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**NORTHERN HUDSON REGION**  
**1983**

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DAIRY FARM BUSINESS SUMMARY

Northern Hudson Region

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DAIRY FARM BUSINESS SUMMARY  
Northern Hudson Region

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 analysis 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 a statewide summary.

The year ahead will bring increased economic pressures on the dairy farming industry. The Dairy Production Stabilization Act of 1983 is expected to reduce milk prices two to three percent while production costs may increase four to six percent. Dairy farmers must continue to place emphasis on operating efficiency and cost control in order to maintain adequate farm incomes. This year, more than ever, improving weak links in the business and projecting cash flows will be critical management steps to enhance business survival probabilities.

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.

Changes in Computation

The interest charge made for using equity capital in the farm business was changed in 1982 to five percent. This real rate of interest reflects 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 as a liability and an asset on the farm balance sheet to reflect the farmer's committed liability as well as the value of an asset.

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This summary was prepared by Stuart F. Smith and Linda D. Putnam, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University. Cooperative Extension Agents Tom Gallagher, John Thurgood, Cathy Wickswat, and David Wood submitted the farm business financial data. The Albany Farm Credit Association and Charles Radick cooperated with data collection. The Northern Hudson Region is comprised of Albany, Rensselaer, Saratoga, and Washington Counties.

## 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  
108 Northern Hudson Region Dairy Farms, 1983

Type of Business	Number	Business Records	Number	Dairy Records	Number
Proprietorship	77	CAMIS	13	D.H.I.C.	73
Partnership	27	Account Book	16	Owner Sampler	17
Corporation	4	Agrifax	63	Other	2
		Agway	1	None	16
Owner	93	On-Farm Computer	1		
Renter	15	Other	14		
Barn Type	Number	Milking System	Number		Number
Stanchion	72	Bucket & Carry	2	Herringbone	36
Freestall	36	Dumping Station	8	Other Parlor	3
Other	0	Pipeline	59		
Labor Force	My Farm	Average	Land Use	My Farm	Average
Operator 1.	_____	mo. 12	Total acres owned	_____	272
2.	_____	mo. 3	Total acres rented	_____	169
3.	_____	mo. 1	Total tillable acres	_____	270
Family paid	_____	mo. 4	Tillable acres rented	_____	122
Family unpaid	_____	mo. 2			
Hired	_____	mo. 10	Number of Cows	_____	_____
Total	_____	mo. 32			
Age of operator(s) 1.	_____	yrs. 44	Beginning of year	_____	81
2.	_____	yrs. 39	End of year	_____	87
3.	_____	yrs. 42	Average for year	_____	80

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  
108 Northern Hudson Region Dairy Farms, 1983

Item	My Farm		Average	
	1/1/83	1/1/84	1/1/83	1/1/84
Livestock	\$ _____	\$ _____	\$110,331	\$102,999
Feed & supplies	_____	_____	33,675	36,592
Machinery & equipment	_____	_____	82,319	85,716
Land & buildings	_____	_____	196,961	199,844
TOTAL	\$ _____	\$ _____	\$423,286	\$425,151

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  
108 Northern Hudson Region Dairy Farms, 1983

Item	My Farm	Average
End of year market value	\$ _____	\$102,999
less end at beginning prices	- _____	<u>-111,231</u>
Change due to price	\$ _____	\$-8,232
End inventory at beginning prices	\$ _____	\$111,231
less beginning of year inventory	- _____	<u>-110,331</u>
Change due to quality & quantity	\$ _____	\$ 900

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  
108 Northern Hudson Region Dairy Farms, 1983

Item	My Farm	Average
End of year market value	(1)\$ _____	\$85,716
Beginning market value	\$ _____	\$82,319
Plus machinery purchased	+ _____	+13,030
Less machinery sold	- _____	- 427
Less depreciation	- _____	<u>-11,897</u>
Net end investment	(2)\$ _____	<u>\$83,025</u>
APPRECIATION (1 minus 2)	\$ _____	\$ 2,691

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  
108 Northern Hudson Region Dairy Farms, 1983

Item	My Farm	Average
End of year market value	(1)\$ _____	\$199,844
Beginning market value	\$ _____	\$196,961
Cost of new real estate	\$ _____	\$6,448
Less lost capital	- _____	<u>-1,286</u>
Value of new added	+ _____	+ 5,162
Less building depreciation	- _____	- 5,046
Less real estate sold	- _____	- 806
Net end investment	(2)\$ _____	<u>\$196,271</u>
APPRECIATION (1 minus 2)	\$ _____	\$ 3,573

