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DAIRY FARM BUSINESS SUMMARY

FOUR-COUNTY AREA

Cayuga Co. Onondaga Co.
Madison Co. Oswego Co.

1969

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DAIRY FARM BUSINESS SUMMARY
CENTRAL NEW YORK
1969

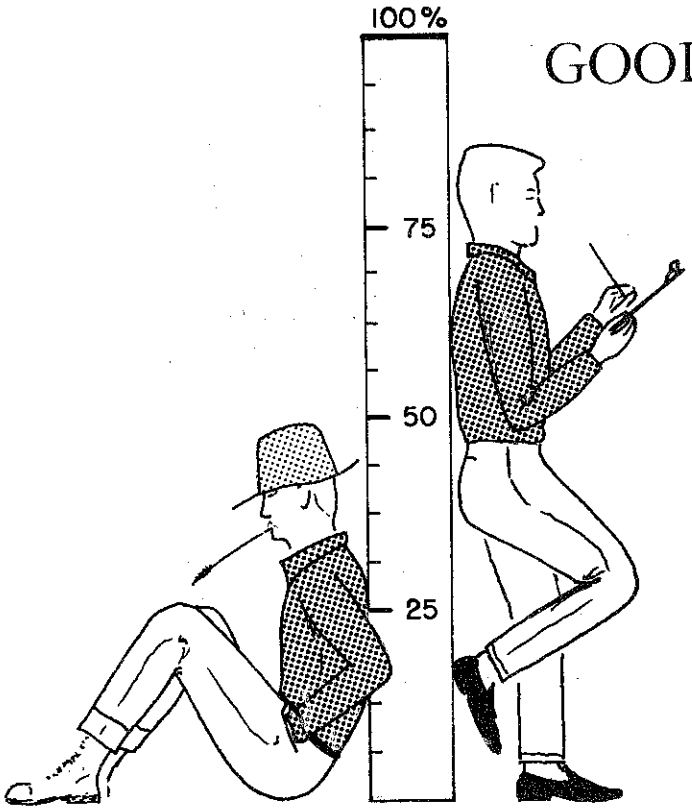
The County Cooperative Extension Associations in New York State have enrolled dairy farmers in farm business management projects for a number of years. For 1969, fourteen farmers in Cayuga, Madison, Onondaga, and Oswego Counties submitted their records for summary and analysis by the Department of Agricultural Economics. The figures for each farm were checked, put on electronic data cards, and put through a computer for summary and analysis. The group results are presented in this workbook.

This report is organized so that a farm business can be systematically summarized and analyzed by going through the report page by page. Spaces are available for filling in the figures for your farm or any farm that may be under study.

This workbook may be used by a farm family to study their business or it can be used by a group as a basis for a farm management discussion. In addition to the members of the Farm Business Management Projects, this report should be useful to other dairymen in Central New York, to teachers of agriculture, other agency representatives, and to agribusinessmen in the area.

Seven percent (7%) was used as the interest rate charged on the average capital for all 1969 records. In previous years, 5% had been used. This should be kept in mind when comparing the labor incomes for 1969 with those of 1968. For example, the average labor income for Central New York for 1968 with the 5% interest rate was $9,271, whereas if a 7% rate had been used, it would have been $7,221.

This summary was prepared by C. A. Bratton, Department of Agricultural Economics, New York State College of Agriculture, in cooperation with Cooperative Extension Agent, George E. Monroe.



GOOD MANAGEMENT IS BASIC

How do you measure up ?

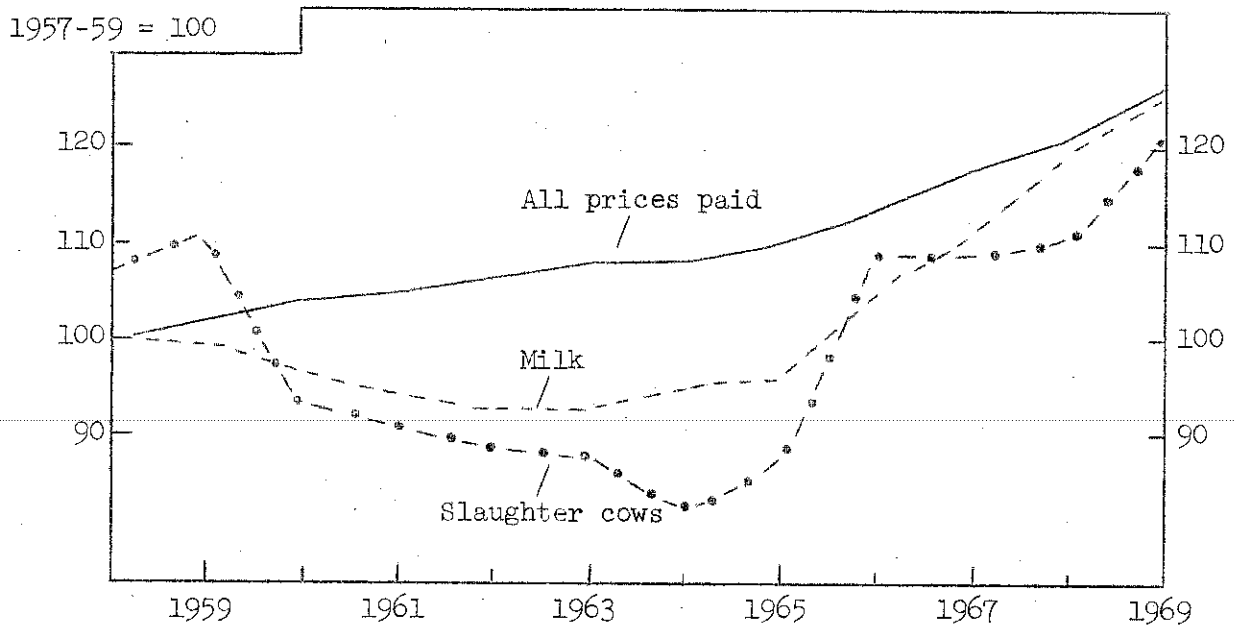
1. Have you developed a systematic approach to management problems?
2. Do you have the facts on your business?
3. Are you improving your managerial skills?

