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DAIRY FARM BUSINESS SUMMARY

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WESTERN PLAINS 1979

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WESTERN PLAINS REGION
DAIRY FARM BUSINESS SUMMARY

Business records for 67 farms in the Western Plains region are summarized in this publication. This year the Western Plains region contains eleven counties: Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates. Dairymen in more than 40 counties throughout the State submit records through Cooperative Extension's Farm Business Management Program for summarization. Each dairyman receives a report for his farm containing all the management information found in this publication. A compilation of the individual farm reports are published in eight regional summaries like this one and one Statewide summary. These publications are used by many segments of the dairy industry to monitor the health of the milk production sector.

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) to 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. This booklet should also be useful to farmers in the Western Plains region who are not enrolled in the business management project and to agribusinessmen.

Highlights of the financial picture for Western Plains region dairy farms in 1979 include (1) a large increase in the value of dairy livestock inventories for the second consecutive year, (2) a record high net cash farm income, and (3) the combination of these two factors leading to a record high labor and management income. These items are discussed in more detail on the following pages.

The increasing size of the New York dairy farms and the dynamic nature of the economic environment within which they operate make farm incomes increasingly dependent upon the accuracy of management decisions.

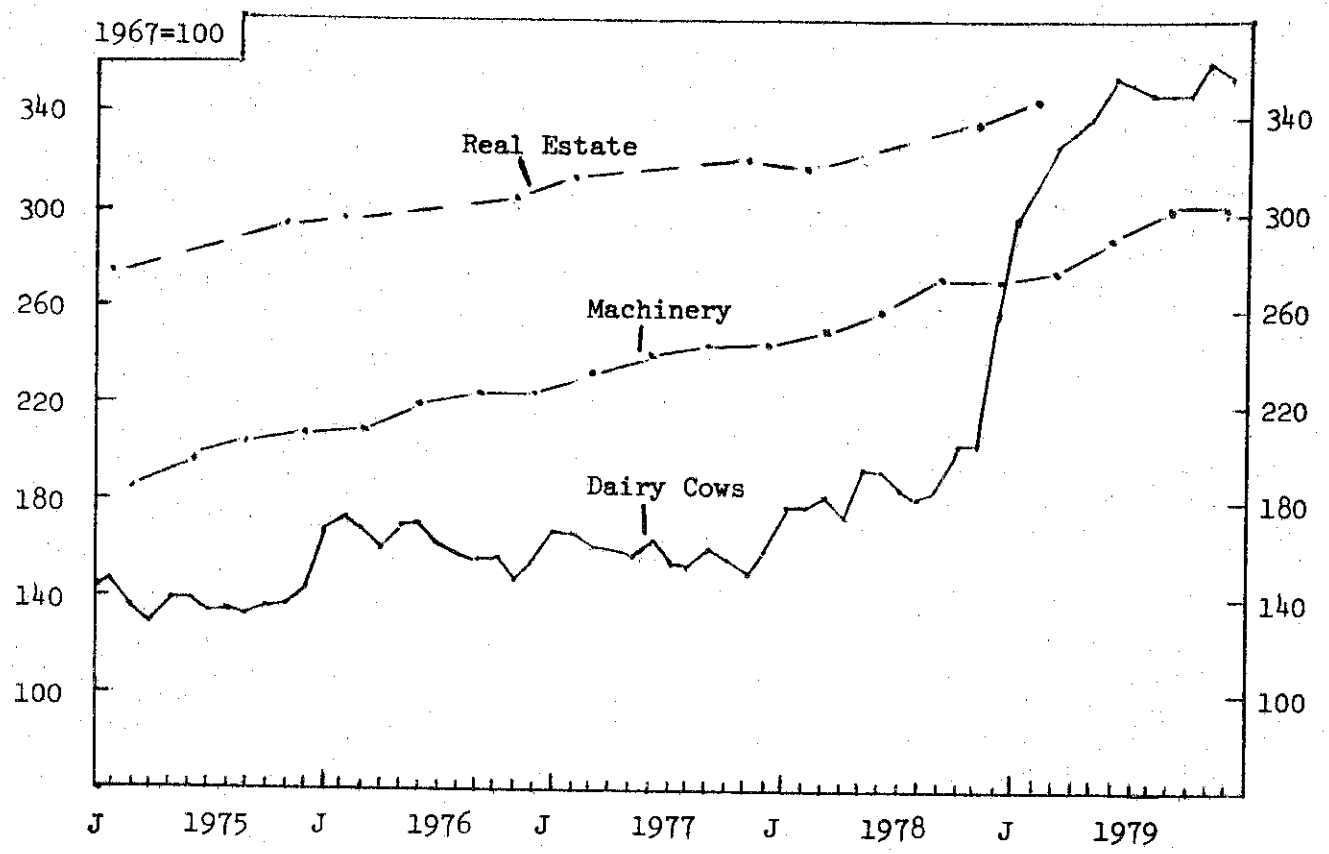
An assessment of past business performance combined with careful analysis of future economic conditions and goals of the farm business will greatly enhance the operator's profit potential. Cash expenses per farm in the Western Plains region averaged over $165,000 or $1,550 per cow in 1979. One year earlier the cash expenses per cow were $1,395. Those expense categories showing the largest increases were: gas and oil, interest paid, fertilizer and lime, and dairy concentrate. Some of these expenses were up over 40 percent from year earlier levels.

With prices received not expected to increase as rapidly as prices paid in 1980, increased pressure will be on the dairyman to operate the most efficient business possible. Two areas for continued emphasis are (1) dairy concentrate purchases and the total livestock feeding program, and (2) the crop production program. Dairy concentrate purchases are the largest single cash expense and with large increases in fuel and fertilizer costs the cropping program warrants careful examination as well. By carefully proceeding through this workbook to determine business strengths and weaknesses and carefully planning next year's business operations, a dairy farmer will be in a better position to manage his farm through the challenge of the 1980s.

This summary was prepared by Wayne A. Knoblauch, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University in cooperation with the following Extension Specialists and Agent: George Allhusen, Merville Button, Larry Davis and David Thorp.

Prices

VALUE OF NEW YORK FARM REAL ESTATE, DAIRY COWS & MACHINERY
1975-1979



Price changes affect the inventory values on New York dairy farms. Real estate and machinery prices have risen steadily during the past five years. Dairy cow prices dropped during 1974, rose sharply in late 1975, fluctuated throughout 1976 and 1977, and then jumped 62 percent in 1978. Dairy cow prices continued upward in 1979 and were reported at $1,105 for December, or 38 percent above the December 1978 price. From 1967 to 1979, machinery prices increased 202 percent, dairy cows 256 percent and real estate increased an estimated 255 percent.

Table 1. REPORTED VALUES OF DAIRY FARM INVENTORY ITEMS, 1975-1979

Year	N.Y. Dairy Cows		Machinery	N.Y. Farm Real Estate	
	Value/Head	1967=100	1967=100	Value/Acre	1967=100
1975	(Dec.) $450	145	(Dec.) 222	(Nov.) $543	294
1976	(Dec.) 485	156	(Dec.) 233	(Nov.) 562	304
1977	(Dec.) 495	160	(Dec.) 253	(Nov.) 593	320
1978	(Dec.) 800	258	(Dec.) 276	(Nov.) 629	339
1979	(Dec.) 1105	356	(Dec.) 302	(est.)	355
Percent change:					
1975 to 1976	+ 8%		+ 5%	+ 3%	
1976 to 1977	+ 3%		+ 9%	+ 5%	
1977 to 1978	+62%		+ 9%	+ 6%	
1978 to 1979	+38%		+ 9%	+ 5% (est.)	