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  
108 Northern Hudson Region Dairy Farms, 1983

Item	My Farm	Per Farm	Per Cow
<b>CASH RECEIPTS</b>			
Milk sales	\$ _____	\$172,457	\$2,156
Crop sales	_____	2,894	36
Dairy cattle sold	_____	10,220	128
Calves & other livestock sales	_____	2,009	25
Gas tax refunds	_____	180	2
Government payments	_____	1,094	14
Custom machine work	_____	594	7
Other	_____	1,861	23
Total Cash Receipts	\$ _____	\$191,309	\$2,391
<b>NONCASH RECEIPTS</b>			
Increase in livestock inventory <sup>1</sup>	_____	900	11
Increase in feed & supplies	_____	2,917	37
<b>TOTAL FARM RECEIPTS EXCLUDING APPRECIATION</b>			
	\$ _____	\$195,126	\$2,439
Livestock appreciation <sup>2</sup>	_____	- 8,232	- 103
Machinery appreciation <sup>3</sup>	_____	2,691	33
Real estate appreciation <sup>3</sup>	_____	3,573	45
<b>TOTAL FARM RECEIPTS</b>	<b>\$ _____</b>	<b>\$193,158</b>	<b>\$2,414</b>

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

<sup>2</sup>The increase in herd market value, caused by inflationary price increase.

<sup>3</sup>Defined on page 3.

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

INCOME ANALYSIS  
Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Average price/cwt. milk sold	\$ _____	\$14.36	\$14.13
Milk and cattle sales per cow	_____	\$2,309	\$2,240
Total cash receipts/worker	_____	\$71,651	\$67,286

Expenses

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

FARM EXPENSES  
108 Northern Hudson Plain Region Dairy Farms, 1983

Item	My Farm	Per Farm	Per Cow
<u>Hired Labor</u>	\$ _____	\$ 14,660	\$ 183
<u>Feed</u>			
Dairy concentrate	_____	42,593	532
Hay and other	_____	804	10
<u>Machinery</u>			
Machine hire, rent and lease	_____	1,376	17
Machinery repairs	_____	8,868	111
Auto expense (farm share)	_____	434	5
Gas and oil	_____	6,672	83
<u>Livestock</u>			
Replacement livestock	_____	2,241	28
Breeding fees	_____	2,320	29
Veterinary and medicine	_____	3,057	38
Milk marketing	_____	16,235	203
Cattle lease	_____	36	1
Other livestock expense	_____	6,235	78
<u>Crops</u>			
Fertilizer and lime	_____	10,223	128
Seeds and plants	_____	2,686	34
Spray, other crop expense	_____	2,388	30
<u>Real Estate</u>			
Land, building, fence repair	_____	2,255	28
Taxes	_____	4,467	56
Insurance	_____	2,316	29
Rent and lease	_____	4,771	60
<u>Other</u>			
Telephone (farm share)	_____	675	9
Electricity (farm share)	_____	3,805	48
Interest paid	_____	16,508	206
Miscellaneous	_____	2,656	33
Total Cash Expenses	\$ _____	\$158,281	\$1,979
Expansion livestock	_____	315	4
Machinery depreciation	_____	11,897	149
Building depreciation	_____	5,046	63
Unpaid family labor @ \$500/month	_____	1,245	15
TOTAL FARM EXPENSES EXCLUDING INTEREST ON EQUITY CAPITAL	\$ _____	\$176,784	\$2,210
Interest on equity capital @ 5%	_____	13,896	174
TOTAL FARM EXPENSES	\$ _____	\$190,680	\$2,384



### 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 Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Cash Farm Receipts	\$ _____	\$191,309	\$190,420
Cash Farm Expenses	_____	158,281	156,679
NET CASH FARM INCOME	\$ _____	\$ 33,028	\$ 33,741

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 Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Total farm receipts excluding appreciation	\$ _____	\$195,126	\$196,974
Total farm expenses	_____	190,680	195,470
LABOR & MANAGEMENT INCOME	\$ _____	\$ 4,446	\$ 1,504
Full-time operator-manager equivalents	s _____	1.37	1.34
LABOR & MANAGEMENT INCOME PER OPERATOR-MANAGER	\$ _____	\$ 3,245	\$ 1,122

