_____	9,589	4,416
Calves & other livestock sales	_____	2,653	1,537
Gas tax refunds	_____	128	94
Government payments	_____	382	609
Custom machine work	_____	180	0
Other	_____	1,245	550
Total Cash Receipts	\$ _____	\$164,609	\$118,894
NONCASH RECEIPTS			
Increase in livestock inventory ¹	_____	5,716	1,230
Increase in feed & supplies	_____	0	3,292
TOTAL FARM RECEIPTS EXCLUDING APPRECIATION			
	\$ _____	\$170,325	\$123,416
Livestock appreciation ²	_____	- 4,874	- 7,654
Machinery appreciation ³	_____	3,381	1,725
Real estate appreciation ³	_____	4,031	7,745
TOTAL FARM RECEIPTS	\$ _____	\$172,863	\$125,232

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 income producing capability of the farm business.

INCOME ANALYSIS
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Average price/cwt. milk sold	\$ _____	\$13.37	\$13.69
Milk and cattle sales per cow	_____	\$2,116	\$2,067
Total cash receipts/worker	_____	\$61,651	\$52,842

Expenses

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

FARM EXPENSES
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
<u>Hired Labor</u>	\$ _____	\$ 10,957	\$ 8,058
<u>Feed</u>			
Dairy concentrate	_____	38,257	31,895
Hay and other	_____	2,010	1,594
<u>Machinery</u>			
Machine hire, rent and lease	_____	1,302	1,370
Machinery repairs	_____	6,912	4,232
Auto expense (farm share)	_____	418	364
Gas and oil	_____	6,406	4,282
<u>Livestock</u>			
Replacement livestock	_____	2,737	2,345
Breeding fees	_____	2,403	1,345
Veterinary and medicine	_____	2,797	1,775
Milk marketing	_____	4,505	3,748
Cattle lease	_____	338	0
Other livestock expense	_____	5,120	4,007
<u>Crops</u>			
Fertilizer & lime	_____	7,649	3,925
Seeds and plants	_____	2,427	1,403
Spray, other crop expense	_____	1,573	1,286
<u>Real Estate</u>			
Land, building, fence repair	_____	2,301	1,968
Taxes	_____	3,522	2,959
Insurance	_____	2,582	2,011
Rent and lease	_____	3,353	1,890
<u>Other</u>			
Telephone (farm share)	_____	593	435
Electricity (farm share)	_____	3,372	2,588
Interest paid	_____	16,258	8,545
Miscellaneous	_____	2,452	1,243
Total Cash Expenses	\$ _____	\$130,244	\$ 93,268
Decrease in livestock and/or feed	\$ _____	667	0
Expansion livestock	_____	3,172	0
Machinery depreciation	_____	12,895	8,312
Building depreciation	_____	4,631	4,209
Unpaid family labor @ \$500/month	_____	1,717	1,500
TOTAL FARM EXPENSES EXCLUDING INTEREST ON EQUITY CAPITAL	\$ _____	\$153,326	\$107,294
Interest on equity capital @ 5%	_____	13,102	14,021
TOTAL FARM EXPENSES	\$ _____	\$166,428	\$121,315

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 grain are expected to change significantly.

NET CASH FARM INCOME Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Cash Farm Receipts	\$ _____	\$164,609	\$118,894
Cash Farm Expenses	_____	130,244	93,268
NET CASH FARM INCOME	\$ _____	\$ 34,365	\$ 25,626

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 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 Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Total farm receipts excluding appreciation	\$ _____	\$170,325	\$123,416
Total farm expenses	_____	166,428	121,315
LABOR & MANAGEMENT INCOME	\$ _____	\$ 3,897	\$ 2,101
Full-time operator-manager equivalents	s _____	1.38	1.05
LABOR & MANAGEMENT INCOME PER OPERATOR-MANAGER	\$ _____	\$ 2,824	\$ 2,001

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
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Total farm receipts	\$ _____	\$172,863	\$125,232
Total farm expenses excluding interest on equity capital	_____	<u>153,326</u>	<u>107,294</u>
LABOR, MANAGEMENT AND OWNERSHIP INCOME PER FARM	\$ _____	\$ 19,537	\$ 17,938
Full-time operator-manager equiv.	_____	1.38	1.05
LABOR, MANAGEMENT AND OWNERSHIP INCOME PER OPERATOR-MANAGER	\$ _____	\$ 14,157	\$ 17,084

Return on equity capital measures the net profit remaining to 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 appreciation in the table below.