SUMMARY OF FARM BUSINESS

Business Characteristics and Resources

Knowledge of farm resource availability and business characteristics is fundamental to judging management performance. The combination of resources and the management techniques used to put the resources to work is an important part of farm organization. The tables below show important farm business characteristics, the number of farms reporting these characteristics, and the average use of farm resources.

BUSINESS CHARACTERISTICS AND RESOURCES USED
67 Western Plains Dairy Farms, 1979

Type of Business	Number
Individual	46
Partnership	19
Corporation	2
Other	0

Business Records	Number
CAMIS	16
Account Book	21
Agrifax	9
Farm Bureau	1
Agway	10
Other	10

Dairy Records	Number
D.H.I.C.	43
Owner Sampler	13
Other	2
None	9

Barn Type	Number
Stanchion	17
Freestall	47
Other	3

Milking System	Number
Bucket & Carry	0
Dumping Station	10
Pipeline	15

	Number
Herringbone	39
Other Parlor	3

Labor Force	My Farm	Average
Operator	_____	16 mo.
Family paid	_____	5 mo.
Family unpaid	_____	2 mo.
Hired	_____	20 mo.
Total	_____	43 mo.
Age of operator(s)	_____	42 yrs.
Estimated value operators labor & management		$15,505

Land Use	My Farm	Average
Total acres owned	_____	309
Total acres rented	_____	214
Total crop acres	_____	382
Crop acres rented	_____	173

Number of Cows	My Farm	Average
Beginning of year	_____	107
End of year	_____	111
Average for year	_____	107

There were 91 operators on the 67 farms for an average of 1.36 per farm. Seven farms rented all of the land cropped. Only three farms rented no cropland.

Total farm inventory increased $68,330 or 14.5 percent during 1979. The end of year farm inventory values are the financial measures of farm assets used in this report.

CAPITAL INVESTMENT - FARM INVENTORY VALUE
67 Western Plains Dairy Farms, 1979

Item	My Farm 1/1/79	My Farm 1/1/80	Average 67 Farms 1/1/79	Average 67 Farms 1/1/80
Livestock	$_____	$_____	$124,868	$147,164
Feed & supplies	_____	_____	38,892	49,791
Machinery & equipment	_____	_____	96,887	109,541
Land & buildings	_____	_____	211,069	233,550
TOTAL	$_____	$_____	$471,716	$540,046

Machinery and Real Estate Inventory Calculations

Capital outlays for machinery, buildings, land and land improvements usually occur in large uneven amounts, but depreciate gradually over a period of time. Machinery depreciation is calculated from changes in machinery market values rather than by using the accounting value required for tax purposes.

MACHINERY & EQUIPMENT DEPRECIATION
67 Western Plains Dairy Farms, 1979

Item	My Farm		Average 67 Farms
Beginning inventory	$_____	$96,887	
Machinery purchases	_____	23,628	
Total (1)		$_____	$120,515
End of year inventory	$_____	$109,541	
Machinery sold	_____	415	
Total (2)		$_____	$109,956
DEPRECIATION (1 minus 2)		$_____	$ 10,559
Percent depreciation		_____%	9%

REAL ESTATE INVENTORY CALCULATIONS
67 Western Plains Dairy Farms, 1979

Item	My Farm		Average 67 Farms
Beginning market value		$_____	$211,069
Cost of new real estate	$_____	$17,783	
Less lost capital	-_____	- 2,759	
Value of new added		+$_____	+15,024
Less building depreciation	-_____		- 5,675
Less real estate sold	-_____		- 203
Total without appreciation	$_____		$220,215
Appreciation of beginning real estate	+_____		+ 13,335
End of year market value	$_____		$233,550

Lost Capital is the difference between the cost of new buildings or land improvements and the amount these improvements added to the value of the farm. It is not included in farm expenses, since building depreciation is based on the full cost of new buildings and will account for lost capital over the life of the investments. Building depreciation was taken from the farm depreciation schedule and is included as a farm expense. Real Estate Appreciation was estimated by each farm operator. It is the increase in value of real eatate caused by demand and inflation. Appreciation averaged 6 percent on these farms in 1979.

Receipts

Receipts (cash and non-cash) from the business should be large enough to cover all expenses (cash and non-cash) and leave a reasonable return for the operator's labor and management. Here we look at sources and amounts of receipts for this group of farms.

FARM RECEIPTS
67 Western Plains Dairy Farms, 1979

Item	My Farm	Average 67 Farms Amount	Percent
Milk sales	$_____	$184,305	71
Crop sales	_____	8,591	3
Dairy cattle sold	_____	19,289	8
Calves & other livestock sales	_____	5,388	2
Gas tax refunds	_____	266	2
Government payments	_____	1,195	
Work off farm	_____	1,648	
Custom machine work	_____	494	
Other	_____	2,447	1
Total cash receipts	$_____	$223,623	87
Increase in livestock	_____	22,296	9
Increase in feed & supplies	_____	10,899	4
TOTAL FARM RECEIPTS	$_____	$256,818	100

Milk sales per farm increased 29 percent in 1979 compared to the 1978 regional average. This occurred as a result of an increase of 11 in cow numbers and an increase in production per cow of 312 pounds plus an increase in milk price of over $1.40 per hundredweight. Dairy cattle sales were up 21 percent, reflecting increasing market prices for beef.

INCOME ANALYSIS

Item	My Farm	Western Plains Average 67 Farms, 1979	62 Farms, 1978
Average price/cwt. milk sold	$_____	$11.80	$10.38
Milk sales per cow	_____	$1,722	$1,483
Total cash receipts/man	_____	$62,465	$52,408

The average price per hundredweight of milk sold is calculated by dividing total milk receipts by total hundredweight sold. It will be different from an average of monthly prices received by the dairyman. The average milk price received in 1979 increased by $1.42 per hundredweight compared to 1978.

Expenses

Expenses on these 67 dairy farms averaged over $450 per day! Classifying expenses into categories will help identify those that may need tighter control.

FARM EXPENSES
67 Western Plains Dairy Farms, 1979

Item	My Farm	Average 67 Farms Amount	Percent
Hired Labor	$_____	$ 22,695	11
Feed			
Dairy concentrate	_____	38,075	18
Other feed	_____	1,591	1
Machinery			
Machine hire	_____	2,254	1
Machinery repairs	_____	10,370	5
Auto expense (farm share)	_____	434	--
Gas & oil	_____	7,907	4
Livestock			
Purchased livestock	_____	7,931	4
Breeding fees	_____	2,436	1
Veterinary & medicine	_____	4,007	2
Milk marketing	_____	4,429	2
Other livestock expense	_____	6,423	3
Crops			
Fertilizer & lime	_____	11,820	5
Seeds & plants	_____	4,367	2
Spray, other crop expense	_____	3,936	2
Real Estate			
Land, building, fence repair	_____	2,446	1
Taxes	_____	4,620	2
Insurance	_____	2,800	1
Rent	_____	5,314	2
Other			
Telephone (farm share)	_____	534	--
Electricity (farm share)	_____	2,841	1
Interest paid	_____	15,968	7
Miscellaneous	_____	2,607	1
Total Cash Expenses	$_____	$165,805	76
Non-Cash Items			
Machinery depreciation	$_____	$ 10,559	5
Building depreciation	_____	5,675	3
Unpaid family labor @$425/month	_____	900	1
Interest on equity capital @9%	_____	33,283	15
Decrease in livestock and feed	_____	0	0
TOTAL FARM EXPENSES	$_____	$216,222	100

Financial Summary of Year's Business

The results of management are reflected in the net return from the business. Agricultural economists have developed a number of ways to measure the returns from a farm business. Four common measures are reported on the next two pages.