Steps in making a management decision :

1. Locate the trouble spot (problem)
2. What is your objective? (goal)
3. Size up what you have to work with (resources)
4. Look for various ways to solve the problem (alternatives)
5. Consider probable results of each way (consequences)
6. Compare the expected results (evaluate)
7. Select way best suited to your situation (decision)
8. Put the decision into operation (action)

This workbook can help you !

PRICES RECEIVED AND PAID BY N. Y. DAIRY FARMERS



SOURCE: U.S.D.A. Agricultural Prices

Prices are one of the important factors affecting farm incomes. The relationship of prices received and prices paid determines the general level of farm incomes. The blended New York farm price for 3.5% milk in 1969 averaged $5.67 per hundredweight. This was 24 cents higher than the average for 1968 and $1.40 more than 1965. Cull dairy cow prices also were good in 1969. The overall index of prices paid by New York dairy farmers continued to rise in 1969.

In recent years, prices of some farm inputs have risen while others have declined. From 1965 to 1969, farm wages rose 35 percent, dairy cows rose 41 percent, while feed declined 3 percent, and fertilizer prices declined slightly. These differences give rise to management questions concerning substitutions.

AVERAGE YEARLY PRICES RECEIVED AND PAID BY N. Y. FARMERS, 1960-69

Year	Milk (cwt.)	Slaughter cows (cwt.)	Dairy cows (head)	Dairy ration (ton)	Wages per month with house	Prices paid by New York dairymen
1960	$4.31	$15.00	$278	$71	$210	104
1961	4.21	14.60	260	72	213	105
1962	4.14	14.26	245	74	218	106
1963	4.10	14.01	234	76	221	108
1964	4.21	13.17	237	74	227	108
1965	4.27	13.91	238	76	235	110
1966	4.79	17.35	269	80	258	113
1967	5.07	17.33	303	80	291	118
1968	5.43	17.58	319	74	306	121
1969*	5.67	19.42	336	74	316	126

* Preliminary

SUMMARY OF THE FARM BUSINESS

Physical Resources

Management has been defined as "using what you've got to get what you want." A farmer must manage with the resources available to him. Limited resources restrict what can be done and the income that can be earned. In analyzing a farm business, we first look at the labor or human resources, the livestock, and the land resources that were used.

LABOR, LIVESTOCK, AND LAND RESOURCES USED
14 Central New York Farms, 1969

Item	My farm	Average 14 farms	Average 568 N.Y. farms 1968
Labor (months)			
Operator	_____	15.4	13.9
Family paid	_____	3.9	2.7
Family unpaid	_____	2.0	1.8
Hired & other	_____	10.3	6.3
Total	_____	31.6	24.7
Man equivalent	_____	2.6	2.1
Livestock (number)			
Cows	_____	87	58
Crops (acres grown)			
Hay	_____	(13) 111*	86*
Corn silage	_____	(13) 72*	41*
Corn grain	_____	(6) 63*	NA
Oats	_____	(5) 34*	25*
Wheat	_____	(4) 27*	NA
Total Acres of Crops	_____	258*	155*

* Average for farms reporting so acres do not add to total.
Number of farms reporting is in parenthesis.

The average man equivalent of 2.6 indicates that these were "family farms." Two-thirds of the labor was provided by members of the family. The amount of manpower on farms is one of the few factors that has shown no appreciable increase over the years.

Of the 14 farms, 8 reported DHIA production records, 2 had owner-sampler records, and 4 reported no production records.

Capital Investment

Capital is an important resource in a farm business. The end-of-year inventory is used as the measure of capital investment. The inventory should reflect the "fair market value" or what things would bring at a well-attended sale.

FARM INVENTORY VALUES, JANUARY 1, 1970
14 Central New York Farms

Item	My farm	Average 14 farms Amount	Percent
Machinery & equipment	$_____	$35,385	21
Livestock	_____	40,177	23
Feed & supplies	_____	11,369	7
Land & buildings	_____	84,250	49
TOTAL INVESTMENT	$_____	$171,181	100

Total investment on the 14 farms averaged $171,200, but eight farms had investments of over $200,000 while four farms were below $100,000.

Below are some measures used in analyzing how efficiently the capital was used.

CAPITAL INVESTMENT ANALYSIS

Item	My farm	Average 14 farms 1969	Average 568 N.Y. farms 1968
Total investment/man	$_____	$65,839	$53,300
Total investment/cow	$_____	$1,968	$1,930
Machinery investment/cow	$_____	$407	$435
Land & buildings/cow	$_____	$968	$890
Land & buildings/crop acre	$_____	$327	$334

Real estate values for dairy farms are sometimes related to the number of cows the farm can carry or the acres of cropland. The average land and buildings value per cow for these Central New York farms was about $950 and the per acre of cropland value was about $325. These are useful guidelines when you consider what a farm might be worth.

Receipts

Many businesses are described in terms of their gross sales. This can apply to farm operations as well as others. An examination of the farm receipts gives an indication of the sources of income for the business.

FARM RECEIPTS
14 Central New York Farms, 1969

Item	My farm	Average 14 Farms Amount	Average 14 Farms Percent
Milk sales	$_____	$66,505	88
Livestock sales	_____	6,300	8
Crop sales	_____	1,477	2
Machinery sales	_____	7	--
Government payments	_____	505	1
Custom machine work	_____	77	--
Gas tax refunds	_____	5	--
Other	_____	1,100	1
Total Cash Farm Receipts	$_____	$75,976	100
Increase in Inventory	_____	9,594	
TOTAL FARM RECEIPTS	$_____	$85,570	

Increases in inventory are included in the farm receipts since these items could have been sold and turned into cash and still have the same business at the end of the year as at the beginning. The costs of producing or acquiring these items are included in the expenses. The increases averaged about $3,100 for machinery, $1,400 for cattle, $1,700 for feed and supplies, and $3,400 for land and buildings.