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  
Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Total farm receipts	\$ _____	\$193,158	\$203,899
Total farm expenses excluding interest on equity capital	_____	<u>176,784</u>	<u>180,446</u>
LABOR, MANAGEMENT AND OWNERSHIP INCOME PER FARM	\$ _____	\$ 16,374	\$ 23,453
Full-time operator-manager equivalents	_____	1.37	1.34
LABOR, MANAGEMENT AND OWNERSHIP INCOME PER OPERATOR-MANAGER	\$ _____	\$ 11,952	\$ 17,502

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  
Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Labor, management & ownership income per farm	\$ _____	\$16,374	\$23,453
Less value of operator's labor & management	_____	<u>21,144</u>	<u>20,059</u>
Return on equity capital	\$ _____	\$-4,770	\$ 3,394
RATE OF RETURN INCLUDING APPRECIATION	_____ %	-1.7%	1.1%
RATE OF RETURN EXCLUDING APPRECIATION	_____ %	-1.0%	-1.2%

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

108 Northern Hudson Region Dairy Farms, January 1, 1984

Item	My Farm	Average
<u>Assets</u>		
Livestock	\$ _____	\$102,999
Feed and supplies	_____	36,592
Machinery and equipment	_____	86,007
(includes discounted lease payments)	(291)	
Land and buildings	_____	201,955
(includes discounted lease payments)	(2,111)	
Co-op investments	_____	11,635
Accounts receivable	_____	14,111
Cash and checking accounts	_____	1,944
Total Farm Assets	\$ _____	\$455,243
Savings accounts	\$ _____	\$ 2,576
Cash value life insurance	_____	1,833
Stocks and bonds	_____	1,279
Nonfarm real estate	_____	3,373
Auto (personal share)	_____	724
All Other	_____	4,095
TOTAL FARM & NONFARM ASSETS	\$ _____	\$469,123
<u>Liabilities</u>		
Long term	\$ _____	\$ 88,275
Intermediate	_____	69,901
Financial lease	_____	2,402
Short term	_____	5,747
Other farm accounts	_____	10,997
Total Farm Liabilities	\$ _____	\$177,322
Nonfarm Liabilities	_____	156
TOTAL LIABILITIES	\$ _____	\$177,478
FARM NET WORTH (EQUITY CAPITAL)	\$ _____	\$277,921
FAMILY NET WORTH	\$ _____	\$291,645

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 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 can create a serious cash flow problem.

FARM FAMILY DEBT REPAYMENT  
108 Northern Hudson Region Dairy Farms, January 1, 1984

Item	My Farm	Average
<u>Payment Ability</u>		
Net cash farm income	\$ _____	\$33,028
Plus interest paid	_____	16,508
Plus off-farm income	_____	910
CASH AVAILABLE FOR DEBT SERVICE AND LIVING	\$ _____	\$50,446
Less family living expenses*	_____	22,037
CASH AVAILABLE FOR DEBT PAYMENT AND CAPITAL PURCHASES	\$ _____	\$28,409
<u>Scheduled Annual Debt Payments</u>		
Long term	\$ _____	\$11,268
Intermediate	_____	20,607
Short term	_____	4,196
Other farm accounts	_____	3,296
TOTAL FARM DEBT PAYMENTS	\$ _____	\$39,367
Nonfarm debt payments	_____	58
TOTAL PAYMENTS PLANNED 1984	\$ _____	\$39,425
<u>Commitment and Measures of Debt Equity Position</u>		
Farm debt payments planned per cow	\$ _____	\$452
Farm debt payments as % milk sales	_____ %	23%
Farm debt/asset ratio-long term	_____	0.44
Farm debt/asset ratio-intermediate and short term	_____	0.31
Farm debt per cow	\$ _____	\$2,038
Percent equity (total)	_____ %	62%

\*Estimated as \$10,500 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  
Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Number of cows	_____	80	82
Number of heifers	_____	67	68
Pounds of milk sold	_____	1,201,300	1,218,300
Worker equivalent	_____	2.67	2.83
Total work units	_____	907	932
Total tillable acres	_____	270	284

In the table below, the 572 New York farms for 1982 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  
572 New York Dairy Farms, 1982