NET CASH FARM INCOME
Western Plains Dairy Farms, 1979 & 1978

Item	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
Cash Farm Receipts	$_____	$223,623	$174,519
Cash Farm Expenses	_____	165,805	134,007
NET CASH FARM INCOME	$_____	$ 57,818	$ 40,512

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 a non-farm 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 10. Monthly cash flow planning is also recommended and may be required in order to identify cash flow problems in the year ahead. This is particularly true when major changes in the business are planned or when the price of important factors such as milk or purchased concentrate are expected to change significantly.

LABOR AND MANAGEMENT INCOME
Western Plains Dairy Farms, 1979 & 1978

Item	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
Total farm receipts	$_____	$256,818	$205,780
Total farm expenses	_____	216,222	169,681
LABOR & MANAGEMENT INCOME	_____	$ 40,596	$ 36,099
Number of operators	_____	1.36	1.43
LABOR & MGT. INCOME/OPERATOR	$_____	$ 28,894	$ 25,151

Labor and management income is the return to the operator for his efforts in operating the business. A nine percent charge for the use of the operator's equity capital in the business has been included as a farm expense for 1979. Last year the charge was seven percent. 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.

The increase in value of the livestock inventory is included as a non-cash receipt when calculating labor and management income. If this increase in value of the livestock inventory is corrected for the increase in cow numbers, and then eliminated as a receipt, labor and management income would be $24,554 per farm in 1979 and $10,555 in 1978.

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

LABOR, MANAGEMENT AND OWNERSHIP INCOME
Western Plains Dairy Farms, 1979 and 1978

Item	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
Labor & management income	$_____	$ 40,596	$ 36,099
Real estate appreciation	_____	13,335	8,997
Interest on equity capital	_____	33,283	20,828
Total per farm	$_____	$ 87,214	$ 65,924
Number of operators	_____	1.36	1.43
LABOR, MANAGEMENT AND OWNERSHIP INCOME/OPERATOR	$_____	$ 64,222	$ 45,940

Return on equity capital is a common measure for non-farm businesses. It can be computed with or without real estate appreciation. Both measures are shown below. To compute the rate of return, divide return on equity capital by farm net worth or equity capital.

RETURN ON EQUITY CAPITAL
Western Plains Dairy Farms, 1979 & 1978

Item	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
		Including Real Estate Appreciation	
Labor, mgt. & ownership income/farm	$_____	$ 87,214	$ 65,924
Less: Value of operator's labor & mgt.*	_____	21,060	19,073
Return on equity capital	$_____	$ 66,154	$ 46,851
Rate of return on equity capital	_____%	17.9%	15.7%
		Excluding Real Estate Appreciation	
Return on equity capital (from above)	$_____	$ 66,154	$ 46,851
Less: Real estate appreciation	_____	13,335	8,997
Return on equity capital	$_____	$ 52,819	$ 37,854
Rate of return on equity capital	_____%	14.2%	12.7%

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

Farm Family Financial Situation

The financial situation is an important part of the farm business summary. It has a direct affect on current cash outflow and future capital investment decisions. A farmer may have a good labor income, but a high debt payment schedule may seriously restrict his management flexibility.

FARM FAMILY FINANCIAL SITUATIONS
67 Western Plains Dairy Farms, January 1, 1980

Item	My Farm	Average 67 Farms	
		Per Farm	Per Cow
Assets			
Livestock	$_____	$147,166	$1,326
Feed and supplies	_____	49,791	449
Machinery and equipment	_____	109,541	987
Land and buildings	_____	233,550	2,104
Co-op investments	_____	12,271	111
Accounts receivable	_____	16,299	147
Cash and checking accounts	_____	4,270	38
Total Farm Assets	$_____	$572,888	$5,162
Savings Accounts	$_____	$ 3,846	$ 35
Cash value life insurance	_____	5,341	48
Stocks and bonds	_____	3,248	29
Non-Farm real estate	_____	3,152	28
Auto (personal share)	_____	1,572	14
All other	_____	8,372	75
Total Non-Farm Assets	$_____	$ 25,531	$ 229
TOTAL ASSETS	$_____	$598,419	$5,391
Liabilities			
Real estate mortgage	$_____	$ 92,100	$ 829
Liens on cattle & equipment	_____	78,989	712
Installment contracts	_____	5,190	47
Other loans over 7 years	_____	5,156	46
Other loans 1 to 7 years	_____	14,441	130
Other loans less than 1 year	_____	4,513	41
Feed store and other accounts	_____	2,686	24
Total Farm Liabilities	$_____	$203,075	$1,829
Non-Farm Liabilities	_____	757	7
TOTAL LIABILITIES	$_____	$203,832	$1,836
Farm Net Worth (equity capital)	$_____	$369,813	$3,332
Family Net Worth	$_____	$394,587	$3,555

Farm Net Worth is Total Farm Assets less Total Farm Liabilities. Family Net Worth is Total Assets less all Liabilities reported. With 1.36 operators per farm, the average family has a net worth of $290,138.

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

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

Debt payments planned for 1980 are the scheduled debt payments as of January 1980. Some farms in the group had scheduled debt payments exceeding 50 percent of the milk receipts. Committing this much cash inflow to debt payments can put a "big squeeze" on cash available for operating the business and family living.

FINANCIAL MEASURES & DEBT COMMITMENT
67 Western Plains Dairy Farms, January 1, 1980

Item	My Farm	Average 67 Farms
Payment Ability		
Net cash farm income	$_____	$57,818
Add: Interest paid	_____	15,968
CASH AVAILABLE FOR DEBT SERVICE & LIVING	$_____	$73,786
Less: Family living expenses*	_____	17,105
CASH AVAIL. FOR DEBT PYMT. & CAP. PURCH.	$_____	$56,681
Scheduled Annual Debt Payments		
Real estate mortgage	$_____	$11,385
Cattle and equipment liens	_____	20,760
Installment contracts	_____	2,441
Other loans over 7 years	_____	954
Other loans 1 to 7 years	_____	3,668
Other loans less than 1 year	_____	4,417
TOTAL PAYMENTS PLANNED 1979	$_____	$43,625
Measures of Debt Commitment & Equity Position		
Scheduled debt payments per cow	$_____	$ 393
Scheduled debt payments as % of milk sales	_____%	24%
Farm debt per cow	$_____	$ 1,830
Percent equity (total)	_____%	66%

* Estimated at $6,000 per family plus 4 percent of cash receipts.

ANALYSIS OF THE FARM BUSINESS

In analyzing a farm business, a manager must consider measures or factors that reflect the performance of specified parts of the farm business. One method of doing this is to look at factors of size, production, labor efficiency, capital efficiency, and cost. These factors are considered on the following pages. Another method, which is not considered in this workbook, is to analyze the farm business by analyzing the individual crop and livestock enterprises and the relationships between these enterprises.

Size of Business

Studies have shown that, in general, larger farms pay better. Two basic reasons for this are that larger businesses make possible more efficient use of overhead inputs such as labor and machinery and there are more units of production (milk) on which to make a profit. Another reason is that profitable farm businesses with good management have the ability and incentive to become larger. It is imperative to remember that large farms are not necessarily profitable and that size increases are only profitable with good management.

MEASURES OF SIZE OF BUSINESS
Western Plains Dairy Farms, 1979 & 1978

Measure	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
Number of cows	_____	107	96
Number of heifers	_____	80	74
Pounds of milk sold	_____	1,562,200	1,371,600
Man equivalent	_____	3.6	3.3
Total work units	_____	1,235	1,124
Total acres of crops	_____	382	351

In the table below, the 527 New York farms for 1978 are sorted by number of cows and the labor income is shown for each size group. In general, the large farms paid better, but, variability of income was significant.