The average price received for milk was $5.75 with a range from $5.55 to $5.99. The New York State average for 1969 was reported as $5.67.

INCOME ANALYSIS

Item	My farm	Av. 14 Farms Central N.Y.	Av. 55 Farms Lewis County
Av. price/cwt. milk sold	$_____	$5.75	$5.58
Milk sales per cow	$_____	$764	$672
Total cash receipts/man	$_____	$29,222	$23,700

Expenses

Keeping check on expenses is an important job of the manager of any business. The first step is to know what the expenses are and how they compare with others in similar businesses.

FARM EXPENSES
14 Central New York Farms, 1969

Item	My farm	Average 14 Farms Amount	Percent
Hired labor	$_____	$ 7,507	16
Dairy concentrate	_____	14,675	32
Other feed	_____	314	1
Machine hire	_____	499	1
Machinery repairs	_____	3,390	7
Auto expense (farm share)	_____	235	--
Gas and oil	_____	1,930	4
Breeding fees	_____	681	1
Veterinary and medicine	_____	1,194	3
Other livestock expense	_____	2,145	5
Lime and fertilizer	_____	3,826	8
Seeds and plants	_____	863	2
Bale ties	_____	91	--
Spray, other crop expense	_____	968	2
Land, building, fence repair	_____	1,530	3
Taxes	_____	2,108	5
Insurance	_____	1,360	3
Electricity (farm share)	_____	1,250	3
Telephone (farm share)	_____	265	--
Rent	_____	947	2
Miscellaneous	_____	807	2
Total Cash Operating Expenses	$_____	$46,585	100
New machinery	_____	7,809	
Real estate	_____	3,756	
Livestock purchases	_____	3,561	
Unpaid labor	_____	536	
Decrease in inventory	_____	--	
TOTAL FARM EXPENSES	$_____	$62,247	

Financial Summary of Year's Business

The income from a farm business can be measured in several ways.

Farm income measures the return from the business to all capital and the operator's labor and management. Farm income is the difference between total receipts, including increase in inventory, and total expenses, including decrease in inventory but excluding interest payments.

LABOR INCOME
14 Central New York Farms, 1969

Item	My Farm	Average 14 Farms Amount	Percent
Total farm receipts	$_____	$85,570	100
Total farm expenses	_____	62,247	73
FARM INCOME	$_____	$23,323	
Interest on av. capital @ 7%	_____	11,647	13
Labor Income per Farm	$_____	$11,676	14
Number of operators	_____	18	
LABOR INCOME PER OPERATOR	$_____	$ 9,081	

Labor income is the return to the farm operator for his labor and management. This is the measure most commonly used when studying or comparing farm businesses. To get the labor income, a seven percent interest charge on all capital is subtracted from the farm income. (Interest paid on debts is not included in the farm expenses.) The average labor income per operator for the 14 farms was $9,081 but the range was from minus-$1,370 to $28,000. Six farms had labor incomes per operator of more than $10,000.

Farm cash flow reflects the cash available from the year's operation of the farm business for family living, interest and debt payments, and new purchases or investments. A family may have had additional cash available if they had a non-farm income.

FARM CASH FLOW
14 Central New York Farms, 1969

Item	My farm	Average 14 farms
Total cash receipts	$_____	$75,976
Total cash operating expense	_____	46,585
NET FARM CASH FLOW	$_____	$29,391

RETURN ON INVESTMENT
14 Central New York Farms, 1969

Item	My farm	Average 14 farms
Farm income	$_____	$23,323
Value of operator's labor*	_____	5,349
RETURN ON INVESTMENT	$_____	$17,974
Average capital investment	$_____	$166,384
RATE OF RETURN ON INVESTMENT	_____%	10.8%

* Average wage $80 per week. Some farms had more than one operator.

Return on investment is calculated by deducting a charge for the operator's labor from the "farm income." This is then divided by the average investment for the year to determine the rate of return on investment. Return on investment measures the return to capital and management.

Profit is a measure used in non-farm businesses where the management input is hired. In some farm management studies, the "management input" has been valued at 8 percent of the total cash receipts. This is based on the charge made by commercial "Services" which manage farms for landowners. When this is done, the operator's labor is valued at the average wage for hired men with houses. Using this procedure, the average Farm Income would be allocated as follows:

	Av. 14 Farms		Your Farm	
Farm Income		$23,323		$_____
Operator's labor @ $80/wk.	$ 5,349		$_____	
Management @ 8% cash receipts	6,078		_____	
Interest on capital @ 7%	11,647		_____	
		23,074		_____
PROFIT		$ 249		$_____

Returns per cow can be calculated by dividing the farm business measures by the number of cows:

	Av. 14 Farms	Your Farm
Net Farm Cash Flow per cow	$338	$_____
Farm Income per cow	268	_____
Labor Income per cow	134	_____
Profit per cow	3	_____

ANALYSIS OF THE FARM BUSINESS

A farmer makes use of the known farm business management principles in organizing his business. Once the farm is operating, he must keep close watch for leaks in the operation. This can be done by analyzing the operation on the basis of the important business factors. On the pages that follow, several business factors are examined.

Size of Business

Size of farm has an effect on other factors such as labor efficiency and cost control. The prices received and paid by a farmer are often affected by the volume which is a function of size. Farm management studies have shown that in general larger farm businesses make larger labor incomes. 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.

MEASURES OF SIZE OF BUSINESS
14 Central New York Farms, 1969

Measure	My farm	Average 14 farms 1969	Average 568 N.Y. farms 1968
Number of cows	_____	87	58
Pounds of milk sold	_____	1,157,200	715,200
Man equivalent	_____	2.6	2.1
Total work units	_____	921	692
Total cash receipts	$_____	$75,976	$45,086

In the table below, the 568 New York farms for 1968 are sorted into various size groups and the labor income is shown for each size.