Number of Cows	Ave. Number of Cows	Number of Farms	Percent of Farms	Labor & Mgmt. Income Per Operator
Under 40	34	76	13	\$ 812
40 to 54	47	128	22	-19
55 to 69	61	107	19	3,225
70 to 84	76	82	14	3,064
85 to 99	90	52	9	2,152
100 to 149	120	69	12	4,073
150 to 199	169	33	6	-3,577
200 to 249	230	15	3	27,218
250 & over	363	10	2	45,479

### 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 108 Northern Hudson Region Dairy Farms, 1983

Crop	My Farm		Average of Farms Reporting		
	Acres	Yield	Farms	Acres	Yield/Acre
Dry hay	_____		96	(combined below)	
Hay crop silage	_____		82	(combined below)	
Total hay crops	_____	_____	107	146	2.4 tons D.M.
Corn silage	_____	_____	102	79	11.3 tons
Other forage	_____	_____	5	14	1.9 tons D.M.
Total forage crops	_____	_____	107	222	2.8 tons D.M.
Grain corn	_____	_____	46	54	81.6 bushels
Oats	_____	_____	7	24	46.6 bushels
Wheat	_____	_____	3	26	47.0 bushels
Other crops	_____	_____	13	29	
Tillable pasture	_____		35	30	
Idle tillable land	_____		34	36	
-----					
Milk sold per cow	_____			15,016 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 572 New York Dairy Farms, 1982

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Labor & Mgmt. Income/Oper.	Labor, Mgmt., & Ownership Income/Operator
Under 11,000	52	53	\$-6,028	\$-1,924
11,000 to 11,999	27	55	-3,637	5,492
12,000 to 12,999	50	74	-4,893	7,908
13,000 to 13,999	88	88	348	15,624
14,000 to 14,999	109	86	2,475	15,311
15,000 to 15,999	117	87	6,453	22,074
16,000 to 16,999	64	88	10,715	26,851
17,000 to 17,999	43	97	7,024	26,668
18,000 & over	22	91	22,966	49,864

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  
Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Worker equivalent	_____	2.67	2.83
Cows per worker	_____	30	29
Lbs. milk sold per worker	_____	449,925	430,495
Work units per worker	_____	340	329

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  
572 New York Dairy Farms, 1982

Pounds of Milk Sold Per Worker	Number of Farms	Number of Cows	Lbs. Milk Per Cow	Labor & Mgmt. Income Per Operator	Labor, Mgmt. & Ownership Inc. Per Operator
Under 250,000	73	43	11,553	\$-3,985	\$ 2,967
250,000 to 299,999	55	54	13,296	-4,001	3,414
300,000 to 349,999	60	59	13,854	-957	10,220
350,000 to 399,999	92	73	14,625	2,010	13,878
400,000 to 449,000	101	77	15,090	3,319	18,200
450,000 to 499,999	68	98	14,979	2,949	21,393
500,000 to 599,999	86	111	15,317	7,271	23,823
600,000 & over	37	180	15,917	31,180	65,277

### 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 Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Farm capital per worker	\$ _____	\$159,233	\$156,152
Farm capital per cow	\$ _____	4,887	5,138
Machinery investment per cow	\$ _____	985	1,057
Machinery per tillable acre	\$ _____	317	320
Land & buildings per cow	\$ _____	2,297	2,317
Land & buildings per tillable acre owned	\$ _____	1,197	1,126
Capital turnover (years)	_____	2.2	2.2

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 572 New York Dairy Farms, 1982

Capital Turnover Rate - Years	Number of Farms	Number of Cows	Capital Investment		Labor & Mgmt. Income Per Operator
			Per Cow	Per Worker	
less than 1.5	11	112	\$3,293	\$ 97,431	\$ 23,365
1.5 to 1.99	74	124	4,513	152,003	20,036
2.0 to 2.49	173	90	5,126	165,015	3,603
2.5 to 2.99	157	71	5,993	171,893	-662
3.0 to 3.49	90	70	6,602	184,237	-1,843
3.5 & over	67	54	7,551	181,486	-4,766



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  
Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Dairy concentrate purchased per cow	\$ _____	\$532	\$486
Dairy concentrate purchased per cwt. of milk sold	\$ _____	\$3.55	\$3.27
Percent dairy concentrate is of milk receipts	_____ %	25%	23%
Crop expense per cow	\$ _____	\$191	\$217
Feed & crop expense/cwt. milk	\$ _____	\$4.89	\$4.76
Forage dry matter harv./cow (tons)	_____	7.8	9.0
Acres of forage per cow	_____	2.8	2.6
Total tillable acres per cow	_____	3.4	3.5
Fertilizer and lime/tillable acre	\$ _____	\$38	\$44
Heifers as % of cow numbers	_____ %	84%	83%