COWS PER FARM AND LABOR AND MANAGEMENT INCOME
527 New York Dairy Farms, 1978

Number of Cows	Number of Farms	Percent of Farms	Labor & Management Income Per Operator	Labor & Management Income Per Cow
Under 40	73	13%	$ 9,865	$307
40 - 54	156	30	14,480	345
55 - 69	104	20	18,505	376
70 - 84	68	13	20,246	345
85 - 99	34	6	18,818	286
100 - 114	28	5	32,417	382
115 - 129	19	4	27,440	358
130 - 149	16	3	32,752	341
150 and over	29	6	45,387	329

Rates of Production

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

CROP YIELDS & MILK SOLD PER COW
67 Western Plains Dairy Farms, 1979

Crop	My Farm		Average of Farms Reporting		
	Acres	Yield	Farms Reporting	Acres	Yield
Dry Hay	____	____	54	66	(combined
Hay crop silage	____	____	52	133	below)
Other hay crops	____	____	5	19	
Corn silage	____	____	65	91	15.5 tons
Grain corn	____	____	63	113	96.7 bu.
Oats	____	____	27	34	78.0 bu.
Wheat	____	____	31	37	49.2 bu.
Hay equivalent:					
All hay crops	____	____	67	143	3.4 tons
All hay & silage	____	____	67	232	4.1 tons
Milk sold per cow	____			14,600 lbs.	

Tons of hay equivalent of all hay and silage is a good measure of the overall rate of forage production. One ton of hay equivalent is equal to one ton of dry hay containing 90 percent dry matter.

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

MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
527 New York Dairy Farms, 1978

Pounds of Milk Sold Per Cow	Number of Farms	Number of Cows	Feed Bought Per Cow	Labor & Management Income	
				Per Operator	Per Cow
Under 10,000	28	60	$294	$ 3,400	$ 64
10,000 - 10,999	37	52	339	10,170	227
11,000 - 11,999	37	67	334	19,230	349
12,000 - 12,999	76	69	370	18,680	296
13,000 - 13,999	99	75	378	18,680	294
14,000 - 14,999	99	79	442	23,650	369
15,000 - 15,999	85	75	465	26,690	456
16,000 and over	66	65	499	21,590	438

Labor Efficiency

The labor input is an important factor in farm production. Several measures of accomplishment per man or labor efficiency are shown below.

MEASURES OF LABOR EFFICIENCY
67 Western Plains Dairy Farms, 1979 & 1978

Item	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
Man equivalent	_____	3.6	3.3
Cows per man	_____	30	29
Lbs. milk sold per man	_____	436,369	411,892
Work units per man	_____	345	338

Number of cows per man is calculated by dividing the average number of cows by the man equivalent which represents the total farm labor force. Pounds of milk sold per man is the best 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 man 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. For these 67 farms, the average cost in 1979 for cash wages, Social Security, Workmen's Compensation and purchased privileges was $908 per month of hired labor.

MILK SOLD PER MAN AND LABOR AND MANAGEMENT INCOME
527 New York Dairy Farms, 1978

Pounds of Milk Sold Per Man	Number of Farms	Number of Cows	Lbs.Milk Per Cow	Labor & Management Income Per Operator	Per Cow
Under 250,000	62	41	11,200	$ 6,760	$191
250,000 - 299,999	60	49	12,900	12,830	309
300,000 - 349,999	71	68	13,100	14,170	279
350,000 - 399,999	91	66	13,800	21,000	376
400,000 - 449,999	82	73	14,400	23,090	392
450,000 - 499,999	64	79	14,500	23,500	337
500,000 - 599,999	67	97	15,200	25,570	366
600,000 and over	30	120	14,500	34,840	413

Capital Efficiency

Capital is a key resource and a manager must continually analyze its use in the business. The measures of capital efficiency shown in the following table include owned as well as borrowed capital. The management of borrowed capital has been analyzed on page 10. It is possible for the business to be under capitalized, but investing too much capital per productive unit is a more common problem. The best way a farmer can get a good return on capital invested in his business is to "put it to work".

MEASURES OF CAPITAL EFFICIENCY
Western Plains Dairy Farms, 1979 & 1978

Item	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
Farm capital per man	$_____	$150,851	$132,956
Farm capital per cow	$_____	4,865	4,472
Land & buildings per cow	$_____	2,104	2,033
Land & buildings/crop acre owned	$_____	1,117	1,191
Machinery investment per cow	$_____	987	956
Capital turnover	_____ yrs.	2.1 yrs.	2.2 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 lots of farm buildings will have a relatively large land and building investment per crop acre owned. This could be an indication that his use of capital 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 turner 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.

SIZE OF HERD AND CAPITAL EFFICIENCY
527 New York Dairy Farms, 1978

Number of Cows	Number of Farms	Capital Investment Per Cow			Total Capital Per Cwt. Milk
		Total	Real Estate	Machinery	
Under 40	73	$4,860	$2,660	$900	$38
40 - 54	156	4,780	2,500	890	36
55 - 69	104	4,570	2,300	890	33
70 - 84	68	4,880	2,500	940	34
85 - 99	34	4,390	2,200	800	33
100 - 114	28	4,480	2,200	800	32
115 - 129	19	4,100	2,000	750	30
130 - 149	16	4,000	2,000	700	28
150 and over	29	3,800	1,800	680	28

Cost Control

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

Feed Costs

Purchased feed is the largest single expenditure on most dairy farms. The average Western Plains farm included in this summary used 22 cents from each dollars worth of milk sold to purchase dairy feed in 1979. Even though this figure is lower than in most other regions of the state, it is very important to reduce purchased feed costs while maintaining production levels in the herd.

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

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

FEED COSTS AND RELATED MEASURES
Western Plains Dairy Farms, 1979 & 1978

Item	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
Feed purchased per cow	$_____	$356	$302
Crop expense per cow	_____	188	160
Feed bought per cwt. milk	_____	$2.44	$2.11
Feed & crop expense/cwt. milk	_____	$3.73	$3.23
Percent feed is of milk receipts	_____%	21%	20%
Hay equivalent per cow (tons)	_____	8.8	8.0
Crop acres per cow	_____	3.6	3.7
Lime and fertilizer/crop acre	$_____	$31	$25
Heifers as % of cow numbers	_____%	75%	77%

Machinery, Labor, and Miscellaneous Costs

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

LABOR & MACHINERY COSTS
Western Plains Dairy Farms, 1979 & 1978

Item	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
Total machinery[1/]	$_____	$40,813	$32,620
Machinery cost per cow	$_____	$381	$340
Machinery costs/cwt. milk	$_____	$2.61	$2.38
Total labor costs[2/]	$_____	33,595	31,586
Labor costs/cow	$_____	$314	$329
Labor costs/cwt. milk	$_____	$2.15	$2.30
Labor & machinery costs/cwt. milk	$_____	$4.76	$4.68

1/ Machinery depreciation, nine percent interest on the average machinery inventory, machine hire, machinery repairs, farm share of auto expense and gas and oil are all included.

2/ Includes hired labor and paid family labor, plus unpaid family labor valued at $425 per month and operator's labor valued at $650 per month.

MISCELLANEOUS COST CONTROL MEASURES
Western Plains Dairy Farms, 1979 & 1978

Item	My Farm	Average 67 Farms 1979	Average 62 Farms 1978
Veterinary & medicine per cow	$_____	$37.45	$30.76
Other livestock expense per cow	$_____	$60.03	$54.79
Real estate expense per cow	$_____	$141.87	$142,97
Total farm expense per cow	$_____	$2,021	$1,768

Other livestock expenses per cow include dairy supplies, bedding and DHIC fees but exclude breeding fees and milk marketing. Real estate expenses include repairs, taxes, insurance, and rent.