COWS PER FARM AND LABOR INCOME
568 N.Y. Dairy Farms, 1968

Number of cows	Number of farms	Labor income/operator
Less than 40	139	$ 5,750
40 - 54	193	7,080
55 - 69	98	9,560
70 - 84	52	10,230
85 - 99	34	11,280
100 & more	52	15,680

Rates of Production

Good production per animal and per acre are important factors affecting farm incomes. However, these high rates of production must be obtained at reasonable costs. Production techniques must be examined from an economic point of view. Below are some measures of rates of production.

MEASURES OF RATES OF PRODUCTION
14 Central New York Farms, 1969

Measure	My farm	Average 14 farms 1969	Average 568 N.Y. farms 1968
Lbs. of milk sold/cow	_____	13,300	12,300
Tons of hay/acre	_____	3.3	2.8
Tons of corn silage/acre	_____	15	14
Bushels of oats/acre	_____	59	61
Bushels of corn/acre	_____	81	NA

Pounds of milk sold per cow is the measure used most frequently in examining rates of production on dairy farms. Good crop yields are important in keeping costs under control. The range in milk sold per cow was from 11,300 to 14,900 and corn silage from 11 to 20 tons per acre.

The relationship of pounds of milk sold per cow and labor income is shown below. The farms with the higher rates of production had higher labor incomes. The farms with the higher rates of production spent more for feed but it paid off as shown by the higher incomes.

MILK SOLD PER COW AND LABOR INCOME
568 New York Dairy Farms, 1968

Pounds of milk sold per cow	Number of farms	Number of cows	Feed bought per cow	Labor income
Under 10,000	58	55	$124	$ 4,250
10,000 - 10,999	66	56	130	6,990
11,000 - 11,999	112	56	150	7,880
12,000 - 12,999	133	60	169	9,670
13,000 - 13,999	112	62	173	10,240
14,000 and over	87	58	198	11,560

The farms with the higher production also were larger as shown by the average number of cows.

Labor Efficiency

Labor efficiency is measured in terms of accomplishments per worker. With wage rates rising more than any other cost item, a farm operator must be concerned with keeping output in line with wage rates. This is true for both hired labor and family labor. Labor efficiency is a major factor in any farm business analysis. Below are some common labor efficiency measures.

MEASURES OF LABOR EFFICIENCY
14 Central New York Farms, 1969

Measure	My farm	Average 14 farms 1969	Average 568 N.Y. farms 1968
Pounds of milk sold/man	_____	445,100	340,600
Number of cows/man	_____	33	28
Work units/man	_____	354	330
Crop acres/man	_____	99	73

Pounds of milk sold per man is determined by dividing the total pounds of milk sold by the man equivalent. This is a good measure of labor efficiency for dairy farms. This averaged 445,000 pounds per man on the 14 farms but ranged from a low of 219,000 pounds to a high of 708,000.

Several things affect labor accomplishments (efficiency). Among these are the amount of mechanization, the field and building layout, the work methods used, the abilities of the workers, and the overall planning of the work by the manager.

The relationship of labor efficiency to labor income is shown below. The higher the pounds of milk sold per man, the higher the income. The higher output per man was accomplished in part at least by more and higher producing cows.

MILK SOLD PER MAN AND LABOR INCOME
568 New York Dairy Farms, 1968

Pounds of milk sold per man	Number of farms	Number of cows	Lbs. milk per cow	Labor income per operator
Under 200,000	29	47	9,800	$ 2,504
200,000 - 299,999	172	49	11,600	5,731
300,000 - 399,999	196	57	12,400	8,893
400,000 - 499,999	119	65	12,900	11,462
500,000 and over	52	87	13,400	16,627

Cost Control

Modern farms buy many of the production inputs. Farm expenses on dairy farms take about 70 percent of the gross receipts. Total expenses per cow average about $600. Good expense or cost control is essential for this kind of business

Feed Costs

Feed is the number one cost item on most dairy farms. It is for this reason that feed costs are examined first. Many things affect feed costs. Some items for consideration are in the table below.

ITEMS RELATED TO FEED COSTS
14 Central New York Farms, 1969

Item	My farm	Average 14 farms 1969	Average 568 N.Y. farms 1968
Feed Expense			
Dairy feed purchased	$_____	$14,675	$9,460
Feed purchased as % of milk receipts	_____%	22%	24%
Feed purchased per cwt. of milk sold	$_____	$1.27	$1.32
Feed purchased per cow	$_____	$169	$163
Crop expense per cow	$_____	$66	$45
Total feed & crop expense/cow	$_____	$235	$208
Total feed & crop expense per cwt. of milk sold	$_____	$1.76	$1.69
Roughage Harvested (hay equivalent)			
Hay (tons)	_____	343	234
Corn silage (tons ÷ 3)	_____	339	174
Hay crop silage (tons ÷ 2 or 3)*	_____	2	12
Total tons hay equivalent	_____	684	420
Tons hay equivalent per cow	_____	7.9	7.2
Other Considerations			
Acres in crops per cow	_____	3.0	2.7
Lime & fertilizer expense/cow	$_____	$44	$30
Lime & fertilizer expense per crop acre	$_____	$15	$11

* Depending on moisture content of silage

Power and Machinery Costs

Mechanization on farms continues at a brisk pace. Machinery inventories are at all-time highs. This makes it important to analyze the power and machinery costs. Net power and machinery costs usually account for about one-fifth of the total farm expenses. Below are some measures used in analyzing machinery costs.

