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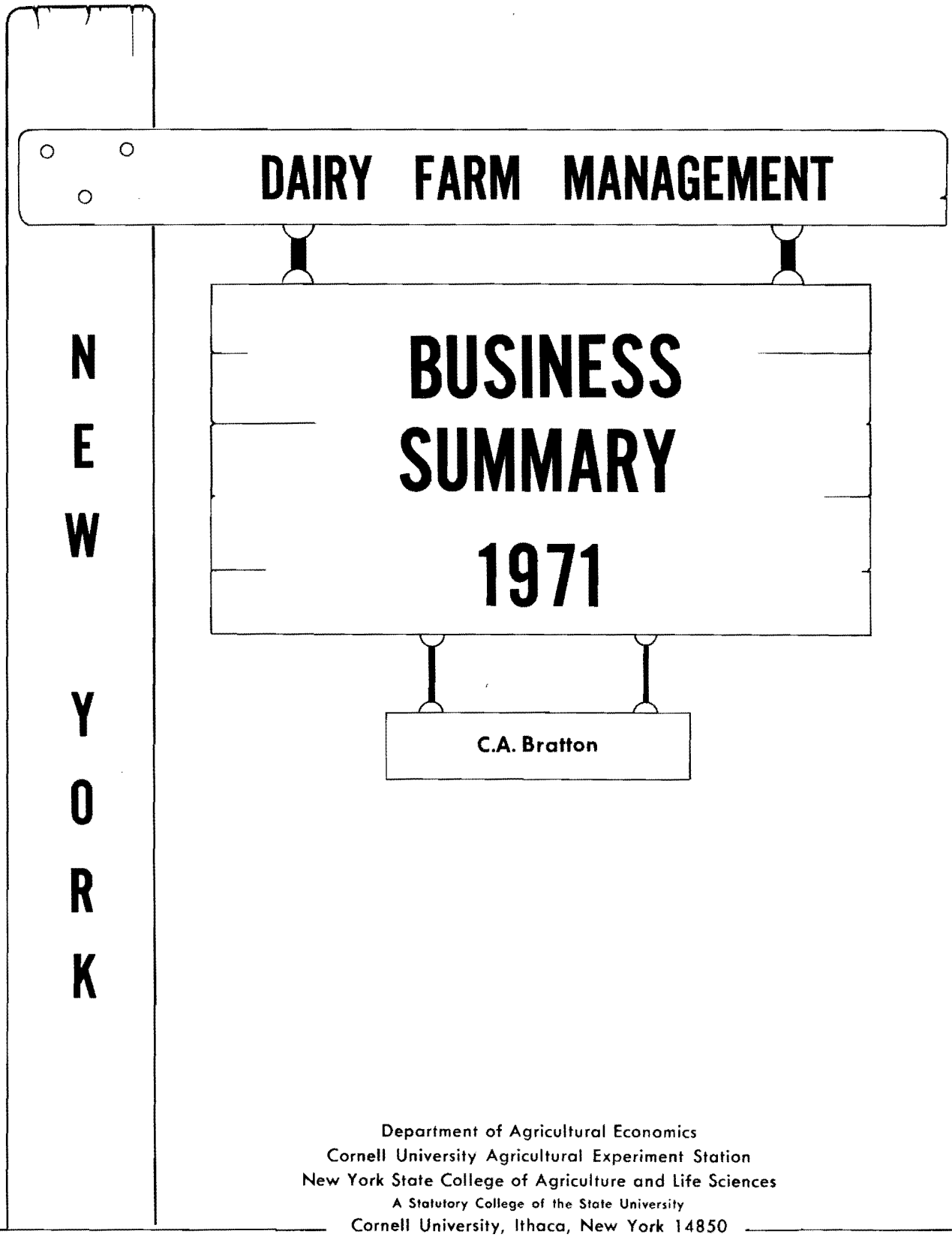

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INTRODUCTION

Farm business management projects are a basic part of the management extension program in New York State. In 1971, more than 600 dairymen participated in College sponsored management projects. These projects serve a dual purpose. They provide the basis for extension educational programs and also data for applied research studies.

Farm business records were kept by each dairyman. Some used farm account books for keeping records while others were in electronic farm accounting programs. In all cases, the information was submitted to the College for summary and analysis.

Extension agents cooperated in the organization of local groups and in collection of the data. Regional summary reports were prepared for use by the agents in winter meetings with farmers. The aim of these extension activities was to help the dairymen develop their managerial skills and solve business management problems.

The records from all regions of the state have been combined for use in a continuing research study of factors affecting dairy farm incomes. The major purposes of this research are to: (1) keep abreast of changes taking place in dairy farming, and (2) provide current farm business data for use by dairymen, extension agents, teachers, agribusinessmen, policy makers, and others concerned with the New York dairy industry.

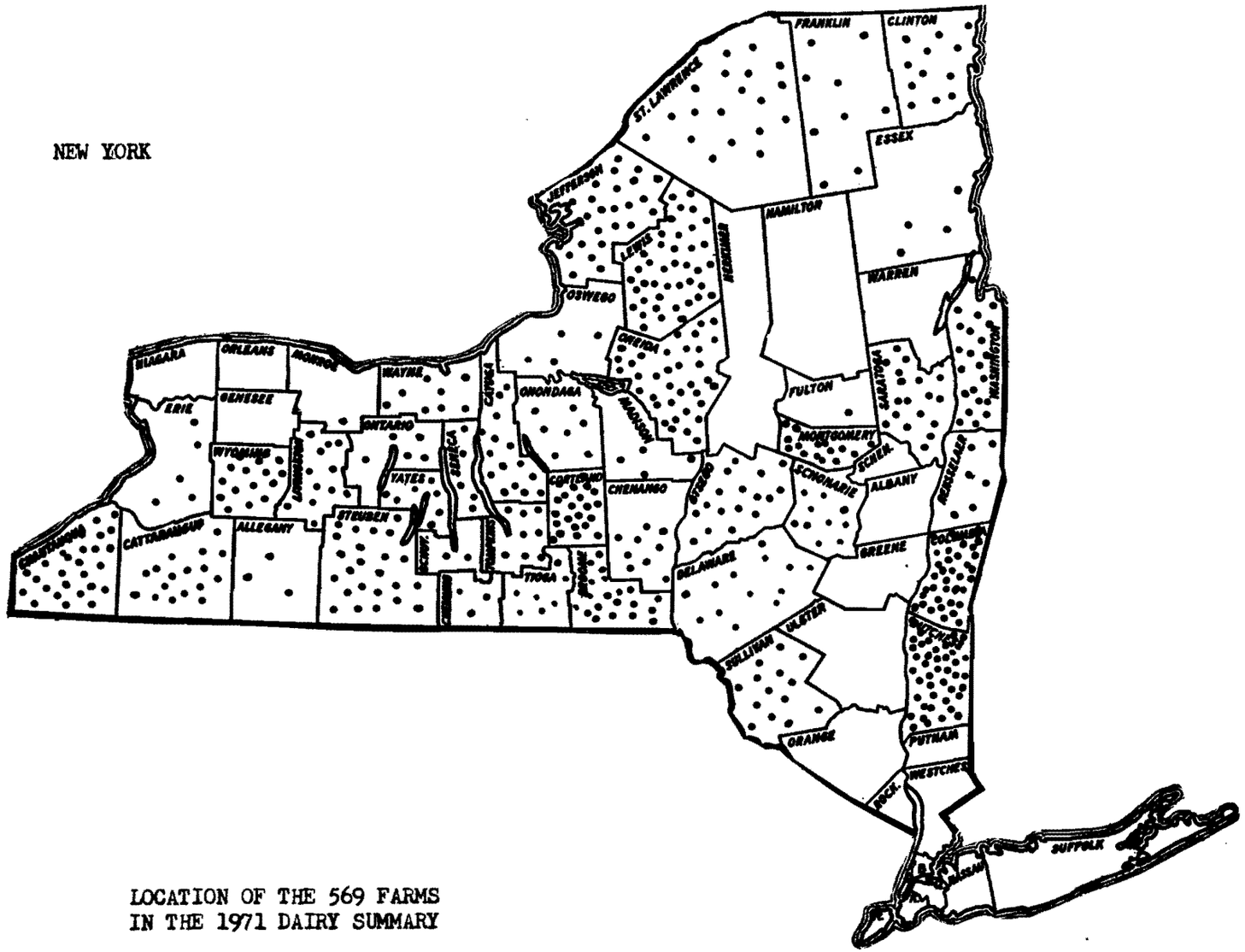
A total of 569 farm business records have been included in the dairy summary for 1971. Farms with combinations of dairy and other major enterprises were excluded from the analysis reported in this publication. Special features in the 1971 study include a summary of the financial situation on 319 farms, an analysis of 156 farms with free stall housing facilities, and an analysis by age of operator. Also a new method for handling building and machinery depreciation was used for the 1971 records.