Total farm expenses were $253 per cow higher in 1979 for an increase of 14 percent over 1978. This represents an increase in total expenses of $1.73 per hundredweight of milk.

YEARLY FINANCIAL PLANNING & ANALYSIS
67 Western Plains Dairy Farms, 1979
Ave.: 107 Cows, 14,600 Lbs. Milk/Cow, $11.80/cwt.

Item	Average Per Cow	My Farm, _____ Cows Per Cow	Total	Goal
CASH RECEIPTS				
Milk sales	$1,722	$_____	$_____	$_____
Crop sales	80	_____	_____	_____
Dairy cattle	180	_____	_____	_____
Calves & other livestock	50	_____	_____	_____
Other	57	_____	_____	_____
Total Cash Receipts	$2,089	$_____	$_____	$_____
CASH EXPENSES				
Hired labor	212	$_____	$_____	$_____
Dairy concentrate	356	_____	_____	_____
Hay and other	15	_____	_____	_____
Machine hire	21	_____	_____	_____
Machine repair & auto expense	101	_____	_____	_____
Gas & oil	74	_____	_____	_____
Breeding fees	23	_____	_____	_____
Vet & Medicine	37	_____	_____	_____
Milk marketing (ADA, Dues)	42	_____	_____	_____
Other livestock expense	60	_____	_____	_____
Fertilizer & lime	110	_____	_____	_____
Seeds & plants	41	_____	_____	_____
Spray & other	37	_____	_____	_____
Land, bldg. fence repair (owner)	23	_____	_____	_____
Taxes (owner)	43	_____	_____	_____
Insurance (owner)	26	_____	_____	_____
Rent (owner)	50	_____	_____	_____
Telephone (farm share)	5	_____	_____	_____
Electricity (farm share)	27	_____	_____	_____
Miscellaneous	24	_____	_____	_____
Total Cash Expenses 1/	$1,327	$_____	$_____	$_____
Total Cash Receipts	$2,089	$_____	$_____	$_____
Total Cash Expenses 1/	-1,327	-_____	-_____	-_____
Net Cash Flow	$ 762	$_____	$_____	$_____
Cash Family Living Expense 2/	- 160	-_____	-_____	-_____
Amount Left for Debt Service, Capital Investment & Retained Earnings	$ 602	$_____	$_____	$_____
Scheduled Debt Service	- 393	-_____	-_____	-_____
Available for Capital Invest. 3/	$ 209	$_____	$_____	$_____
Planned Cattle Purchase		_____	_____	_____
Planned Equipment Purchase		_____	_____	_____
Borrowed or Equity Funds Needed		$_____	$_____	$_____

1/ Interest paid excluded from cash expenses as it is contained in Scheduled Debt Service. Purchased livestock are also excluded.
2/ Estimated: $6,000 per family and four percent of cash receipts.
3/ Retained earnings are $0.

How Does Your Management Measure Up?

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

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

STRONG POINTS:

_____

_____

_____

_____

AVERAGE:

_____

_____

_____

_____

NEED IMPROVEMENT:

_____

_____

_____

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

Another way to measure your management performance is to compare your current business factors with those from previous years. Page 26 is provided for this purpose. Answering the following questions will help evaluate your farm business progress.

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

2) Have rates of production shown a steady increase?

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

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

5) Is growth in Net Worth keeping up with increased capital investment?

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

7) Have you reached the business goals set for 1979 and set new goals for 1980?

Farm Business Chart

The Farm Business Chart is a tool which can be used in analyzing a business to determine the strong and weak points. The figure at the top of each column is the average of the top 10 percent of the 527 farms for that factor. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. Each column of the chart is independent of the others. The farms which are in the top 10 percent for one factor would not necessarily be the same farms which make up the top 10 percent for any other factor.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
527 New York Dairy Farms, 1978

Size of Business			Rates of Production			Labor Efficiency	
Man Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crops Per Acre	Tons Corn Silage Per Acre	Cows Per Man	Pounds Milk Sold Per Man
5.0	168	2,333,700	17,100	4.4	20	44	631,900
3.4	106	1,499,800	15,800	3.4	17	37	518,900
2.9	83	1,188,200	15,200	3.0	16	33	473,100
2.5	70	1,004,200	14,700	2.7	15	31	434,000
2.3	62	875,000	14,100	2.5	14	29	403,100
2.0	55	769,700	13,600	2.3	13	27	373,500
2.0	50	671,400	13,000	2.1	12	25	340,700
1.7	44	578,000	12,400	1.9	11	23	306,000
1.5	39	487,500	11,300	1.7	9	21	264,200
1.2	31	352,100	9,400	1.2	6	17	192,400

Feed Bought		Machinery Cost Per Cow	Labor and Machinery Cost Per Cow	Feed and Crop Expense Per Cwt. Milk
Per Cow	% of Milk Receipts			
$178	13%	$151	$382	$2.36
263	20	197	443	2.98
322	24	226	482	3.24
371	26	250	517	3.48
398	28	271	541	3.67
424	30	288	565	3.85
455	32	311	598	4.04
489	34	338	636	4.29
539	37	376	695	4.62
644	43	476	826	5.27

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

This chart can be used to analyze a dairy business by drawing a line through the figure in each column which represents the level of management for this farm.

FARM BUSINESS SUMMARY BY HERD SIZE
527 New York Dairy Farms, 1978

Item	Farms with: Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows
Capital Investment (end of year)				
Livestock	$ 35,739	$ 52,755	$ 65,255	$ 78,468
Feed and supplies	8,173	13,258	19,892	28,543
Machinery and equipment	30,530	42,334	56,067	70,121
Land and buildings	89,130	119,477	144,548	187,022
TOTAL INVESTMENT	$163,572	$227,824	$285,762	$364,154
Receipts				
Milk sales	$ 44,369	$ 64,277	$ 88,791	$113,625
Dairy cattle sold	3,822	5,553	8,146	9,008
Other livestock sales	1,260	1,481	1,623	2,366
Crop sales	327	610	855	659
Miscellaneous receipts	1,474	1,612	1,969	2,739
Total Cash Receipts	$ 51,252	$ 73,533	$101,384	$128,397
Increase in livestock	9,421	13,303	15,071	17,986
Increase in feed & supplies	1,470	2,855	4,074	4,797
TOTAL FARM RECEIPTS	$ 62,143	$ 89,691	$120,529	$151,180
Expenses				
Hired labor	$ 1,371	$ 2,682	$ 5,625	$ 9,875
Dairy feed	12,936	18,960	24,903	31,012
Other feed	830	1,067	1,242	1,048
Machine hire	299	476	637	1,081
Machinery repair	2,287	3,202	4,783	6,270
Auto expense (farm share)	281	308	283	374
Gas and oil	1,534	1,996	2,823	3,497
Purchased animals	2,402	3,242	2,776	1,885
Breeding fees	606	912	1,085	1,338
Veterinary and medicine	841	1,236	1,559	1,953
Milk marketing	1,218	1,581	2,516	3,161
Other livestock expense	1,734	2,543	3,185	4,233
Fertilizer and lime	1,922	2,788	4,508	6,902
Seeds and plants	612	1,044	1,525	2,101
Spray and other crop expense	327	744	877	1,455
Land, bldg, fence repair	1,085	1,091	1,708	2,158
Taxes and insurance	2,304	3,068	3,752	4,805
Electric & phone (farm share)	1,218	1,622	2,098	2,548
Interest paid	3,190	5,806	7,232	8,654
Miscellaneous expenses	885	1,467	2,190	3,321
Total Cash Expenses	$ 37,882	$ 55,835	$ 75,307	$ 97,671
Machinery depreciation	3,077	4,280	5,626	6,504
Building depreciation	1,283	1,835	2,574	2,957
Unpaid family labor	1,700	1,700	1,275	850
Interest on equity @ 7%	8,070	10,171	12,801	17,303
Decrease in feed & supplies	--	--	--	--
TOTAL FARM EXPENSES	$ 52,012	$ 73,821	$ 97,583	$125,285
Financial Summary				
Total Farm Receipts	$ 62,143	$ 89,691	$120,529	$151,180
Total Farm Expenses	52,012	73,821	97,583	125,285
Labor & Mgt. Income	$ 10,131	$ 15,870	$ 22,946	$ 25,895
Number of operators	1.03	1.10	1.24	1.28
LABOR & MGT. INCOME/OPERATOR	$ 9,865	$ 14,480	$ 18,505	$ 20,246