POWER AND MACHINERY COSTS*
14 Central New York Farms, 1969

Item	My farm	Average 14 farms 1969	Average 568 N.Y. farms 1968
Beginning inventory	$_____	$32,278	$22,575
New machinery purchased	_____	7,809	6,178
Total (No. 1)	$_____	$40,087	$28,753
End inventory	$_____	$35,385	$25,247
Machinery sold	_____	7	168
Total (No. 2)	$_____	$35,392	$25,415
Depreciation (Total No. 1 minus Total No. 2)	$_____	$ 4,695	$ 3,338
Interest @ 7% on av. inventory	_____	2,368	1,195**
Gas and oil	_____	1,930	1,136
Machinery repairs	_____	3,390	1,605
Bale ties	_____	91	80
Milk hauling	_____	9	435
Machine hire	_____	499	287
Auto expense (farm share)	_____	235	247
Electricity (farm share)	_____	1,250	601
Total power & machinery cost	$_____	$14,467	$ 8,924
Less:			
Gas tax refund	$____	$ 5	$ 81
Income from machine work	____	77	106
	_____	82	187
NET POWER & MACHINERY COST	$_____	$14,385	$ 8,737
Net machinery cost:			
per cow	$_____	$165	$151
per crop acre	$_____	$56	$56
per cwt. milk sold	$_____	$1.24	$1.22
per man	$_____	$5,533	$4,160

* Does not include insurance, housing or value of labor used in operation or repair

** Interest at 5% in 1968

Labor and Machinery Costs

If a machine is added without expanding size or reducing the labor force, costs will be increased. "Labor and machinery cost" provides a measure of the efficiency of the machinery and labor combination.

LABOR AND MACHINERY COSTS
14 Central New York Farms, 1969

Item	My farm	Average 14 farms 1969	Average 568 N.Y. farms 1968
Labor cost:			
Value of operator's labor*	$_____	$ 6,943	$ 6,275
Hired labor	_____	7,507	3,006
Unpaid family labor	_____	536	818
Total labor cost	$_____	$14,986	$10,099
Net power and machinery cost	_____	14,385	8,737
TOTAL LABOR & MACHINERY COST	$_____	$29,371	$18,836
Labor cost:			
per cow	$_____	$172	$174
per cwt. milk sold	$_____	$1.30	$1.41
Labor and machinery cost:			
per cow	$_____	$337	$325
per cwt. milk sold	$_____	$2.54	$2.63

* Valued at $5,400 per operator. Some farms had more than one operator.

Miscellaneous Cost Control Measures

Cost control applies to all expenditures both large and small. Reducing various cost items to a per cow or per acre basis provides cost control measures which are easy to understand and use. Below are some items.

Item	My farm	Average 14 farms 1969	Average 568 N.Y. farms 1968
Land & building repair/cow	$_____	$18	$13
Taxes per cow	_____	24	20
Insurance per cow	_____	16	12
Electricity per cow	_____	14	10
Machinery depreciation/cow	$_____	$54	$58
Machinery repair per cow	_____	39	28
Veterinary & medicine/cow	$_____	$14	$11
Breeding fees per cow	_____	8	7

Farm Business Chart

The chart on pages 16 and 17 is a tool for use in analyzing a dairy farm business. It is essentially a series of measuring sticks combined into one tool.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
568 New York Dairy Farms,* 1968

Size of Business			Rates of Production			Labor Efficiency	
Man equivalent	No. of cows	Pounds milk sold	Pounds milk sold per cow	Tons hay per acre	Tons corn silage per acre	Cows per man	Pounds milk sold per man
4.0	124	1,545,800	15,300	4.6	21	44	554,600
2.8	86	1,075,600	14,000	3.6	19	37	464,800
2.4	69	868,800	13,400	3.2	17	34	417,600
2.2	59	736,800	13,000	3.0	16	31	379,300
2.0	53	651,500	12,600	2.8	15	29	346,000
1.8	48	587,300	12,100	2.6	14	27	322,100
1.6	43	524,100	11,600	2.4	13	24	298,700
1.4	40	472,600	11,100	2.2	12	23	271,500
1.3	36	408,900	10,400	2.0	10	21	245,700
1.1	28	301,500	8,900	1.6	8	18	195,800

* These farms are considerably above the average for all farms in New York State. For example, the median number of cows for the 568 farms was 50 compared with 36 for all farms in the State.

The Farm Business Chart is a tool which can be used in analyzing a business to determine the strong and weak points. The chart shows how far the individual farm is above or below the midpoint of the 568 farms for each factor.

The figure at the top of each column is the average of the top 10 percent of the farms for that factor. For example, the figure 4.0 at the top of the column headed "Man equivalent" is the average man equivalent on the 10 percent of the farms with the most men. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. The figure at the bottom of each column (1.1 for Man equivalent) is the average for the 10 percent of the farms which ranked lowest in that factor.

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.

This chart is used in analyzing a particular dairy business by drawing a line through the figure in each column which shows where the farm being analyzed stands for that factor. This helps identify the strengths and weaknesses. Summarize these and list them at the bottom of page 17.

Farm Business Chart contd.

The cost control factors are ranked from low to high. For cost control factors, the lowest cost is not necessarily the most profitable. In some cases, the "best" might be somewhere near the average. Many things affect the level of these costs, and these items must be taken into account when analyzing the factors.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
568 New York Dairy Farms, 1968

Cost Control			
Feed bought per cow	% Feed is of milk receipts	Feed and crop expense per cwt. milk	Machinery cost per cow
$ 69	11%	$1.01	$ 87
103	16	1.27	106
125	20	1.44	117
145	22	1.55	129
160	24	1.65	140
173	26	1.74	150
185	28	1.84	162
201	30	1.93	177
218	31	2.07	195
262	37	2.38	241

Based on the analyzed results shown on the business chart, list below the strong and weak points of the business. Then identify the major problems.

STRONG POINTS:

WEAK POINTS:

MAJOR PROBLEMS:

After identifying problems, consider alternative ways of solving each problem. Each alternative should be studied in detail. A budgeting form can be used for projecting the likely results of each alternative.