This study does NOT represent the average of all dairy farms in the state. Participation in the project was on a voluntary basis. Although cooperators were located in various parts of the state not all areas were represented (see page 2). The 569 farms represent a cross section of commercial operators who in general are somewhat above the average for all dairy farms in the state.

Acknowledgements

C. A. Bratton, G. J. Conneman, E. L. LaDue, C. W. Loomis, A. C. Lowry, R. S. Smith, and S. F. Smith with the assistance of the Cooperative Extension Agents supervised the farm business management projects and the records which made this summary possible. Summarization and tabulation of the records and all machine operations were completed under the supervision of Myrtle Voorheis and the typing was done by Angie Torchia.

NEW YORK



LOCATION OF THE 569 FARMS
IN THE 1971 DAIRY SUMMARY

Growing Conditions

Table 1. TEMPERATURE, GROWING SEASON AND PRECIPITATION
Selected Stations

Station	Av. temperature May thru Sept.		Precipitation May thru Sept.		Precipitation Total annual		Length of growing season*	
	1941-70	1971	1941-70	1971	1941-70	1971	1947-67	1971
	degrees		inches				days	
Alfred	61.8	62.9	17.3	12.7	36.8	29.9	125	146
Auburn	65.0	63.3	14.1	11.2	32.0	40.8	174	NA
Batavia	64.0	65.4	15.3	17.3	32.6	30.7	154	164
Canton	63.0	62.5	16.5	15.9	34.5	35.9	127	129
Lowville	62.5	NA	16.5	13.4	38.5	37.7	123	NA
Norwich	61.9	61.5	18.4	17.6	39.9	40.6	120	142
Poughkeepsie FAA	66.3	66.7	16.7	26.6	38.0	46.1	164	195
Salem	62.8	63.3	18.4	19.9	39.0	38.8	119	NA
Utica FAA	63.5	64.3	18.1	18.6	40.6	51.0	157	196

* Days between the last temperature of 32 degrees in the spring and the first in the fall

Weather is a factor to be considered when studying a farm business for a specific year. The growing conditions have a marked effect on the crops for that year. It is for this reason that data are presented on the growing conditions for 1971 and for the period 1941-70.

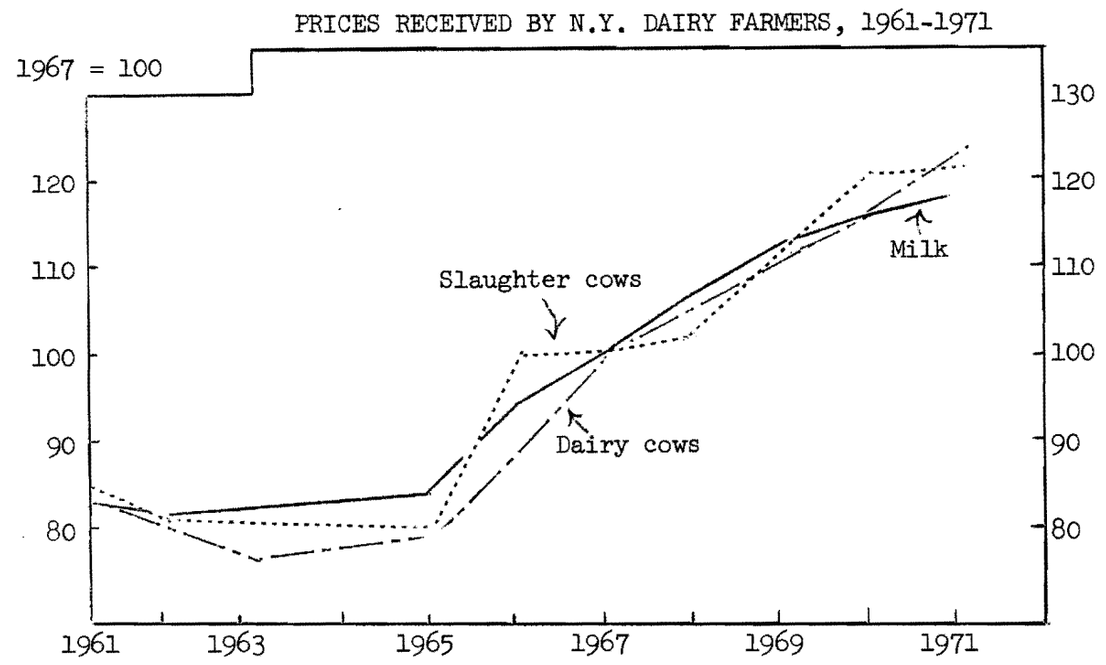
In general, the 1971 growing season can be characterized as having near normal temperatures, a longer than normal growing season and variable rainfall conditions. Data are presented for nine weather stations. The rainfall is reported by months for the growing season. There was considerable variation from the 30-year average throughout the season and in all areas (table 2).

Table 2. GROWING SEASON RAINFALL
Selected Stations, 1941-70 and 1971

Station	May		June		July		August		September	
	1941-70	1971	1941-70	1971	1941-70	1971	1941-70	1970	1941-70	1971
Alfred	3.84	1.37	3.76	3.14	3.73	3.05	3.00	1.24	2.93	3.93
Auburn	2.82	1.97	2.90	3.00	3.43	2.65	2.57	3.53	2.35	--
Batavia	3.17	1.76	2.69	5.18	3.05	4.97	3.50	2.45	2.87	2.96
Canton	3.37	3.34	2.91	2.48	3.45	4.38	3.45	3.27	3.31	2.46
Lowville	3.42	2.59	2.94	2.21	3.26	3.57	3.58	2.61	3.31	2.40
Norwich	3.92	3.30	4.13	2.86	3.95	5.49	3.17	2.73	3.27	3.27
Poughkeepsie	3.37	5.03	3.42	1.47	3.20	5.22	3.59	10.92	3.16	3.98
Salem	3.75	3.83	3.89	1.88	3.66	4.70	3.43	6.37	3.67	2.12
Utica	3.52	3.06	3.55	2.48	4.17	7.19	3.54	2.81	3.32	3.03

SOURCE: Climatological Data, New York, Environmental Data Service, NOAA, U. S. Department of Commerce

Prices



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

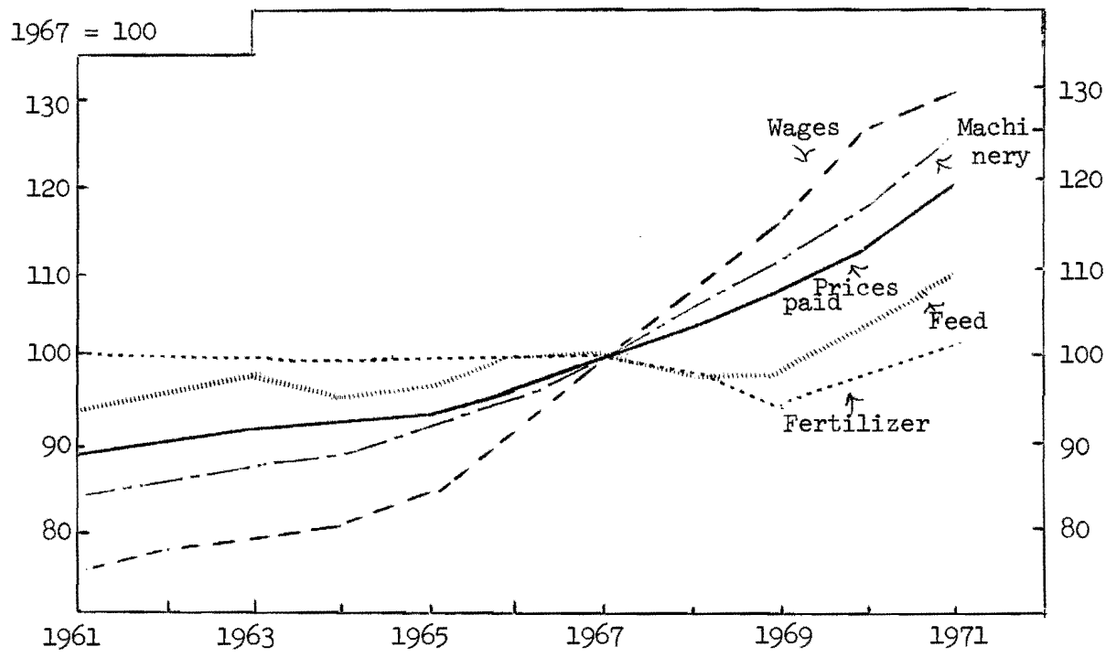
Prices are an important business factor. The relationship of prices received to prices paid determines the general level of incomes. The graph above shows the trend in prices since 1961 for the major items sold on dairy farms. A look then at the 1971 price situation gives a perspective on the price climate for the year of this study.