FARM BUSINESS SUMMARY BY HERD SIZE
527 New York Dairy Farms, 1978

Item	Farms with: 85 to 99 Cows	100 to 114 Cows	115 to 129 Cows	130 to 149 Cows	150 or More Cows
Capital Investment (end of year)					
Livestock	$ 97,347	$121,909	$119,719	$141,329	$190,365
Feed and supplies	30,205	35,548	41,538	45,886	64,626
Machinery and equipment	74,732	87,843	93,068	99,001	132,126
Land and buildings	207,813	233,434	253,252	280,079	367,009
TOTAL INVESTMENT	$410,097	$478,734	$507,577	$566,295	$754,126
Receipts					
Milk sales	$131,892	$154,734	$178,211	$209,111	$292,088
Dairy cattle sold	12,876	14,438	12,279	17,746	23,754
Other livestock sales	2,776	4,671	2,549	3,182	5,066
Crop sales	1,537	1,051	1,479	944	2,102
Miscellaneous receipts	2,717	3,977	3,514	5,236	7,646
Total Cash Receipts	$151,798	$178,871	$198,032	$236,219	$330,656
Increase in livestock	22,212	35,079	29,387	34,682	46,650
Increase in feed & supplies	2,474	8,471	5,959	3,937	9,566
TOTAL FARM RECEIPTS	$176,484	$222,421	$233,378	$274,834	$386,872
Expenses					
Hired labor	$ 12,139	$ 14,607	$ 18,495	$ 24,385	$ 41,507
Dairy feed	36,223	48,215	46,532	58,126	78,730
Other feed	2,093	3,096	3,003	2,422	3,797
Machine hire	1,325	1,025	950	972	3,918
Machinery repair	8,028	8,105	9,079	12,487	15,440
Auto expense (farm share)	584	523	448	379	572
Gas and oil	4,808	4,963	5,854	6,361	9,147
Purchased animals	2,219	8,158	4,912	4,120	9,642
Breeding fees	1,764	1,938	2,186	2,640	3,151
Veterinary and medicine	2,419	2,870	3,102	4,394	4,704
Milk marketing	4,026	3,733	5,333	5,473	9,729
Other livestock expense	4,170	5,089	5,572	6,937	9,295
Fertilizer and lime	7,551	7,293	7,886	9,950	16,339
Seeds and plants	2,415	2,844	2,785	3,767	5,176
Spray and other crop expense	1,583	2,026	2,815	3,429	4,364
Land, bldg., fence repair	2,524	1,957	2,740	4,565	4,788
Taxes and insurance	5,970	5,919	7,178	8,028	11,419
Electric & phone (farm share)	3,176	3,258	3,914	3,406	5,161
Interest paid	10,676	13,477	12,395	14,610	20,567
Miscellaneous expenses	3,854	4,016	5,995	5,297	8,626
Total Cash Expenses	$117,547	$143,112	$151,174	$181,748	$266,072
Machinery depreciation	9,155	9,979	9,912	10,443	15,674
Building depreciation	3,284	5,885	4,293	7,095	7,289
Unpaid family labor	850	1,700	425	425	850
Interest on equity @ 7%	19,641	21,224	24,274	28,063	32,855
Decrease in feed & supplies	--	--	--	--	--
TOTAL FARM EXPENSES	$150,477	$181,900	$190,078	$227,774	$322,740
Financial Summary					
Total Farm Receipts	$176,484	$222,421	$233,378	$274,838	$386,872
Total Farm Expenses	150,477	181,900	190,078	227,774	322,740
Labor & Mgt. Income	$ 26,007	$ 40,521	$ 43,300	$ 47,064	$ 64,132
Number of operators	1.38	1.25	1.58	1.44	1.41
LABOR & MGT. INCOME/OPR	$ 18,818	$ 32,417	$ 27,440	$ 32,752	$ 45,387

SELECTED BUSINESS FACTORS BY HERD SIZE
527 New York Dairy Farms, 1978

Item	Farms with: Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows
Number of farms	73	156	104	68
Size of Business				
Number of cows	33	46	61	75
Number of heifers	22	31	41	54
Pounds of milk sold	426,800	624,700	855,100	1,085,500
Man equivalent	1.6	1.8	2.3	2.6
Total work units	370	512	677	839
Total crop acres	111	147	199	244
(Crop acres rented)	(17)	(29)	(50)	(70)
Rates of Production				
Milk sold per cow	12,930	13,600	14,000	14,500
Tons hay crops per acre	2.1	2.3	2.4	2.6
Tons corn silage per acre	13.0	13.2	13.3	14.2
Bushels of oats per acre	55	72	58	61
Labor Efficiency				
Cows per man	21	25	27	29
Pounds milk sold per man	270,100	341,400	380,000	420,700
Work units per man	234	280	301	325
Feed Costs				
Feed purchased per cow	$392	$412	$408	$413
Crop expense per cow	$87	$99	$113	$139
Feed cost per cwt. milk	$3.03	$3.04	$2.91	$2.86
Feed & crop exp./cwt. milk	$3.70	$3.77	$3.72	$3.82
% feed is of milk receipts	29%	29%	28%	27%
Hay equivalent per cow	7.8	8.3	8.5	8.8
Crop acres per cow	3.4	3.2	3.3	3.3
Fertilizer & lime/crop acre	$17	$19	$23	$28
Machinery and Labor Costs				
Total machinery costs	$9,501	$13,110	$17,825	$22,372
Machinery cost per cow	$288	$285	$292	$298
Machinery cost/cwt. milk	$2.23	$2.10	$2.08	$2.06
Labor cost per cow	$329	$279	$273	$273
Labor cost per cwt. milk	$2.55	$2.05	$1.95	$1.89
Capital Efficiency				
Investment per man	$103,500	$124,500	$127,000	$141,100
Investment per cow	$4,800	$4,850	$4,600	$4,860
Investment per cwt. milk	$38	$36	$33	$34
Land & buildings per cow	$2,620	$2,540	$2,330	$2,490
Machinery investment/cow	$900	$900	$900	$935
Capital turnover	2.6	2.5	2.4	2.4
Other				
Price per cwt. milk sold	$10.40	$10.29	$10.38	$10.47
Acres hay crops	85	99	123	140
Acres corn silage	22	37	52	66
Inventory changes 1978*:				
Number of cows	0	0	0	+1
Invt. value per cow**	+$277	+$348	+$243	+$229

* Change from 1/1/78 to 1/1/79.
** Livestock inventory includes heifers.