FARM BUSINESS SUMMARY BY HERD SIZE
568 New York Dairy Farms, 1968

Item	My farm	Farms with less than 40 cows	40 to 54 cow farms	55 to 69 cow farms
Capital Investment (End of Year)				
Machinery and equipment	$_____	$15,049	$20,490	$ 26,851
Livestock	_____	15,016	21,633	28,442
Feed and supplies	_____	3,607	5,835	7,938
Land and buildings	_____	29,274	40,289	49,013
TOTAL INVESTMENT	$_____	$62,946	$88,247	$112,244
Receipts				
Milk sales	$_____	$21,733	$30,939	$ 40,843
Livestock sold	_____	2,234	3,035	4,241
Crop sales	_____	243	321	356
Miscellaneous receipts	_____	719	1,070	1,272
Total Cash Receipts	$_____	$24,929	$35,365	$ 46,712
Increase in inventory	_____	4,189	6,122	8,946
TOTAL FARM RECEIPTS	$_____	$29,118	$41,487	$ 55,658
Expenses				
Hired labor	$_____	$ 558	$ 1,587	$ 2,916
Dairy feed	_____	5,626	7,578	10,070
Other feed	_____	186	275	141
Machine hire	_____	153	188	328
Machinery repair	_____	829	1,282	1,583
Auto expense (farm share)	_____	184	250	246
Gas and oil	_____	661	941	1,158
Breeding fees	_____	256	335	419
Veterinary and medicine	_____	345	534	693
Other livestock expense	_____	930	1,267	1,729
Lime and fertilizer	_____	713	1,310	1,803
Seeds and plants	_____	231	386	487
Spray and other crop expense	_____	195	337	440
Land, bldg., fence repair	_____	392	621	742
Taxes and insurance	_____	1,047	1,450	1,786
Elec. and tel. (farm share)	_____	457	617	726
Miscellaneous expenses	_____	369	571	768
Total Cash Operating Exp.	$_____	$13,132	$19,529	$26,035
New machinery	_____	3,227	4,921	6,683
New real estate	_____	2,007	2,544	2,961
Purchased livestock	_____	1,045	1,344	1,967
Unpaid family labor	_____	831	898	823
TOTAL FARM EXPENSES	$_____	$20,242	$29,236	$ 38,469
Financial Summary				
Total Farm Receipts	$_____	$29,118	$41,487	$ 55,658
Total Farm Expenses	_____	20,242	29,236	38,469
Farm Income	$_____	$ 8,876	$12,251	$ 17,189
Interest on av. capital @ 5%	_____	3,043	4,259	5,389
Labor Income per Farm	$_____	$ 5,833	$ 7,992	$ 11,800
Number of operators	_____	141	218	121
LABOR INCOME PER OPERATOR	$_____	$ 5,751	$ 7,075	$ 9,557

FARM BUSINESS SUMMARY BY HERD SIZE
568 New York Dairy Farms, 1968

Item	My farm	70 to 84 cow farms	85 to 99 cow farms	Farms with 100 or more cows
Capital Investment (End of Year)				
Machinery and equipment	$_____	$ 36,325	$ 38,176	$ 47,617
Livestock	_____	36,180	42,525	60,363
Feed and supplies	_____	11,724	12,322	17,389
Land and buildings	_____	68,346	93,203	115,641
TOTAL INVESTMENT	$_____	$152,575	$186,226	$241,010
Receipts				
Milk sales	$_____	$ 53,053	$ 65,737	$ 85,278
Livestock sold	_____	4,433	6,466	8,877
Crop sales	_____	339	901	846
Miscellaneous receipts	_____	1,618	1,844	3,092
Total Cash Receipts	$_____	$ 59,443	$ 74,948	$ 98,093
Increase in inventory	_____	12,194	10,445	19,346
TOTAL FARM RECEIPTS	$_____	$ 71,637	$ 85,393	$117,439
Expenses				
Hired labor	$_____	$ 4,868	$ 6,626	$ 10,760
Dairy feed	_____	12,376	14,964	19,020
Other feed	_____	238	380	558
Machine hire	_____	252	463	858
Machinery repair	_____	2,078	2,758	3,697
Auto expense (farm share)	_____	341	318	268
Gas and oil	_____	1,413	1,610	2,497
Breeding fees	_____	537	647	701
Veterinary and medicine	_____	827	1,149	1,260
Other livestock expense	_____	2,241	3,163	4,302
Lime and fertilizer	_____	2,282	3,144	4,603
Seeds and plants	_____	601	733	973
Spray and other crop expense	_____	646	634	1,031
Land, bldg., fence repair	_____	1,109	1,410	1,680
Taxes and insurance	_____	2,527	3,248	4,030
Elec. and tel. (farm share)	_____	988	1,167	1,457
Miscellaneous expenses	_____	1,138	1,678	1,953
Total Cash Operating Exp.	$_____	$ 34,462	$ 44,092	$ 59,648
New machinery	_____	9,464	7,850	13,405
New real estate	_____	4,671	6,097	7,017
Purchased livestock	_____	1,779	2,737	4,853
Unpaid family labor	_____	358	644	1,050
TOTAL FARM EXPENSES	$_____	$ 50,734	$ 61,420	$ 85,973
Financial Summary				
Total Farm Receipts	$_____	$ 71,637	$ 85,393	$117,439
Total Farm Expenses	_____	50,734	61,420	85,973
Farm Income	$_____	$ 20,903	$ 23,973	$ 31,466
Interest on av. capital @ 5%	_____	7,324	9,050	11,567
Labor Income per Farm	$_____	$ 13,579	$ 14,923	$ 19,899
Number of operators	_____	69	45	66
LABOR INCOME PER OPERATOR	$_____	$ 10,233	$ 11,275	$ 15,678