Milk prices for 1971 averaged $5.98 compared with $5.89 in 1970 and $4.14 in 1962. Both dairy and slaughter cow prices in 1971 were at new highs for the decade. In general, prices received by dairymen in 1971 were good.

Table 3. PRICES RECEIVED FOR MILK AND COWS BY N.Y. FARMERS, 1961-1971

Year	Milk 3.5% B.F. (cwt.)	Slaughter cows (cwt.)	Dairy cows (head)	Monthly farm price per 100 pounds of milk, 1971	
1961	$4.20	$14.60	$260	January	$6.25
1962	4.14	14.26	245	February	6.20
1963	4.15	14.01	234	March	6.00
1964	4.21	13.17	237	April	5.80
1965	4.27	13.91	238	May	5.60
1966	4.79	17.35	271	June	5.45
1967	5.07	17.10	303	July	5.95
1968	5.43	17.60	320	August	6.30
1969	5.66	19.30	336	September	6.55
1970	5.89	20.70	353	October	6.60
1971	5.98	21.20	372	November	6.60
				December	6.40

PRICES PAID BY N.Y. DAIRY FARMERS, 1961-1971



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

From 1961 to 1971, the index of prices paid by New York dairy farmers rose steadily, but some items changed more than others. From 1967 to 1971, farm wages rose 30 percent, machinery rose 25 percent, feed rose 8 percent, and fertilizer rose 1 percent. These variations have an influence on management decisions.

Table 4. PRICES PAID BY NEW YORK DAIRY FARMERS, 1961-1971

Year	Index 1967 = 100				Prices paid by New York dairy farmers	Dairy ration (cwt.)	Wages per month with house
	Feed	Fertilizer	Wages	Machinery			
1961	94	101	78	85	89	$3.61	$214
1962	96	100	80	86	90	3.68	218
1963	98	100	81	88	92	3.79	222
1964	95	99	83	89	92	3.72	228
1965	96	100	86	92	93	3.79	236
1966	100	100	91	95	96	4.00	254
1967	100	100	100	100	100	4.00	280
1968	97	98	109	105	103	3.70	302
1969	97	94	116	111	107	3.70	321
1970	103	98	126	117	112	3.90	354
1971	108	101	130	125	120	4.13	372

SUMMARY OF THE FARM BUSINESS

The first step in a farm business summary and analysis is an examination of the resources used. Below is the summary of the resources used on the 569 dairy farms included in this study.

Labor, Livestock, and Crops Grown

Table 5. LABOR FORCE, LIVESTOCK NUMBERS, AND ACRES OF CROPS GROWN 569 New York Dairy Farms, 1971

Item	My farm		Average of 569 farms	Range Low	Range High
Labor					
Months of:					
Operators	_____		14.0		
Family unpaid	_____		2.3		
Family paid	_____		2.6		
Hired	_____		7.6		
Other	_____		.3		
Total months			26.8		
Man equivalent (no. men)	_____		2.2	1.0	7.0
Age of operator	_____		40	20	76
Livestock (number)					
Cows	_____		67	13	250
Heifers	_____		44	0	202
Crops (acres grown)*					
Hay	_____	(567)	98	1	440
Hay crop silage	_____	(54)	37	5	136
Green chop	_____	(30)	20	--	--
Corn silage	_____	(540)	54	5	300
Corn for grain	_____	(244)	40	1	265
Oats	_____	(178)	23	3	100
Total acres of crops	_____	(567)	186	1	807

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

Partnerships (or family corporations) are relatively common on New York dairy farms. Ninety-four of the 569 farms had two or more operators with a total of 668 operators. Thus, about one-sixth of the farms were partnerships.

The average man equivalent was 2.2 with 7.0 the largest. Family members provided 18.9 months of labor compared with 7.9 months hired or 71 percent was family labor. The average age of the operators was 40.

Capital Investment

The end-of-year inventory is used as the measure of the capital investment. The inventory should reflect the "fair market value" or what things would bring at a well-attended sale. This is a measure of the capital resource used in the business. The total investment on these farms averaged $153,000.

Table 6. FARM INVENTORY VALUES, JANUARY 1, 1972
569 New York Dairy Farms

Item	My farm	Average of 569 farms	% of total
Livestock	$_____	$ 35,327	23
Feed and supplies	_____	10,538	7
Machinery and equipment	_____	32,059	21
Land and buildings	_____	75,381	49
TOTAL INVENTORY	$_____	$153,305	100

Machinery and buildings are depreciable items in a farm business. Since investments in these items usually come in large amounts, some accounting method must be used to spread the cost over the years of expected life. For the 1971 summary, depreciation for machinery and for real estate was calculated (table 7) and then entered as expense items (see page 10).

The average machinery depreciation of $4,297 is 11.8 percent of the beginning inventory plus purchases. Since beginning inventory items are already partially depreciated this would indicate an average life of more than 10 years. The small building depreciation of $417 shows that the summary does not include much write-off for buildings. This may indicate that rising real estate values about offset building depreciation.

Table 7. MACHINERY AND LAND AND BUILDING DEPRECIATION
569 New York Dairy Farms, 1971

Item	Machinery		Land and Buildings	
	My farm	Av. 569 farms	My farm	Av. 569 farms
Beginning inventory	$_____	$28,748	$_____	$70,774
Purchases	_____	7,719	_____	5,150
Total (1)	$_____	$36,467	$_____	$75,924
End inventory	$_____	$32,059	$_____	$75,381
Sales	_____	111	_____	126
Total (2)	$_____	$32,170	$_____	$75,507
DEPRECIATION (1 minus 2)	$_____	$4,297	$_____	$417

Receipts

The receipts tell much about the nature of the business. They also are an indication of the accomplishments of the operation.

Table 8. FARM RECEIPTS
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms	Percent of total
Milk sales	$_____	$53,534	88
Livestock sold	_____	5,590	9
Crop sales	_____	389	1
Government payments	_____	360	1
Gas tax refund	_____	111	--
Machine work	_____	91	--
Work off farm	_____	49	--
Miscellaneous	_____	621	1
Total Cash Receipts	$_____	$60,745	100
Increase in livestock and feed inventories	_____	3,937	
TOTAL FARM RECEIPTS	$_____	$64,682	

Milk sales on these 569 farms accounted for 88 percent of the total cash receipts. Livestock sold, the second largest item, accounted for an additional 9 percent. The cash flow into the business on these farms averaged $61,000. Increase in livestock and feed, which are non-cash receipts, averaged $3,940 or 6 percent of the total farm receipts.

Table 9. INCOME ANALYSIS
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms
Average price per cwt. milk sold	$_____	$6.21
Milk sales per cow	$_____	$799
Total cash receipts per man	$_____	$27,600

The average price per hundredweight of milk sold by the 569 farms in 1971 was $6.21. The average price is calculated by dividing the gross milk receipts for the year by the total pounds of milk sold. The variation in average price received is shown below:

Variation in Average Milk Price

Average price received for milk	Number of farms	Percent of farms
Below $5.75	16	3
$5.75 - 5.99	159	28
6.00 - 6.24	233	41
6.25 - 6.49	75	13
6.50 - 6.74	41	7
6.75 - 6.99	21	4
Over $7.00	24	4
TOTAL	569	100

Dairymen often say there is nothing they can do about the price received for milk. This may be true as it pertains to the price at a particular time, but the variation shown here does indicate that the average annual prices received for milk by farmers do vary. Management practices account for some of the differences. Seasonality of production and butterfat test are two management items that affect the average price for the year.

Gross receipts are sometimes used as a measure of size of business. The census of agriculture uses this measure in classifying farms. The distribution of total farm receipts of the 569 farms in 1971 is shown below:

Distribution of Farms by Total Farm Receipts

Total farm receipts	Farms	
	Number	Percent
Under $20,000	6	1
$ 20,000 - 29,999	44	8
30,000 - 39,999	86	15
40,000 - 49,999	111	19
50,000 - 59,999	84	15
60,000 - 79,999	93	16
80,000 - 99,999	55	10
100,000 - 119,999	39	7
120,000 and over	51	9
TOTAL	569	100

Only six of the 569 farms had receipts under $20,000. Consequently, practically all the farms in this study would be classified by the census as Economic Classes I and II farms ($20,000 and over). More than one-half of the 569 farms had receipts of over $50,000 and 16 percent had receipts of $100,000 or more.

Expenses

Managers often wonder where all the money goes! A study of the expenses will tell. A good picture of the business expenditures is important in managing a business.