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  
Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
<u>Machinery:</u> Depreciation <sup>1</sup>	\$ _____	\$11,897	\$14,119
Interest <sup>2</sup>	_____	4,201	4,428
Operating expense <sup>3</sup>	_____	17,350	18,542
Total machinery	\$ _____	\$33,448	\$37,089
Per cow	_____	\$418	\$452
<u>Labor:</u> Value of operators <sup>4</sup>	\$ _____	\$12,201	\$11,922
Unpaid family <sup>5</sup>	_____	1,245	1,194
Hired	_____	14,660	14,768
Total labor	\$ _____	\$28,106	\$27,884
Per cow	_____	\$351	\$340
Per cwt. milk	_____	\$2.34	\$2.29
Labor & machinery costs per cow	_____	\$769	\$792
Labor & machinery costs/cwt. milk	\$ _____	\$5.12	\$5.33

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

<sup>2</sup>Five percent of average machinery investment.

<sup>3</sup>Machine hire, repairs, farm share auto expense, and gas and oil.

<sup>4</sup>\$750 per month.

<sup>5</sup>\$500 per month.

MISCELLANEOUS COST CONTROL MEASURES  
Northern Hudson Region Dairy Farms, 1983 & 1982

Item	My Farm	108 Farms 1983	116 Farms 1982
Livestock expense per cow	\$ _____	\$349	\$277
Real estate expense per cow	\$ _____	\$173	\$186
Total farm expense per cow	\$ _____	\$2,384	\$2,240

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 &amp; ANALYSIS

This worksheet is a valuable tool in financial planning, expansions and for setting goals for improving the farm business. The average is from 108 Northern Hudson Region farms.

Item	Average	My Farm, _____		Cows
	Per Cow	Per Cow	Total	Goal
<b>CASH RECEIPTS</b>				
Milk sales	\$2,156	\$ _____	\$ _____	\$ _____
Crop sales	36	_____	_____	_____
Dairy cattle	128	_____	_____	_____
Calves & other livestock	25	_____	_____	_____
Other	46	_____	_____	_____
Total Cash Receipts	\$2,391	\$ _____	\$ _____	\$ _____
<b>CASH EXPENSES</b>				
Hired labor	\$ 183	\$ _____	\$ _____	\$ _____
Dairy concentrate	532	_____	_____	_____
Hay and other	10	_____	_____	_____
Machine hire	17	_____	_____	_____
Machine repair & auto expense	116	_____	_____	_____
Gas & oil	83	_____	_____	_____
Replacement livestock	28	_____	_____	_____
Breeding fees	29	_____	_____	_____
Vet & medicine	38	_____	_____	_____
Milk marketing (ADA, Dues)	203	_____	_____	_____
Other livestock expenses	78	_____	_____	_____
Fertilizer & lime	128	_____	_____	_____
Seeds & plants	34	_____	_____	_____
Spray & other	30	_____	_____	_____
Land, bldg. fence repair	28	_____	_____	_____
Taxes	56	_____	_____	_____
Insurance	29	_____	_____	_____
Rent	60	_____	_____	_____
Telephone & elec. (farm share)	56	_____	_____	_____
Miscellaneous	34	_____	_____	_____
Total Cash Expenses <sup>1</sup>	\$1,772	\$ _____	\$ _____	\$ _____
Total Cash Receipts	\$2,391	_____	_____	_____
Total Cash Expenses <sup>1</sup>	-1,772	-	-	-
Net Cash Flow	\$ 619	\$ _____	\$ _____	\$ _____
Cash Family Living Expense <sup>2</sup>	- 275	-	-	-
Amount Left for Debt Service, Capital Investment & Retained Earnings	\$ 344	\$ _____	\$ _____	\$ _____
Scheduled Debt Service	- 452	-	-	-
Available for Capital Investment	\$ (108)	\$ _____	\$ _____	\$ _____
Planned Expansion Livestock Purch.		_____	_____	_____
Planned Equipment Purchase		_____	_____	_____
Borrowed or Equity Funds Needed		\$ _____	\$ _____	\$ _____

<sup>1</sup>Interest paid excluded for it is contained in Scheduled Debt Service.

<sup>2</sup>Estimated: \$10,500 per family and four percent of cash farm receipts.