RETURN ON EQUITY CAPITAL
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Labor, management & ownership income per farm	\$ _____	\$19,537	\$17,938
Less value of operator's labor & management	_____	<u>21,092</u>	<u>15,381</u>
Return on equity capital	\$ _____	\$-1,555	\$ 2,557
RATE OF RETURN INCLUDING APPRECIATION	_____ %	-0.6%	0.9%
RATE OF RETURN EXCLUDING APPRECIATION	_____ %	-1.6%	0.3%

The rate of return on equity capital is computed by dividing the amount returned by farm net worth or equity capital. It is shown with and without appreciation included.

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 payments are also listed as assets, representing the future value the item has to the farmer.

FARM FAMILY FINANCIAL SITUATION
Eastern Plateau and Southeastern New York Dairy Farms, January 1, 1983

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
<u>Assets</u>			
Livestock	\$ _____	\$110,841	\$ 84,638
(includes discounted lease pymts)	_____	(\$142)	(\$0)
Feed and supplies	_____	28,075	24,268
Machinery and equipment	_____	82,808	79,944
(includes discounted lease pymts)	_____	(\$702)	(\$777)
Land and buildings	_____	188,140	174,520
(includes discounted lease pymts)	_____	(\$2,191)	(\$3,650)
Co-op investments	_____	3,516	4,083
Accounts receivable	_____	14,040	8,372
Cash and checking accounts	_____	2,303	2,438
Total Farm Assets	\$ _____	\$429,723	\$378,263
Savings accounts	\$ _____	3,567	6,047
Cash value life insurance	_____	2,695	2,226
Stocks and bonds	_____	2,800	16,519
Nonfarm real estate	_____	5,357	13,433
Auto (personal share)	_____	1,948	1,931
All Other	_____	6,491	9,819
TOTAL FARM & NONFARM ASSETS	\$ _____	\$452,581	\$428,238
<u>Liabilities</u>			
Long term	\$ _____	\$ 88,955	\$ 61,406
Intermediate	_____	66,106	27,996
Financial lease	_____	3,035	4,427
Short term	_____	5,207	2,711
Other farm accounts	_____	4,385	1,304
Total Farm Liabilities	\$ _____	\$167,688	\$ 97,844
Nonfarm Liabilities	_____	1,192	8,252
TOTAL LIABILITIES	\$ _____	\$168,880	\$106,096
FARM NET WORTH (EQUITY CAPITAL)	\$ _____	\$262,035	\$280,419
FAMILY NET WORTH	\$ _____	\$283,701	\$322,142

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. Interest paid and income from off-farm work are added to net cash farm income in the following table 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.

Some farms in the group have scheduled debt payments exceeding 50 percent of the milk receipts. Committing this much cash inflow to debt payments creates a serious cash flow problem.

FINANCIAL MEASURES AND DEBT COMMITMENT
Eastern Plateau and Southeastern New York Dairy Farms, January 1, 1983

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
<u>Payment Ability</u>			
Net cash farm income	\$ _____	\$34,365	\$25,626
Plus interest paid	_____	16,258	8,545
Plus off-farm income	_____	1,492	2,297
CASH AVAILABLE FOR DEBT SERVICE AND LIVING	\$ _____	\$52,115	\$36,468
Less family living expenses*	_____	20,660	15,465
CASH AVAIL. FOR DEBT PAYMENT & CAPITAL PURCHASES	\$ _____	\$31,455	\$21,003
<u>Scheduled Annual Debt Payments</u>			
Long term	\$ _____	\$11,127	\$ 8,075
Intermediate	_____	19,838	11,315
Short term	_____	3,686	1,846
Other farm accounts	_____	1,153	589
TOTAL FARM DEBT PAYMENTS	\$ _____	\$35,804	\$21,825
Nonfarm debt payments	_____	270	416
TOTAL PAYMENTS PLANNED 1983	\$ _____	\$36,074	\$22,241
<u>Commitment & Measures of Debt Equity Position</u>			
Farm debt pymts. planned/cow	\$ _____	\$448	\$383
Farm debt pymts. as % milk sales	_____ %	24%	20%
Farm debt/asset ratio-long term	_____	0.47	0.35
Farm debt/asset ratio-intermediate & short term	_____	0.31	0.17
Farm debt per cow	\$ _____	\$2,096	\$1,717
Percent equity (total)	_____ %	63%	75%

*Estimated as \$10,200 per family plus four percent of cash farm receipts.