Table 10. FARM EXPENSES
569 New York Dairy Farms, 1971

Item	My farm	Average 569 farms Amount	Percent
Labor			
Hired labor	$_____	$ 4,801	12
Feed			
Dairy concentrate	_____	13,029	33
Other feed	_____	444	1
Machinery			
Machine hire	_____	899	2
Machinery repairs	_____	2,566	7
Auto expense (farm share)	_____	220	1
Gas and oil	_____	1,452	4
Livestock			
Purchased animals	_____	2,540	6
Breeding fees	_____	601	1
Veterinary and medicine	_____	881	2
Other livestock expense	_____	1,979	5
Crops			
Lime and fertilizer	_____	2,432	6
Seeds and plants	_____	686	2
Spray, other crop expense	_____	620	1
Real Estate			
Land, building, fence repair	_____	1,206	3
Taxes	_____	1,543	4
Insurance	_____	1,006	3
Rent	_____	760	2
Other			
Telephone (farm share)	_____	208	1
Electricity (farm share)	_____	859	2
Miscellaneous	_____	631	2
TOTAL CASH EXPENSES	$_____	$39,363	100
Machinery depreciation	_____	4,297	
Real estate depreciation	_____	417	
Unpaid labor	_____	780	
Decrease in livestock and feed inventories	_____	--	
TOTAL FARM EXPENSES	$_____	$44,857	

The cash expense classifications used on page 10 are taken from the "Cornell Farm Account Book." Lists of the items included in each category are presented on the inside back cover of that account book.

Machinery and real estate depreciation - expenditures for machinery and buildings are usually made in large amounts. These purchases are often financed through loans. To include all the expenses in the year of purchase inflates the farm expenses. Consequently, depreciation has been calculated for these (page 7) and carried as expense items.

Unpaid family labor refers to work done by members of the family who are not paid cash wages. The operator estimates the number of months of unpaid labor. This is charged to the business at $300 per month.

Decrease in livestock and feed inventories is the amount that the beginning inventory for these two items exceeds the end inventory. Since this indicates a "using up" of capital items, it is considered as a farm expense. Some individual farms had a decrease, but the net inventory change for the 569 farms was an increase.

Total farm expenses for the 569 farms averaged $44,857 or $127 per day. The cash operating expenses averaged $39,400 or 88 percent of the total. The cash operating expenses averaged $588 per cow. When depreciation and unpaid labor were included, the total farm expenses averaged $670 per cow.

Farm expenses can be classified in various ways. Another way to study expenses is to divide them on the basis of fixed, variable, and capital items. This is shown below:

Overhead expenses (fixed)	
Land & building repairs	$1,206
Property taxes	1,543
Insurance	1,006
Rent	760
Electricity	859
Telephone	208
Total Fixed Overhead	$5,582

Capital expenses	
Machinery depreciation	$4,297
Real estate depreciation	417
Total Capital	$4,714

Operating expenses (variable)	
Labor	$ 4,801
Feed	13,473
Machinery repairs	2,566
Gas and oil	1,452
Machine hire	899
Auto	220
Livestock purchased	2,540
Livestock expenses	3,461
Fertilizer and lime	2,432
Other crop expenses	1,306
Miscellaneous	631
Total Variable	$33,781

The variable expenses on these farms accounted for 75 percent of the grand total. These are items over which the operator has direct control. The fixed items accounted for only 12 percent of the total, and capital depreciation 11 percent. The variable expenses are the ones the dairymen must make decisions on daily.

Income

Researchers have developed a number of ways to measure the income from a farm business. The measure selected for use depends on the point from which the results are being studied. Several common measures are reported here.

Table 11. FARM INCOME AND LABOR INCOME
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms	Percent of receipts
Total farm receipts	$_____	$64,682	100
Total farm expenses	_____	44,857	69
FARM INCOME	$_____	$19,825	31
Interest on av. capital @ 7%	_____	10,316	16
Labor income per farm	$_____	$ 9,509	15
Number of operators (668)	_____	1.17	
LABOR INCOME PER OPERATOR	$_____	$ 8,127	

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 livestock and feed inventories) and total expenses (including decreases in livestock and feed inventories but excluding interest payments).

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 7 percent interest charge on all capital is subtracted from the farm income.

Distribution of Labor Incomes Per Operator

Labor income per operator	Farms	
	Number	Percent
Minus	64	11
$ 0 - 4,999	138	24
5,000 - 9,999	174	30
10,000 - 14,999	106	19
15,000 - 19,999	44	8
20,000 - 24,999	22	4
25,000 or more	21	4

Sixty-four or eleven percent of the farms had a minus labor income. This indicates that the business did not return enough to pay all expenses plus 7 percent return on the capital invested. On the other hand, there were 43 farms with labor incomes of $20,000 or more.

Table 12. FARM CASH OPERATING INCOME AND DEBT PAYMENT ABILITY
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms
Total cash receipts	$_____	$60,745
Total cash operating expense	_____	39,363
FARM CASH OPERATING INCOME	$_____	$21,382
Family cash living expenses*	_____	6,340
DEBT PAYMENT ABILITY	$_____	$15,042

* Estimated at $5,400 per operator per year

Farm cash operating income reflects the cash available from the year's operation of the farm business for family living, interest and debt payments, and new capital purchases or investments. A family may have had additional cash available if some member of the family had a nonfarm income, or if money were inherited or borrowed.

Debt payment ability is a measure of the amount of cash available for debt payments. It is calculated by deducting family living expenses from the farm cash operating income. Since actual living expenses were not available, they were estimated at $5,400 per operator. It is assumed here that new machinery and real estate are purchased with borrowed capital. This measure is useful in planning debt payment schedules.

Rate of 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. In the calculation below, $5,400 has been used arbitrarily as the value of the operator's labor. This is comparable to what "good" hired men earn. Rate of return really reflects the return to capital and management.

Table 13. RATE OF RETURN ON INVESTMENT
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms
Farm income	$_____	$19,825
Value of operator's labor*	_____	6,340
Return on investment	$_____	$13,485
Average capital investment	$_____	$147,378
RATE OF RETURN ON INVESTMENT	_____%	9.2%

* $5,400 per operator - some farms had more than one operator

Farm income as calculated here is the return from the business for three major input items: (1) the operator's labor input, (2) the operator's management input, and (3) the total capital input.

In calculating operator's labor income, the first two inputs are combined and in calculating rate of return on investment, the last two are combined.

"Profit" is a measure commonly used in nonfarm businesses. This measure is used where the management inputs are actually hired. In some farm management studies, the management input has been valued at 8 percent of the cash farm receipts, and the operator's labor at the average wage for hired men with houses. By allocating returns to the operator for his labor and for his management, a profit can be computed as follows:

Farm income		$19,825
Less:		
(1) Operator's labor @ $85/week	$ 5,171	
(2) Management @ 8% of cash receipts	4,860	
(3) Interest on capital @ 7%	10,316	
		$20,347
PROFIT (loss)		(-$522)

For these 569 farms, the returns to the farm business after allowing the operator $10,031 for his labor and management showed a loss rather than a profit.

Returns Per Unit of Input

Income from a business can also be calculated in relation to various input units. For example, since these are family-type farms, the labor and management return can be figured on a per-man basis. This is shown below:

Returns to all labor

Labor income per farm	$ 9,509
Value hired labor	4,801
Value unpaid labor	780
Total returns to labor	$15,090
Average man equivalent	2.2
Returns per man equivalent	$6,859
Returns per hour (3,000 hrs./yr.)	$2.29

In like manner, returns can be calculated on the basis of production units or on a per-cow basis. These are given below:

Returns per cow

Cash operating income per cow	$319
Farm income per cow	$296
Labor income per cow	$142

ANALYSIS OF THE FARM BUSINESS

This part of the report includes a systematic analysis of the farm business to determine strengths and weaknesses. Five business factors are examined. These are: size of business, rates of production, labor efficiency, use of capital, and cost control. The 1971 averages for selected measures for each of these factors are reported along with general relationships of each to labor income.

Since the measures examined here are interrelated, all factors should be examined before arriving at major conclusions.

Size of Business

Size of farm has an effect on other factors such as labor efficiency, cost control, and capital efficiency. 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.

Table 14. MEASURES OF SIZE OF BUSINESS
569 New York Dairy Farms, 1971

Measure	My farm	Average of 569 farms
Number of cows	_____	67
Total acres in crops	_____	185
Man equivalent	_____	2.2
Total work units	_____	729
Pounds of milk sold	_____	861,700
Total cash receipts	$_____	$60,745
Total investment	$_____	$153,000

Number of cows is the average number in the herd for the year. Where available, the D.H.I.C. annual average is used.