SELECTED BUSINESS FACTORS BY HERD SIZE
527 New York Dairy Farms, 1978

Item	Farms with: 85 to 99 Cows	100 to 114 Cows	115 to 129 Cows	130 to 149 Cows	150 or More Cows
Number of farms	34	28	19	16	29
Size of Business					
Number of cows	91	106	121	138	195
Number of heifers	72	77	90	90	124
Pounds of milk sold	1,240,100	1,482,800	1,699,200	1,999,300	2,651,400
Man equivalent	2.8	3.4	3.5	3.8	5.4
Total work units	1,014	1,183	1,333	1,487	2,064
Total crop acres	271	331	361	382	506
(Crop acres rented)	(83)	(115)	(159)	(111)	(212)
Rates of Production					
Milk sold per cow	13,600	14,000	14,000	14,500	13,600
Tons hay crops per acre	3.0	2.5	2.6	2.5	2.6
Tons corn silage/acre	14.1	13.6	14.4	14.6	14.4
Bushels oats/acre	52	52	64	66	73
Labor Efficiency					
Cows per man	32	31	35	36	36
Pounds milk sold/man	438,200	433,600	485,500	522,000	489,200
Work units per man	358	346	381	388	381
Feed Costs					
Feed purchased per cow	$398	$455	$385	$421	$404
Crop expense per cow	$127	$115	$111	$124	$133
Feed cost per cwt. milk	$2.92	$3.25	$2.74	$2.91	$2.97
Feed & crop exp./cwt. milk	$3.85	$4.07	$3.53	$3.76	$3.95
% feed is of milk receipts	27%	31%	26%	28%	27%
Hay equivalent per cow	8.7	8.9	8.8	8.2	7.7
Crop acres per cow	3.0	3.1	3.0	2.8	2.6
Fertilizer & lime/crop acre	$28	$22	$22	$26	$32
Machinery and Labor Costs					
Total machinery costs	$28,917	$30,361	$32,366	$37,230	$53,376
Machinery cost per cow	$318	$286	$267	$270	$274
Machinery cost/cwt. milk	$2.33	$2.05	$1.90	$1.86	$2.01
Labor cost per cow	$257	$246	$258	$260	$274
Labor cost/cwt. milk	$1.89	$1.76	$1.84	$1.79	$2.01
Capital Efficiency					
Investment per man	$144,900	$140,000	$145,000	$147,900	$139,100
Investment per cow	$4,410	$4,470	$4,100	$4,000	$3,800
Investment/cwt. milk	$33	$32	$30	$28	$28
Land & buildings/cow	$2,235	$2,180	$2,000	$2,000	$1,840
Machinery investment/cow	$800	$820	$750	$700	$660
Capital turnover	2.3	2.2	2.2	2.1	1.9
Other					
Price per cwt. milk sold	$10.64	$10.44	$10.49	$10.46	$11.02
Acres hay crops	141	180	194	198	234
Acres corn silage	80	110	115	130	185
Inventory changes 1978*:					
Number of cows	+3	+1	+4	+1	+3
Invt. value per cow**	+$212	+$320	+$212	+$239	+$222

* Change from 1/1/78 to 1/1/79.
** Livestock inventory includes heifers.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
527 New York Dairy Farms, January 1, 1979

Item	Farms with: Less than 40 Cows	40 to 54 Cows	55 to 69 Cows	70 to 84 Cows
Number of farms	73	156	104	68
Assets				
Livestock	$ 35,740	$ 52,755	$ 65,255	$ 78,470
Feed and supplies	8,174	13,258	19,892	28,543
Machinery & equipment	30,530	42,335	56,068	70,121
Land and buildings	89,130	119,478	144,549	187,022
Co-op investment	838	2,393	2,585	3,794
Accounts receivable	3,226	4,828	6,532	8,284
Cash & checking accounts	1,275	1,374	1,971	2,617
Total Farm Assets	$168,913	$236,421	$296,852	$378,851
Savings accounts	2,336	3,254	4,117	3,505
Cash value life insurance	2,376	1,886	2,570	3,131
Stocks and bonds	982	520	1,808	3,695
Nonfarm real estate	2,201	2,698	3,157	4,945
Auto (personal share)	969	1,032	962	1,042
All other	3,816	3,620	4,336	4,843
Total Nonfarm Assets	$ 12,680	$ 13,010	$ 16,950	$ 21,161
TOTAL ASSETS	$181,593	$249,431	$313,802	$400,012
Liabilities				
Real estate mortgage	$ 27,851	$ 53,975	$ 63,209	$ 77,966
Liens on cattle & equipt.	18,893	29,321	38,989	40,351
Installment contracts	1,567	1,913	2,363	2,447
Other loans over 7 years	720	1,317	2,591	2,185
Other loans 1 to 7 years	2,696	2,481	3,040	5,201
Other loans less than 1 year	201	517	1,372	1,787
Feed store & other accounts	1,693	1,592	2,414	1,725
Total Farm Liabilities	$ 53,621	$ 91,116	$113,978	$131,662
Nonfarm Liabilities	412	587	711	729
TOTAL LIABILITIES	$ 54,033	$ 91,703	$114,689	$132,391
Farm Net Worth (Equity Capital)	$115,292	$145,305	$182,874	$247,189
FAMILY NET WORTH	$127,560	$157,728	$199,113	$267,621
Financial Measures				
Percent equity	70%	63%	63%	67%
Farm debt per cow	$1,577	$1,898	$1,809	$1,755
Available for debt service and living	$16,555	$23,498	$33,303	$39,376
Scheduled annual debt payment	$9,140	$14,216	$19,411	$23,752
Scheduled debt payment/cow	$269	$296	$308	$317
Scheduled debt payment as percent of milk check	21%	22%	22%	21%

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
527 New York Dairy Farms, January 1, 1979

Item	Farms with: 85 to 99 Cows	100 to 114 Cows	115 to 129 Cows	130 to 149 Cows	150 or More Cows
Number of farms	34	28	19	16	29
Assets					
Livestock	$ 97,349	$121,910	$119,720	$141,329	$190,366
Feed and supplies	30,206	35,549	41,539	45,886	64,626
Machinery & equipment	74,733	87,844	93,069	99,001	132,127
Land and buildings	207,814	233,435	253,252	280,080	367,010
Co-op investment	5,970	5,439	8,301	8,186	12,723
Accounts receivable	10,338	10,866	20,992	18,651	24,789
Cash & checking accounts	1,929	2,476	4,846	5,012	3,992
Total Farm Assets	$428,339	$497,519	$541,719	$598,145	$795,633
Savings accounts	4,607	4,087	3,571	3,327	2,497
Cash value life insurance	3,013	7,869	2,509	4,274	3,698
Stocks and bonds	3,118	4,885	1,465	5,580	4,771
Nonfarm real estate	2,058	250	7,236	15,656	15,442
Auto (personal share)	561	1,206	816	1,134	2,131
All other	3,191	3,780	2,942	4,281	9,901
Total Nonfarm Assets	$ 16,548	$ 22,077	$ 18,539	$ 34,252	$ 38,440
TOTAL ASSETS	$444,887	$519,596	$560,258	$632,397	$834,073
Liabilities					
Real estate mortgage	$ 80,379	$109,060	$105,786	$119,664	$172,762
Liens on cattle & equipt.	52,117	62,451	74,989	70,337	129,739
Installment contracts	2,163	3,762	2,755	2,366	3,763
Other loans over 7 years	3,663	719	2,184	687	10,191
Other loans 1 to 7 years	6,754	10,783	3,793	1,666	5,731
Other loans less than 1 year	828	2,184	1,895	625	1,995
Feed store & other accounts	1,846	5,361	3,540	1,902	2,088
Total Farm Liabilities	$147,750	$194,320	$194,942	$197,247	$326,269
Nonfarm Liabilities	276	324	3,476	687	1,724
TOTAL LIABILITIES	$148,026	$194,644	$198,418	$197,934	$327,993
Farm Net Worth (Equity Capital)	$280,589	$303,199	$346,777	$400,898	$469,364
FAMILY NET WORTH	$296,861	$324,952	$361,840	$434,463	$506,080
Financial Measures					
Percent equity	67%	63%	65%	69%	61%
Farm debt per cow	$1,572	$1,799	$1,572	$1,379	$1,623
Available for debt service and living	$44,922	$49,231	$59,244	$69,078	$85,141
Scheduled annual debt payment	$27,466	$33,068	$36,631	$31,485	$56,418
Scheduled debt payment/cow	$292	$306	$295	$220	$281
Scheduled debt payment as percent of milk check	21%	21%	21%	15%	19%