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
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Number of cows	_____	76	56
Number of heifers	_____	59	44
Pounds of milk sold	_____	1,111,200	802,000
Worker equivalent	_____	2.7	2.3
Total work units	_____	827	611
Total tillable acres	_____	223	155

In the table below, the 553 New York farms for 1981 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.

COWS PER FARM AND LABOR AND MANAGEMENT INCOME
553 New York Dairy Farms, 1981

Number of Cows	Ave. Number of Cows	Number of Farms	Percent of Farms	Labor & Mgmt. Income Per Operator
Under 40	34	82	16	-\$ 4,300
40 to 54	47	130	25	- 6,077
55 to 69	61	110	21	- 1,204
70 to 84	77	74	13	- 5,284
85 to 99	90	38	6	- 3,648
100 to 114	106	26	4	- 5,677
115 to 129	121	25	4	- 15,635
130 to 149	139	16	3	- 11,780
150 to 179	163	23	4	- 4,577
180 to 199	187	8	2	3,497
200 & over	267	21	2	11,178

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
98 Eastern Plateau and Southeastern New York Dairy Farms, 1982

Crop	My Farm		Average of Farms Reporting		
	Acres	Yield	Farms	Acres	Yield/Acre
Dry hay	_____	_____	92	(combined below)	
Hay crop silage	_____	_____	74	(combined below)	
Total hay crops	_____	_____	98	122	2.5 tons D.M.
Corn silage	_____	_____	90	52	13.2 tons
Other forage	_____	_____	9	9	3.1 tons D.M.
Total forage crops	_____	_____	98	171	3.0 tons D.M.
Grain corn	_____	_____	42	58	91.8 bushels
Oats	_____	_____	15	24	49.5 bushels
Wheat	_____	_____	2	25	28.0 bushels
Other crops	_____	_____	2	10	
Tillable pasture	_____	_____	19	24	
Idle tillable land	_____	_____	11	28	

Milk sold per cow	_____	_____		14,513 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
553 New York Dairy Farms, 1981

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Labor & Mgmt. Income/Oper.	Labor, Mgmt., & Ownership Income/Operator
Under 11,000	50	50	-\$ 8,642	\$ 5,165
11,000 to 11,999	30	67	- 5,687	13,593
12,000 to 12,999	48	76	- 17,052	9,159
13,000 to 13,999	96	78	- 5,925	20,818
14,000 to 14,999	117	83	- 6,178	26,893
15,000 to 15,999	109	89	302	32,468
16,000 to 16,999	52	82	2,142	30,451
17,000 to 17,999	28	78	1,716	27,606
18,000 & over	23	89	1,861	45,290

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
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Worker equivalent	_____	2.7	2.3
Cows per worker	_____	28	25
Lbs. milk sold per worker	_____	416,180	356,444
Work units per worker	_____	310	272

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
553 New York Dairy Farms, 1981

Pounds of Milk Sold Per Worker	No. of Farms	No. of Cows	Lbs. Milk Per Cow	Labor & Mgmt. Income Per Operator	Labor, Mgmt., & Ownership Income Per Operator
Under 250,000	68	44	11,609	-\$9,348	\$ 5,325
250,000 to 299,999	58	53	13,185	- 7,361	12,436
300,000 to 349,999	77	62	14,060	- 6,337	19,102
350,000 to 399,999	91	67	14,178	- 3,738	19,365
400,000 to 449,000	81	77	14,849	- 1,350	24,137
450,000 to 499,999	60	93	14,799	- 5,635	30,006
500,000 to 599,999	79	108	15,500	1,741	39,315
600,000 & over	39	158	15,461	- 3,751	54,391

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
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Farm capital per worker	\$ _____	\$152,370	\$159,530
Farm capital per cow	\$ _____	5,085	6,297
Machinery investment per cow	\$ _____	1,026	1,389
Machinery per tillable acre	\$ _____	368	511
Land & buildings per cow	\$ _____	2,324	2,998
Land & buildings/tillable acre owned	\$ _____	1,338	2,341
Capital turnover	_____ yrs.	2.4 yrs.	2.9 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
553 New York Dairy Farms, 1981

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	9	111	\$3,369	\$104,662	\$ 22,725
1.5 to 1.99	87	114	4,565	151,288	8,817
2.0 to 2.49	183	82	5,406	167,094	-2,990
2.5 to 2.99	143	67	6,262	172,843	-6,860
3.0 to 3.49	73	69	7,014	190,300	-11,341
3.5 & over	58	52	7,344	182,757	-18,611