Total acres in crops includes all acres on which crops were harvested during the 1971 year. It does not include cropland pasture or uncropped land.

Man equivalent is the amount of labor available on the farm during the year in terms of full-time man years. Work by part-time workers and family members is converted to full-time man equivalent.

Total work units represents the number of productive man days that would be required, under average conditions, to care for the acreage of crops grown and the number of livestock handled. A man work unit is the average amount of productive work accomplished in ten hours.

Table 15. COWS PER FARM AND LABOR INCOME
569 New York Dairy Farms, 1971

Number of cows	Number of farms	Percent of farms	Labor income per operator
Less than 40	102	18	$ 5,330
40 - 54	166	29	6,340
55 - 69	100	18	7,440
70 - 84	69	12	7,880
85 - 99	39	7	9,520
100 - 114	41	7	12,180
115 - 129	17	3	14,000
130 - 149	22	4	12,600
150 and over	13	2	15,360

The relationship of size of business and labor income was observed for size as measured by number of cows and by man equivalent. On the basis of herd size, the larger the business the higher the labor income per operator up to 130 cows after which the incomes varied. The number of farms in the larger groups were relatively small so cannot be used as conclusive evidence.

The 1971 relationship is consistent with that of earlier studies. A well-managed large farm will provide the operator a higher income than a well-managed small one. However, a large farm poorly managed can lose more than a poorly managed small farm.

Man equivalent is often used as a measure of size. It is of interest that 79 percent of the farms had man equivalents of less than 3.0 (table 16). Forty-one percent of the farms had less than 2.0 men. The relationship of man equivalent and income was not regular. However, the farms with 3.0 or more men had considerably higher incomes than those with less than three. This suggests that there are important items in organizing the labor force that affect the income.

Table 16. MAN EQUIVALENT PER FARM AND LABOR INCOME
569 New York Dairy Farms, 1971

Man equivalent	Number of farms	Percent of farms	Number of cows	Labor income per operator
1.0 - 1.4	99	17	41	$ 7,040
1.5 - 1.9	135	24	49	7,090
2.0 - 2.4	149	26	60	7,740
2.5 - 2.9	65	12	77	6,640
3.0 - 3.4	58	10	98	11,470
3.5 - 3.9	24	4	102	10,450
4.0 and over	39	7	138	11,930

Rates of Production

Production per animal and per acre are factors that affect farm incomes. However, high rates of production should be obtained at reasonable costs.

Table 17. MEASURES OF RATES OF PRODUCTION
569 New York Dairy Farms, 1971

Measure	My farm	Average of 569 farms
Pounds of milk sold per cow	_____	12,900
Tons hay per acre	_____	2.7
Tons corn silage per acre	_____	16
Tons of hay equivalent per acre of all roughages	_____	3.5
Bushels of oats per acre	_____	60
Bushels grain corn per acre	_____	80

Pounds of milk sold per cow is calculated by dividing the total pounds of milk sold by the average number of cows. The average for the 569 farms was 12,900 pounds per cow.

Tons of hay equivalent per acre of all roughages is determined by converting all silage produced to tons of hay equivalent and then dividing the total tons of hay equivalent from all roughage by the total acres used for roughage production. This measure gives an indication of how intensively the roughage land is used.

Studies have shown repeatedly that farms with higher rates of production tend to have higher labor incomes. In 1971, the farms with the higher rates of production were larger, bought more feed per cow, and in general had higher incomes.

Table 18. MILK SOLD PER COW AND LABOR INCOME
569 New York Dairy Farms, 1971

Pounds of milk sold per cow	Number of farms	Number of cows	Feed bought per cow	Labor income per operator
Under 10,000	45	59	$126	$ 2,330
10,000 - 10,999	57	66	155	5,310
11,000 - 11,999	82	62	186	6,900
12,000 - 12,999	117	72	193	7,820
13,000 - 13,999	111	68	210	10,060
14,000 - 14,999	91	67	224	9,150
15,000 and over	66	68	232	11,840

Labor Efficiency

Accomplishments per worker are used to measure labor efficiency. With wage rates rising more than other costs, it is important to watch this factor.

Table 19. MEASURES OF LABOR EFFICIENCY
569 New York Dairy Farms, 1971

Measure	My farm	Average of 569 farms
Pounds of milk sold per man	_____	391,700
Number of cows per man	_____	30
Work units per man	_____	331
Crop acres per man	_____	84

Pounds of milk sold per man is determined by dividing the total pounds of milk sold by the man equivalent. This is probably the best measure of labor efficiency for dairy farms. The 569 farms averaged 391,700 pounds per man.

Labor accomplishments (efficiency) depends on a number of things. Among these are the amount of mechanization, the field and building layout, the work methods used, and the abilities of the workers. All of these are management items under the control of the operator.

The relationship of labor efficiency to labor income was definite on the 569 farms. The higher the pounds of milk sold per man, the higher the income. Farms with less than 250,000 pounds of milk per man had an average labor income of $2,300 compared with $15,600 for those with 500,000 pounds and over. The higher output per man was accomplished in part by more and higher producing cows (table 20).

Table 20. MILK SOLD PER MAN AND LABOR INCOME
569 New York Dairy Farms, 1971

Pounds of milk sold per man	Number of farms	Number of cows	Lbs. milk per cow	Labor income per operator
Under 250,000	69	44	10,900	$ 2,280
250,000 - 299,999	68	51	12,100	4,280
300,000 - 349,999	111	56	13,000	6,090
350,000 - 399,999	93	66	12,900	9,040
400,000 - 449,999	88	78	13,300	8,890
450,000 - 499,999	66	74	13,500	10,820
500,000 and over	74	102	13,600	15,660

Use of Capital

The average end-of-year inventory on the 569 farms was over $150,000. This includes both owned and borrowed capital. The use of credit is part of capital management. Since capital is a key input item, it is important to analyze the use of capital in the business.

The analysis in this section examines how the capital is used and the financial situation of the farm family.

Table 21. MEASURES OF CAPITAL EFFICIENCY
569 New York Dairy Farms, 1971

Measure	My farm	Average of 569 farms
Total capital per man	$_____	$69,700
Total capital per cow	_____	2,290
Machinery and equipment per cow	_____	480
Land and building investment per cow	_____	1,125
Land and building investment per crop acre	_____	410
Total capital per cwt. milk sold	_____	18
Capital turnover (capital ÷ receipts)	_____	2.4

Capital efficiency is often associated with size of herd. For this reason, the 569 farms were sorted on the basis of number of cows and the capital efficiency measures were calculated. There seemed to be a relationship between size and capital efficiency for machinery but not for real estate.

Table 22. SIZE OF HERD AND CAPITAL EFFICIENCY
569 New York Dairy Farms, 1971

Number of cows	Number of farms	Capital Investment Per Cow		
		Total	Real estate	Machinery
Under 40	102	$2,389	$1,175	$538
40 - 54	166	2,325	1,117	523
55 - 69	100	2,330	1,161	491
70 - 84	69	2,306	1,131	504
85 - 99	39	2,318	1,115	467
100 - 114	41	2,431	1,217	470
115 - 129	17	2,208	1,087	440
130 - 149	22	2,266	1,196	419
150 & over	13	1,759	820	329

The financial situation is an important part of the analysis of a farm business. This indicates the condition of the operation as it relates to present financing and future expansion possibilities. In the 569 records for 1971, a total of 319 included a financial situation statement. These were summarized and the results are reported below.

Table 23. FARM FAMILY FINANCIAL SITUATION
319 New York Dairy Farms, January 1, 1972

Item	My farm	Farms Reporting		Average 319 farms	
		Number	Percent	Amount	Percent
Assets					
Farmland and buildings	$_____	319	100	$ 76,908	45
Livestock	_____	319	100	34,803	20
Machinery	_____	319	100	30,881	18
Feed and supplies	_____	319	100	10,730	6
Co-op investment	_____	236	74	2,363	1
Accounts receivable	_____	197	62	3,412	2
Cash and checking accounts	_____	271	85	1,662	1
Savings accounts	_____	167	52	2,078	1
Cash value life insurance	_____	215	67	2,565	2
Stocks and bonds	_____	112	35	1,957	1
Nonfarm real estate	_____	33	10	1,886	1
Auto (personal share)	_____	216	68	942	1
All other	_____	85	27	1,835	1
TOTAL ASSETS	$_____	319	100	$172,022	100
Liabilities					
Real estate mortgage	$_____	268	84	$29,558	48
Liens on cattle & equipt.	_____	217	68	21,091	34
Installment contracts	_____	115	36	2,796	5
Secured notes	_____	78	24	2,118	3
Unsecured notes	_____	86	27	2,295	4
Store accounts	_____	93	29	1,755	3
Personal debt and other	_____	163	51	1,557	3
TOTAL LIABILITIES	$_____			$61,170	100
NET WORTH	$_____			$110,852	

The farm inventory accounted for 89 percent of the total family assets reported. Accounts receivable, the cash value of life insurance, and co-op investments were the largest nonfarm items. Real estate mortgages were the largest liability and accounted for 48 percent of all debts. The percent of farms reporting gives an indication of the frequency of each item. For example, 52 percent of the families reported savings accounts and 84 percent reported real estate mortgages.