PROGRESS OF THE FARM BUSINESS

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

Item	1977	1978	1979	1980 Goal
Size of Business				
Number of cows				
Number of heifers				
Pounds of milk sold				
Man equivalent				
Acres of crops				
Rates of Production				
Lbs. milk sold per cow				
Tons hay crops per acre				
Tons corn silage/acre				
Labor Efficiency				
Cows per man				
Lbs. milk sold per man				
Cost Control				
Feed bought per cow	$	$	$	$
Machinery cost per cow	$	$	$	$
Labor cost per cow	$	$	$	$
Capital Efficiency				
Farm capital per cow	$	$	$	$
Land & bldgs. per cow	$	$	$	$
Machinery investment per cow	$	$	$	$
Price				
Price per cwt. milk	$	$	$	$
Financial Summary				
Net cash farm income	$	$	$	$
Total farm receipts	$	$	$	$
Total farm expenses	$	$	$	$
Labor & mgmt. inc./oper.	$	$	$	$
Farm Net Worth	$	$	$	$

Are you satisfied with your progress? Have you set a realistic goal for 1980?

Western Plains Dairy Farms Profitability and Business Characteristics by Level of Crop Sales, 1979

Item	Average 51 Western Plains Farms <$8,500 Crop Sales	Average 17 Western Plains Farms >$ 8,500 Crop Sales
Capital Investment (1/1/80)		
Livestock	$138,132	$172,903
Feed and supplies	46,290	58,864
Machinery and equipment	95,768	147,301
Land and buildings	205,000	314,019
TOTAL INVESTMENT	$485,190	$693,087
Receipts		
Milk sales	$167,206	$232,421
Livestock sales	23,334	28,045
Crop sales	2,919	25,232
Miscellaneous receipts	4,192	11,429
Total Cash Receipts	$197,651	$297,127
Increase in livestock	23,260	21,166
Increase in feed & supplies	10,887	10,285
TOTAL FARM RECEIPTS	$231,798	$328,578
Income Analysis		
Ave. price per cwt. milk sold	$ 11.80	$ 11.79
Milk sales per cow	$ 1,724	$ 1,734
Cash receipts per man	$ 60,816	$ 64,875
Expenses		
Hired labor	$ 19,879	$ 31,068
Dairy feed	36,942	41,755
Other feed	1,171	2,758
Machine hire	1,902	3,339
Machinery repair	8,762	15,083
Auto expense (farm share)	461	328
Gas and oil	6,734	11,173
Purchased animals	8,838	4,743
Breeding fees	2,341	2,690
Veterinary & medicine	3,769	4,807
Milk marketing	4,185	5,038
Other livestock expense	5,536	8,853
Fertilizer & lime	10,063	16,811
Seeds & plants	3,662	6,360
Spray & other crop expense	3,096	6,412
Land, bldg., fence repair	2,027	3,560
Taxes	4,165	5,963
Insurance	2,581	3,411
Rent	4,994	6,085
Electricity & phone (farm share)	3,166	3,896
Interest paid	14,445	20,411
Miscellaneous expenses	1,377	6,161
Total Cash Operating Expenses	$150,096	$210,705
Machinery depreciation	9,025	15,249
Building depreciation	4,949	7,751
Unpaid family labor	900	1,350
Interest on equity capital @9%	29,544	43,317
TOTAL FARM EXPENSES	$194,514	$278,372

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Item	Average 51 Western Plains Farms <$8,500 Crop Sales	Average 17 Western Plains Farms >$ 8,500 Crop Sales
Financial Summary		
Cash Farm Receipts	$197,651	$297,127
Cash Farm Expenses	150,096	210,705
NET CASH FARM INCOME	$ 47,555	$ 86,422
Total Farm Receipts	$231,798	$328,578
Total Farm Expenses	194,514	278,372
LABOR & MANAGEMENT INCOME	$ 37,284	$ 50,206
Number of Operators	1.3	1.6
LABOR & MANAGEMENT INCOME/OPERATOR	$ 28,813	$ 31,616
Size of Business		
Number of cows	97	134
Pounds of milk sold	1,417,600	1,971,100
Man equivalent	3.3	4.6
Total work units	1,110	1,583
Crop acres	336	513
Rates of Production		
Milk sold per cow	14,614	14,710
Tons hay crops per acre	3.3	3.6
Tons corn silage per acre	15.5	15.3
Bushels of corn grain per acre	98.5	94.2
Labor Efficiency		
Cows per man	30	29
Pounds milk sold per man	436,185	430,371
Work units per man	342	346
Feed Costs		
Feed purchased per cow	$381	$312
Crop expense per cow	173	221
Feed purchased per cwt. milk	2.61	2.12
Feed & crop exp./cwt. milk	3.79	3.62
% feed is of milk receipts	22%	18%
Hay equivalent per cow	9.1	8.4
Crop acres per cow	3.5	3.8
Fertilizer & lime/crop acre	$30	$33
Machinery and Labor Costs		
Machinery cost per cow	361	429
Machinery cost/cwt. milk	2.41	2.92
Labor cost per cow	311	331
Labor cost per cwt. milk	2.13	2.25
Capital Efficiency		
Investment per man	$149,289	$151,329
Investment per cow	4,804	5,096
Land & buildings per cow	2,030	2,309
Land & bldg./crop acre owned	1,108	1,114
Machinery investment per cow	948	1,083
Capital turnover (yrs)	2.1	2.1

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Item	Average 51 Western Plains Farms <$8,500 Crop Sales	Average 17 Western Plains Farms >$ 8,500 Crop Sales
Financial Situation		
Farm Assets	$513,759	$737,640
Non-Farm Assets	19,511	42,086
Total	$533,270	$779,726
Farm Liabilities	$185,497	$256,342
Non-Farm Liabilities	145	2,549
Total	$185,642	$258,891
FARM NET WORTH	$328,262	$481,298
FAMILY NET WORTH	$347,628	$520,835
Percent Equity	65%	67%
Return on equity capital with appreciation	17.6%	18.6%
Return on equity capital without appreciation	14.5%	13.9%
Debt Commitments		
Farm debt per cow	$ 1,819	$ 1,871
Amount available for debt service and family living	$ 61,991	$106,828
Scheduled annual debt payments	$ 39,821	$ 54,431
Per cow	$ 390	$ 397
As % of cash receipts	20%	18%

Dairy farms with significant crop sales need a base for comparison of business performance different from specialized dairy farms. On the preceding pages are data obtained by sorting those farms in the Western Plains Dairy Summary by those with greater than and less than average crop sales. Using these measures of business size, profitability, investment and efficiency factors enables a manager to compare his business performance with a group of farms more similar to his operation.

For assistance in definition and use of the terms on these pages refer back to the text of this publication.

NOTES