SELECTED BUSINESS FACTORS BY HERD SIZE
568 New York Dairy Farms, 1968

Item	My farm	Farms with less than 40 cows	40 to 54 cow farms	55 to 69 cow farms
Number of farms		139	193	98
Size of Business				
Number of cows	_____	33	46	61
Pounds of milk sold	_____	398,700	563,800	745,500
Crop acres	_____	88	126	156
Man equivalent	_____	1.4	1.8	2.1
Total work units	_____	394	557	724
Rates of Production				
Milk sold per cow	_____	12,100	12,300	12,200
Tons hay per acre	_____	2.5	2.6	2.8
Tons corn silage per acre	_____	14	14	14
Bushels of oats per acre	_____	54	55	63
Labor Efficiency				
Cows per man	_____	24	26	29
Pounds milk sold per man	_____	284,800	313,200	355,000
Work units per man	_____	281	309	345
Crop acres per man	_____	63	70	74
Feed Costs				
Feed purchased per cow	$_____	$170	$165	$165
Crop expense per cow	$_____	$35	$44	$45
Feed & crop expense per cow	$_____	$205	$209	$210
Feed cost per cwt. milk	$_____	$1.41	$1.34	$1.35
Feed & crop expense/cwt. milk	$_____	$1.70	$1.70	$1.72
% Feed is of milk receipts	_____%	26%	24%	25%
Hay equivalent per cow	_____	6.6	7.1	7.3
Crop acres per cow	_____	2.7	2.7	2.6
Fertilizer & lime/crop acre	$_____	$8	$10	$12
Machinery Costs				
Total machinery costs	$_____	$4,930	$7,017	$8,771
Machinery cost per cow	$_____	$149	$153	$144
Machinery cost per man	$_____	$3,521	$3,898	$4,177
Machinery cost per cwt. milk	$_____	$1.24	$1.24	$1.18
Machinery cost per crop acre	$_____	$56	$56	$56
Capital Efficiency				
Investment per man	$_____	$44,961	$49,026	$53,450
Investment per cow	$_____	$1,907	$1,918	$1,840
Investment per cwt. milk sold	$_____	$16	$16	$15
Land and buildings per cow	$_____	$887	$876	$803
Machinery investment per cow	$_____	$456	$445	$440
Return on investment	_____%	5.6%	7.0%	9.4%
Other				
Price per cwt. milk sold	$_____	$5.45	$5.49	$5.48
Acres hay and hay crop silage	_____	60	77	92
Acres corn silage	_____	14	20	37

SELECTED BUSINESS FACTORS BY HERD SIZE
568 New York Dairy Farms, 1968

Item	My farm	70 to 84 cow farms	85 to 99 cow farms	Farms with 100 or more cows
Number of farms		52	34	52
Size of Business				
Number of cows	_____	76	92	126
Pounds of milk sold	_____	966,400	1,177,800	1,513,000
Crop acres	_____	199	236	320
Man equivalent	_____	2.5	2.9	3.7
Total work units	_____	905	1,084	1,459
Rates of Production				
Milk sold per cow	_____	12,700	12,800	12,000
Tons hay per acre	_____	2.8	3.2	2.9
Tons corn silage per acre	_____	14	13	15
Bushels oats per acre	_____	61	62	69
Labor Efficiency				
Cows per man	_____	30	32	34
Pounds milk sold per man	_____	386,600	406,100	408,900
Work units per man	_____	362	374	394
Crop acres per man	_____	80	81	86
Feed Costs				
Feed purchased per cow	$_____	$163	$163	$151
Crop expense per cow	$_____	$46	$49	$52
Feed & crop expense per cow	$_____	$209	$212	$203
Feed cost per cwt. milk	$_____	$1.28	$1.27	$1.26
Feed & crop expense/cwt. milk	$_____	$1.65	$1.65	$1.69
% Feed is of milk receipts	_____%	23%	23%	22%
Hay equivalent per cow	_____	7.5	7.0	7.6
Crop acres per cow	_____	2.6	2.6	2.5
Fertilizer & lime/crop acre	$_____	$11	$13	$14
Machinery Costs				
Total machinery costs	$_____	$12,215	$14,034	$18,290
Machinery costs per cow	$_____	$161	$153	$145
Machinery cost per man	$_____	$4,886	$4,839	$4,943
Machinery cost per cwt. milk	$_____	$1.26	$1.19	$1.21
Machinery cost per crop acre	$_____	$61	$59	$57
Capital Efficiency				
Investment per man	$_____	$61,030	$64,216	$65,138
Investment per cow	$_____	$2,008	$2,024	$1,973
Investment per cwt. milk sold	$_____	$16	$16	$16
Land and buildings per cow	$_____	$899	$1,013	$918
Machinery investment per cow	$_____	$478	$415	$378
Return on investment	_____%	9.0%	13.4%	10.6%
Other				
Price per cwt. milk sold	$_____	$5.49	$5.58	$5.64
Acres hay and hay crop silage	_____	107	120	157
Acres corn silage	_____	58	62	92

Considering a Change in the Dairy Business

Describe change: _____

List possible alternative changes : (use additional worksheets to analyze these alternatives) _____

I. Basic nature of proposed change

	Present	Change	Future with change
Number of cows	_____	_____	_____
Number of youngstock	_____	_____	_____
Production per cow	_____	_____	_____
Labor force (man equiv.)	_____	_____	_____

II. Estimated forage requirements and production:

No. of cows _____ x _____ tons hay equivalent = _____ tons

No. of youngstock _____ x _____ tons hay equiv./head = _____ tons

total hay equiv. requirement _____ tons

Allocate total hay equivalent requirement to hay and silage production:

Total hay equiv. required _____ = _____ hay tons + _____ tons hay equiv. as silage

Tons hay equiv. as silage _____ x 3 = _____ tons silage

Estimate needed crop acres and changes from present:

Future crop	Proposed Production	Estimated Yield	Acres Needed	Change in acres (list as plus or minus)
Hay	_____	_____	_____	_____
Hay crop silage	_____	_____	_____	_____
Corn silage	_____	_____	_____	_____
Other forage	_____	_____	_____	_____
Grain	_____	_____	_____	_____

III. Additional forward planning steps and pointers

1. List new capital items associated with the change including land, buildings, machinery and cattle. Estimate their cost.
2. Estimate changes in receipts and expenses (Part IV) considering all input and production items that are affected by the change under consideration. Adjust present figures if anticipated price changes are used in the budget.
3. When analyzing the effects of the proposed change, fulfillment of non-monetary goals may be considered.
4. More than one alternative change should be considered.