Table 24. DEBT COMMITMENTS AND FINANCIAL MEASURES
319 New York Dairy Farms, 1971

	My farm	Average of farms reporting	
Total debt payments	$_____	(241 farms)	$13,254
Financial measures:			
Number of cows	_____	(241 farms)	66
Annual debt payment/cow	$_____	(241 farms)	$201
Debt payment as % milk check	_____%	(241 farms)	25%
Percent equity	_____%	(319 farms)	64%
Percent debt on real estate	_____%	(319 farms)	48%
Debt per cow	$_____	(319 farms)	$927

Of the 319 farms, 241 reported their total debt payments for the year 1971. The debt payment for interest and principle averaged $13,254. These commitments averaged nearly $1,100 per month, $201 per cow per year, and 25% of the milk receipts.

Debts on the 319 farms reporting amounted to 36 percent of the total assets. This gives an average equity of 64 percent. The average debt per cow was $927. There was a wide range in these factors among the farms reporting.

Table 25. FINANCIAL SITUATION BY SIZE OF HERD
319 New York Dairy Farms, 1971

Herd size (cows)	Number of Farms	Number of Cows	Total assets	Total liabilities	Net worth	Percent equity	Debt per cow
Under 40	60	33	$ 97,077	$ 29,853	$ 67,224	69	$ 905
40 - 54	91	47	123,109	42,773	80,336	65	910
55 - 69	60	61	164,927	56,315	108,612	66	923
70 - 84	39	75	198,655	75,058	123,597	62	1,001
85 - 99	17	90	206,782	95,111	111,671	54	1,057
100 - 114	22	102	283,305	82,658	200,647	71	810
115 - 129	9	122	322,444	92,515	229,929	71	758
130 - 149	12	139	366,298	144,797	221,501	60	1,042
150 & over	9	184	350,974	168,680	182,294	52	917

Cost Control

Keeping costs in line can make the difference between profit and loss. Small as well as large costs must be checked. An analysis of the various costs is one step in maintaining good cost control. Several important costs are examined below.

Feed Costs

Purchased feed is the largest single expense item on most New York dairy farms. For the 569 farms in 1971, dairy concentrate accounted for 33 percent of the cash operating expenses. For this reason, feed is the first item examined in the "cost control" section.

Dairy feed costs are affected by many things. It is difficult to find a satisfactory single measure of feed cost control. Consequently, the feed situation generally is looked at in the business analysis of feed costs. Below are some measures related to feed costs on a dairy farm.

Table 26. ITEMS RELATED TO FEED COSTS
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms
Feed expense		
Dairy feed purchased	$_____	$13,029
Feed purchased as % of milk receipts	_____%	24%
Feed purchased per cwt. of milk sold	$_____	$1.51
Feed purchased per cow	$_____	$194
Crop expense per cow	$_____	$56
Total feed and crop expense per cow	$_____	$250
Total feed and crop expense per cwt. of milk sold	$_____	$1.95
Roughage harvested (hay equivalent)		
Hay (tons)	_____	268
Corn silage (tons ÷ 3)	_____	266
Hay crop silage (tons ÷ 2 or 3)*	_____	9
Total tons hay equivalent	_____	543
Tons hay equivalent per cow	_____	8.1
Other considerations		
Acres in crops per cow	_____	2.8
Lime and fertilizer expense per cow	$_____	$36
Lime and fertilizer expense per crop acre	$_____	$13
Number of heifers per 10 cows	_____	6.6

* Depending on moisture content of silage

The above measures of roughage harvested consider quantity only. Quality is also important and should be considered when studying the feeding program.

Feed cost is influenced by a number of factors. On the production side, it is affected by the amount of home-grown grains, quality and quantity of the roughage, and the number of youngstock. On the purchasing side, it is influenced by the farmer's ability to purchase concentrates at low costs.

Feed purchased as percent of milk receipts is calculated by dividing feed purchased by milk receipts. This measure can be used to determine whether the feed costs are in line. The amount of home-grown grain must be considered as you evaluate this measure. Milk prices also influence this factor.

Feed purchased per cow is calculated by dividing the total expense for dairy concentrate by the average number of cows. Because this also includes the amount spent for calf and heifer feed, it actually represents the feed cost per cow and the replacements being raised.

Crop expense per cow is calculated by dividing the total money spent for fertilizer and lime, seeds and plants, spray, and other crop expense by the average number of cows. This represents the direct cash costs of the dairyman for growing feed.

Total feed and crop expense is determined by adding the purchased feed expense to total crop expense. This indicates the total amount spent by the dairyman to provide the feed requirements of the herd. If the dairyman gets a high amount of nutrients per dollar spent and feeds these nutrients so as to get efficient milk production per unit of nutrient, he will keep his feed and crop expense per hundredweight of milk down.

Number of heifers per 10 cows is figured by dividing the number of heifers by the number of cows and multiplying by ten.

Table 27. PERCENT PURCHASED FEED IS OF MILK RECEIPTS AND LABOR INCOME
569 New York Dairy Farms, 1971

% Feed is of milk	Number of farms	Number of cows	H.E. per cow	Lbs. milk per cow	Labor income per operator
Over 40%	20	61	7.4	12,000	$ 1,960
35 - 39	36	59	8.0	13,200	3,090
30 - 34	99	61	8.0	12,700	5,200
25 - 29	149	66	7.9	12,900	7,530
20 - 24	125	72	8.2	12,900	10,790
Under 20%	140	71	8.3	12,700	10,390

In general, the lower the percent of the milk check going for purchased feed, the higher the income (table 27). Farms with a lower percent of the milk check going for purchased feed had more tons of hay equivalent per cow. This suggests that adequate supplies of roughage has an effect on concentrate purchases and labor incomes.

Machinery Costs

Mechanization on dairy farms has been proceeding at a relatively rapid pace. This increases the importance of analyzing the machinery costs. On the 569 farms, machinery costs accounted for 26 percent of the total farm expenses in 1971. Below are the calculations of the machinery costs and related factors.

Table 28. MACHINERY COST
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms	Percent of total
Depreciation (from p. 5)	$_____	$ 4,297	37
Interest @ 7% on av. inventory	_____	2,128	18
Machine hire	_____	899	8
Machinery repairs	_____	2,566	22
Auto expense (farm share)	_____	220	2
Gas and oil	_____	1,452	13
Total machinery costs	$_____	$11,562	100
Machinery cost: per cow	$_____	$173	
Machinery cost: per cwt. milk sold	$_____	$1.34	

Depreciation and interest accounted for 55 percent of the machinery cost on these farms. These are fixed cost items so must be used on enough units to keep the costs at a reasonable level. In general, the lower the machinery cost per cow the higher the labor income (table 29).

Table 29. MACHINERY COST PER COW AND LABOR INCOME
569 New York Dairy Farms, 1971

Machinery cost per cow	Number of farms	Percent of farms	Labor income per operator
Under $100	24	4	$8,400
100 - 149	172	30	9,890
150 - 199	215	38	8,120
200 - 249	118	21	7,640
250 - 299	24	4	710
300 & over	16	3	3,350

Labor and Machinery Costs

The primary justification given for more mechanization is to reduce labor costs. However, 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 operator's machinery and labor combination.

Table 30. LABOR AND MACHINERY COST
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms
Labor cost:		
Value of operators' labor*	$_____	$ 6,340
Hired labor**	_____	4,801
Unpaid family labor	_____	780
Total Labor Cost	$_____	$11,921
Total Machinery Cost (p.. 24)	_____	11,562
TOTAL LABOR AND MACHINERY COST	$_____	$23,483
Labor cost:		
per cow	$_____	$177
per cwt. milk sold	$_____	$1.38
Labor and machinery cost:		
per cow	$_____	$350
per cwt. milk sold	$_____	$2.73

* Values at $5,400 per operator - some farms had more than one operator
** Includes family paid and non-family hired

The costs of labor and of machinery were about equal on these farms. Non-family hired labor accounted for 29.5% of all labor. The cost of hired labor averaged $457 per month.