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
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Dairy concentrate purchased per cow	\$ _____	\$503	\$570
Dairy concentrate purchased per cwt. of milk sold	\$ _____	\$3.44	\$3.98
Percent dairy concentrate is of milk receipts	_____ %	26%	29%
Crop expense per cow	\$ _____	\$153	\$118
Feed & crop expense/cwt. milk	\$ _____	\$4.67	\$5.00
Forage dry matter harv./cow (tons)	_____	7.1	7.7
Acres of forage per cow	_____	2.3	2.6
Total tillable acres per cow	_____	2.9	2.8
Fertilizer and lime/tillable acre	\$ _____	\$34	\$25
Heifers as % of cow numbers	_____ %	78%	79%

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
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
<u>Machinery:</u> Depreciation ¹	\$ _____	\$12,895	\$ 8,317
Interest ²	_____	4,061	3,926
Operating expense ³	_____	15,038	10,248
Total machinery	\$ _____	\$31,994	\$22,491
Per cow	_____	\$421	\$402
<u>Labor:</u> Value of operators ⁴	\$ _____	\$12,380	\$ 9,536
Unpaid family ⁵	_____	1,717	1,500
Hired	_____	10,957	8,058
Total labor	\$ _____	\$25,054	\$19,094
Per cow	_____	\$330	\$341
Per cwt. milk	_____	\$2.25	\$2.38
Labor & machinery costs per cow	_____	\$751	\$743
Labor & machinery costs/cwt. milk	\$ _____	\$5.13	\$5.18

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
Eastern Plateau and Southeastern New York Dairy Farms, 1982

Item	My Farm	77 Eastern Plateau Farms	21 S-Eastern Farms
Livestock expense per cow	\$ _____	\$200	\$194
Real estate expense per cow	\$ _____	\$155	\$158
Total farm expense per cow	\$ _____	\$2,190	\$2,166

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. The average is from 98 Eastern Plateau and Southeastern New York farms except where owner costs are indicated.

Item	Average	My Farm,		Cows
	Per Cow	Per Cow	Total	Goal
CASH RECEIPTS				
Milk sales	\$1,948	\$ _____	\$ _____	\$ _____
Crop sales	26	_____	_____	_____
Dairy cattle	118	_____	_____	_____
Calves & other livestock	34	_____	_____	_____
Other	24	_____	_____	_____
Total Cash Receipts	\$2,150	\$ _____	\$ _____	\$ _____
CASH EXPENSES				
Hired labor	\$ 144	\$ _____	\$ _____	\$ _____
Dairy concentrate	512	_____	_____	_____
Hay and other	27	_____	_____	_____
Machine hire	18	_____	_____	_____
Machine repair & auto expense	94	_____	_____	_____
Gas & oil	83	_____	_____	_____
Replacement livestock	37	_____	_____	_____
Breeding fees	30	_____	_____	_____
Vet & medicine	36	_____	_____	_____
Milk marketing (ADA, Dues)	60	_____	_____	_____
Other livestock exp. (incl. \$4 lease)	72	_____	_____	_____
Fertilizer & lime	95	_____	_____	_____
Seeds & plants	31	_____	_____	_____
Spray & other	21	_____	_____	_____
Land, bldg. fence repair (owner)	31	_____	_____	_____
Taxes (owner)	49	_____	_____	_____
Insurance (owner)	35	_____	_____	_____
Rent (owner)	34	_____	_____	_____
Telephone & elec. (farm share)	51	_____	_____	_____
Miscellaneous	30	_____	_____	_____
Total Cash Expenses ¹	\$1,490	\$ _____	\$ _____	\$ _____
Total Cash Receipts	\$2,150	_____	_____	_____
Total Cash Expenses ¹	-1,490	-	-	-
Net Cash Flow	\$ 660	\$ _____	\$ _____	\$ _____
Cash Family Living Expense ²	- 275	-	-	-
Amount Left for Debt Service,				
Capital Investment &				
Retained Earnings	\$ 385	\$ _____	\$ _____	\$ _____
Scheduled Debt Service	- 437	-	-	-
Available for Capital Investment	\$ (52)	\$ _____	\$ _____	\$ _____
Planned Expansion Livestock Purch.		_____	_____	_____
Planned Equipment Purchase		_____	_____	_____
Borrowed or Equity Funds Needed		\$ _____	\$ _____	\$ _____

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

²Estimated: \$10,200 per family and four percent of cash farm receipts.