IV. Estimating changes in receipts and expenses

	Present	Net change (plus or minus)	Future with change
A. Receipts			
Milk sales, gross	$	$	$
Livestock sales			
Crop sales			
Miscellaneous receipts			
Total Cash Receipts	$	$	$
Increase in inventory			
Total Farm Receipts	$	$	$
B. Expenses			
Hired labor	$	$	$
Feed bought			
Machine hire			
Machinery repairs			
Auto expense (farm share)			
Gasoline and oil			
Breeding fees			
Veterinary and medicine			
Other livestock expense			
Lime and fertilizer			
Seeds and plants			
Spray, other crop expense			
Land, building, fence expense			
Taxes, insurance			
Electricity, telephone (farm share)			
Miscellaneous			
Total Cash Operating Exp.	$	$	$
New machinery and real estate			
Livestock purchases			
Unpaid family labor			
Decrease in inventory			
Total Farm Expenses	$	$	$
C. Financial Summary			
Capital Investment	$		$
Total Farm Receipts	$		$
Total Farm Expenses			
Farm Income	$		$
Interest on Capital			
LABOR INCOME	$		$

Selected Competitive Dairy Areas

A good manager aims to know how his business stands in relation to his competition both at home and in other dairy areas. The table below presents data from four states. These data were taken from reports on farm business management projects similar to the ones in New York. Some measures have been adjusted so that they are comparable for the four states.

1968 DAIRY FARM BUSINESS SUMMARY DATA

Selected Factors	New York	Southern Michigan	Pennsylvania	Ohio
Number of farms	568	331	76	65
Crop acres	155	275	171	178
Man equivalent	2.1	2.2	2.4	1.7
Number of heifers	40	NA	36	NA
Number of cows	58	54	55	47
Lbs. milk sold/ farm	715,200	665,100	630,000	592,560
Lbs. milk sold/ man	340,600	302,320	262,500	348,560
Lbs. milk sold/ cow	12,300	12,320	11,450	12,600
Milk sales/ cow	$681	$706	$674	$643
Av. price/ cwt. milk	$5.52	$5.73	$5.88	$5.10
Purchased feed/ cow	$163	$93	$158	$109
Taxes/ cow	$20	$18	$16	$28
Capital Investment				
Land & buildings	$51,730	$94,400	$47,100	$56,620
Machinery & equipment	$25,250	$22,500	$21,250	$16,870
Livestock	$27,320	$21,900	$26,850	$18,140
Feed & supplies	$ 7,640	$11,900	$10,540	$ 7,720
Investment/ man	$53,300	$68,500	$44,058	$58,440
Investment/ cow	$ 1,930	$ 2,790	$ 1,922	$ 2,110
Financial Summary				
Total farm receipts	$53,247	$49,553	$46,326	$40,328
Total farm expenses	$37,717	$33,735	$33,070	$26,068
Farm income	$15,530	$15,818	$13,256	$14,260
Interest at 5%	$ 5,393	$ 7,535	$ 5,287	$ 4,968
Labor income/ farm	$10,137	$ 8,283	$ 7,969	$ 9,292
Labor income/ operator	$ 8,724	$ 7,019	$ 7,244	$ 8,447

Family Living Expenditures

Family living expenses have first claim on farm income. In any farm business financial planning, it is important that the family living expenses be considered. Below are the living expenditures for families in Illinois who were in record keeping projects.

FAMILY LIVING EXPENDITURES
Illinois Farm and Urban Families, 1967

Item	My family	Average of 176 farm families	Average of 79 urban families
Number in family	_____	4.1	4.0
Average age of husband	_____	45	40
Living Expenses			
Food	$_____	$ 1,200	$ 1,299
Fuel	_____	197	147
Electricity, gas, and water	_____	172	242
Telephone	_____	64	103
Household supplies and bank	_____	148	142
Paid service and laundry	_____	59	52
Housing	_____	536	1,470
Furnishings and equipment	_____	427	425
Clothing	_____	493	487
Personal care	_____	172	294
Transportation	_____	442	1,368
Medical care	_____	689	477
Recreation	_____	311	470
Education and reading	_____	272	368
Church and welfare	_____	418	365
Gifts	_____	293	196
Total Living Expenses	$_____	$ 5,893	$ 7,905
Income taxes	_____	756	1,038
Social Security	_____	245	212
Life insurance	_____	573	489
Savings and investments	_____	3,153	2,050
Total Family Expenditures	$_____	$10,620	$11,694

The urban family living expenses averaged about $2,000 more than the farm families. The income taxes for the urban families were higher, while their savings and investments were lower than for the farm families. Housing and transportation for urban families were considerably higher than for the farm families.

PROGRESS OF THE FARM BUSINESS

One phase of business analysis is that of comparing your business with that of other farmers. Another kind of analysis is that of comparing your current year's business with that of previous years. This shows the progress you are making. In planning ahead, it is helpful to set business targets or goals which should be related to the progress you have been making.

	1967	1968	1969	1970 target
Size of Business				
Average number of cows	_____	_____	_____	_____
Total lbs. milk sold	_____	_____	_____	_____
Rates of Production				
Lbs. milk sold per cow	_____	_____	_____	_____
Tons corn silage/acre	_____	_____	_____	_____
Labor Efficiency				
Lbs. milk sold per man	_____	_____	_____	_____
Cost Control				
% purchased feed is of milk	_____%	_____%	_____%	_____%
Machinery cost per cow	$_____	$_____	$_____	$_____
Labor cost per cow	$_____	$_____	$_____	$_____
Capital Efficiency				
Total inventory value	$_____	$_____	$_____	$_____
Total investment/cow	$_____	$_____	$_____	$_____
Debt Situation				
Total debt outstanding	$_____	$_____	$_____	$_____
Debt per cow	$_____	$_____	$_____	$_____
Net Worth	$_____	$_____	$_____	$_____
Price				
Price per cwt. milk	$_____	$_____	$_____	$_____
Financial Summary				
Total Farm Receipts	$_____	$_____	$_____	$_____
Total Farm Expenses	$_____	$_____	$_____	$_____
Labor Income/Operator	$_____	$_____	$_____	$_____