Table 31. ANALYSIS OF LABOR COSTS
569 New York Dairy Farms, 1971

Item	My farm	Average 569 farms
Percent of labor furnished by:		
Operator	_____%	52.2%
Family unpaid	_____%	9.7%
Family paid	_____%	8.6%
Hired	_____%	29.5%
Cost per month of hired labor	$_____	$457
Labor cost per man equivalent	$_____	$5,420

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 they can be used for analyzing farms of various sizes. These factors are influenced by a number of things so must be used with that in mind.

Table 32. COST CONTROL MEASURES
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms
Overhead		
Land and building repair per cow	$_____	$ 18
Taxes per cow	_____	23
Insurance per cow	_____	15
Electricity per cow	_____	13
Machinery		
Machinery depreciation per cow	$_____	$ 64
Machinery repair per cow	_____	38
Gas and oil per cow	_____	22
Machinery cost per cow	_____	173
Dairy		
Veterinary and medicine per cow	$_____	$ 13
Breeding fees per cow	_____	9
Other livestock expense per cow	_____	30
Crops		
Fertilizer and lime per crop acre	$_____	$ 13
Seeds and plants per crop acre	_____	4
Other crop expense per crop acre	_____	3
Gas and oil per crop acre	_____	8
General		
Total labor per cow*	$_____	$177
Total feed and crop expense per cow	_____	250
Total expenses per cow	_____	670
Total expenses per $100 receipts	_____	69

* Using $5,400 per year for operator's labor

Combination of Factors

Individual factors have been examined in the analysis up to this point. It has been suggested that these factors are interrelated. In this section, the combination of factors is studied. The factors used here are size, rates of production, labor efficiency, and cost control as measured by number of cows, pounds of milk sold per cow, pounds of milk sold per man, and percent purchased feed was of milk receipts.

For each factor, the farms were divided on the basis of whether they were above or below the average for the 569 farms. They were then grouped on the basis of the number of factors better than average. The combination of factors above or below average within the three middle groups varied.

Table 33. COMBINATION OF FACTORS ABOVE AVERAGE* AND LABOR INCOME
569 New York Dairy Farms, 1971

Number of factors above average	Number of farms	Percent of farms	Labor income per operator
4 factors better than average	55	10	$18,720
3 factors better than average	108	19	11,610
2 factors better than average	166	29	7,310
1 factor better than average	158	28	5,400
0 factors better than average	82	14	3,280

* Factors were:
Size - number of cows - average 67
Rates of production - pounds of milk sold per cow - average 12,900
Labor efficiency - pounds of milk sold per man - average 391,700
Cost control - percent purchased feed was of milk receipts - average 24%

The relationship between the number of factors better than average and labor income is shown in table 33. As the number of factors better than average decreased, labor incomes decreased at a rapid rate. In order to get a labor income higher than good hired men's wages, it appears that a business must be above average in at least two factors.

It is important in managing a farm business to give attention to all major factors affecting the business. Concentrating on only one or two factors and neglecting the others, will not give the kind of net income most farmers want.

Comparison by Herd Size

In making an analysis of an individual farm business, it is helpful to compare it with businesses of approximately the same size. On the following four pages, the business summary and business factors for the 569 farms are shown for seven herd size groups. These data also illustrate the effect of size on various business factors.

Table 34. FARM BUSINESS SUMMARY BY HERD SIZE
569 New York Dairy Farms, 1971

Item	My farm	Farms with: Less than 40 cows	40 to 54 cows	55 to 69 cows
Capital Investment (end of year)				
Livestock	$_____	$17,673	$ 25,750	$ 32,598
Feed and supplies	_____	4,771	6,454	9,259
Machinery and equipment	_____	17,679	24,459	30,418
Land and buildings	_____	38,366	52,520	71,684
TOTAL INVESTMENT	$_____	$78,489	$109,183	$143,959
Receipts				
Milk sales	$_____	$25,554	$37,369	$47,254
Livestock sales	_____	2,865	4,134	5,099
Crop sales	_____	202	319	330
Miscellaneous receipts	_____	1,119	858	1,070
Total Cash Receipts	$_____	$29,740	$42,680	$53,753
Increase in livestock and feed	_____	1,691	2,483	3,191
TOTAL FARM RECEIPTS	$_____	$31,431	$45,163	$56,944
Expenses				
Hired labor	$_____	$ 893	$ 2,193	$ 3,665
Dairy feed	_____	6,517	9,542	11,209
Other feed	_____	400	244	294
Machine hire	_____	375	578	621
Machinery repair	_____	1,085	1,637	2,248
Auto expense (farm share)	_____	177	226	221
Gas and oil	_____	823	990	1,432
Purchased animals	_____	910	1,636	2,131
Breeding fees	_____	302	467	520
Veterinary and medicine	_____	395	641	739
Other livestock expense	_____	1,028	1,460	1,650
Lime and fertilizer	_____	903	1,552	2,160
Seeds and plants	_____	263	478	656
Spray and other crop expense	_____	234	429	546
Land, bldg., fence repair	_____	649	874	1,103
Taxes	_____	1,288	1,840	2,354
Electricity & phone (farm share)	_____	586	760	948
Miscellaneous expenses	_____	460	906	1,081
Total Cash Operating Expenses	$_____	$17,288	$26,453	$33,578
Machinery depreciation	_____	2,370	3,328	3,877
Real estate depreciation	_____	161	194	425
Unpaid family labor	_____	870	870	750
TOTAL FARM EXPENSES	$_____	$20,689	$30,845	$38,630
Financial Summary				
Total Farm Receipts	$_____	$31,431	$45,163	$56,944
Total Farm Expenses	$_____	20,689	30,845	38,630
Farm Income	$_____	$10,742	$14,318	$18,314
Interest on av. capital at 7%	_____	5,362	7,339	9,689
Labor Income Per Farm	$_____	$ 5,380	$ 6,979	$ 8,625
Number of operators	_____	1.01	1.10	1.16
LABOR INCOME PER OPERATOR	$_____	$ 5,327	$ 6,345	$ 7,435

Table 34 contd. FARM BUSINESS SUMMARY BY HERD SIZE
569 New York Dairy Farms, 1971

Item	Farms with: 70 to 84 cows	85 to 99 cows	100 to 149 cows	150 or more cows
Capital Investment (end of year)				
Livestock	$ 39,654	$ 51,912	$ 60,412	$ 85,396
Feed and supplies	11,566	15,248	21,070	31,749
Machinery and equipment	38,357	42,656	51,920	63,128
Land and buildings	86,373	101,075	137,570	157,447
TOTAL INVESTMENT	$175,950	$210,891	$270,972	$337,720
Receipts				
Milk sales	$ 59,295	$ 74,156	$ 99,446	$152,800
Livestock sales	5,470	7,754	10,092	15,786
Crop sales	546	513	600	720
Miscellaneous receipts	1,181	1,510	1,819	3,925
Total Cash Receipts	$ 66,492	$ 83,933	$111,957	$173,231
Increase in livestock and feed	4,691	6,454	7,047	10,923
TOTAL FARM RECEIPTS	$ 71,183	$ 90,387	$119,004	$184,154
Expenses				
Hired labor	$ 5,502	$ 7,828	$ 11,737	$ 22,007
Dairy feed	14,868	17,056	23,684	35,221
Other feed	637	758	676	1,103
Machine hire	741	1,150	1,773	5,942
Machinery repair	2,537	3,653	5,283	8,681
Auto expense (farm share)	227	234	219	416
Gas and oil	1,587	1,973	2,522	3,578
Purchased animals	3,178	4,472	3,943	12,193
Breeding fees	661	855	1,100	1,130
Veterinary and medicine	934	1,378	1,694	2,097
Other livestock expense	2,116	3,251	3,619	3,946
Lime and fertilizer	2,439	3,698	5,098	7,499
Seeds and plants	634	1,034	1,346	2,064
Spray and other crop expense	591	819	1,415	1,302
Land, bldg., fence repair	1,407	1,632	2,044	3,114
Taxes and insurance	2,711	3,124	4,595	7,821
Electricity & phone (farm share)	1,186	1,531	1,880	2,627
Miscellaneous expenses	1,282	2,440	2,620	7,135
Total Cash Operating Expenses	$ 43,255	$ 56,886	$ 75,248	$127,876
Machinery depreciation	5,109	5,871	7,126	8,560
Real estate depreciation	440	793	840	1,368
Unpaid family labor	840	600	638	180
TOTAL FARM EXPENSES	$ 49,627	$ 64,150	$ 83,852	$137,984
Financial Summary				
Total Farm Receipts	$ 71,183	$ 90,387	$119,004	$184,154
Total Farm Expenses	49,627	64,150	83,852	137,984
Farm Income	$ 21,556	$ 26,237	$ 35,152	$ 46,170
Interest on av. capital at 7%	11,860	14,052	18,433	22,671
Labor Income Per Farm	$ 9,696	$ 12,185	$ 16,719	$ 23,499
Number of operators	1.23	1.28	1.38	1.53
LABOR INCOME PER OPERATOR	$ 7,883	$ 9,520	$ 12,115	$ 15,359

Table 35. SELECTED BUSINESS FACTORS BY HERD SIZE
569 New York Dairy Farms, 1971

Item	My farm	Farms with: Less than 40 cows	40 to 54 cows	55 to 69 cows
Number of farms		102	166	100
Size of Business				
Number of cows	_____	33	47	61
Pounds of milk sold	_____	415,400	612,000	767,400
Crop acres	_____	97	139	170
Man equivalent	_____	1.5	1.8	2.1
Total work units	_____	360	520	666
Rates of Production				
Milk sold per cow	_____	12,600	13,000	12,600
Tons hay per acre	_____	2.6	2.6	2.8
Tons corn silage per acre	_____	14	16	16
Bushels of oats per acre	_____	59	58	60
Labor Efficiency				
Cows per man	_____	22	26	29
Pounds milk sold per man	_____	276,900	340,000	365,400
Work units per man	_____	244	289	317
Feed Costs				
Feed purchased per cow	$_____	$197	$203	$184
Crop expense per cow	$_____	$42	$52	$55
Feed and crop expense per cow	$_____	$239	$255	$239
Feed cost per cwt. milk	$_____	$1.57	$1.56	$1.46
Feed and crop exp./cwt. milk	$_____	$1.91	$1.96	$1.90
% Feed is of milk receipts	_____%	26%	26%	24%
Hay equivalent per cow	_____	8.0	8.0	8.1
Crop acres per cow	_____	2.9	3.0	2.8
Fertilizer and lime/crop acre	$_____	$9	$11	$13
Machinery and Labor Costs				
Total machinery costs	$_____	$6,028	$8,389	$10,415
Machinery cost per cow	$_____	$183	$178	$171
Machinery cost per cwt. milk	$_____	$1.45	$1.37	$1.36
Labor cost per cow	$_____	$220	$192	$175
Labor cost per cwt. milk	$_____	$1.75	$1.47	$1.39
Capital Efficiency				
Investment per man	$_____	$52,326	$60,657	$68,552
Investment per cow	$_____	$2,378	$2,323	$2,360
Investment per cwt. milk sold	$_____	$19	$18	$19
Land and buildings per cow	$_____	$1,163	$1,117	$1,175
Machinery investment per cow	$_____	$536	$520	$499
Return on investment	_____%	6.9%	8.0%	8.7%
Other				
Price per cwt. milk sold	$_____	$6.15	$6.11	$6.16
Acres hay and hay crop silage	_____	68	84	97
Acres corn silage	_____	19	33	45

Table 35 contd. SELECTED BUSINESS FACTORS BY HERD SIZE
569 New York Dairy Farms, 1971

Item	Farms with: 70 to 84 cows	85 to 99 cows	100 to 149 cows	150 or more cows
Number of farms	69	39	80	13
Size of Business				
Number of cows	76	91	117	192
Pounds of milk sold	950,600	1,208,200	1,571,500	2,400,500
Crop acres	203	248	310	505
Man equivalent	2.4	2.9	3.4	5.1
Total work units	817	998	1,270	1,967
Rates of Production				
Milk sold per cow	12,500	13,300	13,400	12,500
Tons hay per acre	2.7	3.1	2.8	2.8
Tons corn silage per acre	16	16	16	15
Bushels oats per acre	60	69	66	69
Labor Efficiency				
Cows per man	32	31	34	38
Pounds milk sold per man	396,100	416,620	462,200	470,700
Work units per man	340	344	374	386
Feed Costs				
Feed purchased per cow	$196	$187	$202	$183
Crop expense per cow	$48	$61	$67	$57
Feed & crop expense per cow	$244	$248	$269	$240
Feed cost per cwt. milk	$1.56	$1.41	$1.51	$1.47
Feed & crop exp./cwt. milk	$1.95	$1.87	$2.01	$1.92
% Feed is of milk receipts	25%	23%	24%	23%
Hay equivalent per cow	8.1	8.3	8.3	8.0
Crop acres per cow	2.7	2.7	2.6	2.6
Fertilizer & lime/crop acre	$12	$15	$16	$15
Machinery and Labor Costs				
Total machinery costs	$12,754	$15,674	$20,394	$31,318
Machinery cost per cow	$168	$172	$174	$163
Machinery cost per cwt. milk	$1.34	$1.30	$1.30	$1.30
Labor cost per cow	$170	$168	$167	$159
Labor cost per cwt. milk	$1.36	$1.27	$1.25	$1.27
Capital Efficiency				
Investment per man	$73,313	$72,721	$79,698	$66,220
Investment per cow	$2,315	$2,317	$2,316	$1,759
Investment per cwt. milk sold	$18	$17	$17	$14
Land and building per cow	$1,136	$1,111	$1,176	$820
Machinery investment per cow	$505	$469	$444	$329
Return on investment	8.8%	9.6%	10.5%	11.7%
Other				
Price per cwt. milk sold	$6.24	$6.14	$6.33	$6.37
Acres hay and hay crop silage	123	117	148	244
Acres corn silage	57	76	104	171

Farm Business Chart

The chart on the next two pages 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
569 New York Dairy Farms,* 1971

Size of Business			Rates of Production			Labor Efficiency	
Man equiv-alent	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
4.4	144	1,903,900	16,100	4.7	22	47	596,700
3.2	100	1,354,300	14,800	3.8	19	38	490,100
2.7	82	1,057,200	14,100	3.5	18	35	448,400
2.4	70	881,300	13,600	3.2	17	32	415,000
2.1	61	764,400	13,100	2.9	15	29	381,700
2.0	54	681,200	12,600	2.8	15	28	353,100
1.8	48	611,100	12,100	2.6	14	26	327,000
1.6	43	545,100	11,600	2.4	12	24	301,900
1.4	38	467,200	10,800	2.2	11	22	261,600
1.2	30	342,900	9,200	1.8	4	18	204,800

* These farms are considerably above the average for all farms in New York State. For example, the median number of cows for the 569 farms was 57 compared with 38 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 569 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 4.4 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 (1.2 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 the next page.

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
569 New York Dairy Farms, 1971
Cost Control

Feed bought per cow	% Feed is of milk receipts	Machinery cost per cow	Labor and machinery cost per cow	Feed and crop expense per cwt. milk
$ 81	11%	$ 96	$243	$1.18
125	17	122	278	1.47
147	20	136	305	1.62
168	22	150	326	1.75
189	24	165	344	1.87
205	26	177	360	1.99
223	28	190	380	2.09
239	30	205	402	2.23
265	32	224	443	2.41
317	38	284	538	2.81

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.

SUPPLEMENTAL INFORMATION

Cost of Producing Milk

The cost of producing milk can be calculated by using the total farm business summary if the operations have dairy as the only principal enterprise. The average cost per hundredweight of producing milk on the 569 farms and comparisons with earlier years is shown on page 35.

Age of Operator

The farms were studied on the basis of age of operator. The results are presented on pages 36 and 37.

Farms With Free Stall Barns

There has been much interest in free stall barns in recent years. Farms with free stall barns were identified for the 1971 cooperators. A total of 156 reported free stall facilities and were included in a special analysis. The business factors for the free stall farms have been compared with the other types (conventional stanchion or tie-stall barns). Comparisons are also made by size of herd (page 38).

Trends

The manager of any business must keep abreast of current trends. This is essential if he is to keep his business in tune with the times. It is also important as one develops plans for the future. Trends can be measured in different ways. One way is to compare similar business studies to observe changes that have occurred. On page 40, selected farm business summary factors are give for 1961, 1966, 1970, and 1971.

Operating Statements

Operating statements are common in business accounting. In farm accounting, business summaries are prepared and business factors calculated. This is essentially an operating statement for the farm business. Operating statements based on the study of the 569 dairy farms for 1971 are presented on pages 41 and 42. Here the highlights of the year's operations are presented on one page.

The statement on page 42 is based on the average for all 569 farms. However, in making comparisons for establishing goals, one is often interested in what the "better" businesses accomplish. For this purpose, the 10 percent of the farms with the highest labor incomes were grouped together and an operating statement prepared (page 41).

Cost of Producing Milk

By adding an estimate of the value of the operator's labor and interest on the capital investment to the total farm expenses, the farm cost of producing milk can be calculated. The value of the operator's time for 1971 was estimated at $450 per month. Receipts for items other than milk are credited against the total cost. This assumes that these items were produced at cost.

Table 36. AVERAGE FARM COST OF PRODUCING MILK
569 New York Dairy Farms, 1971

Item	My farm	Average of 569 farms
Total farm expenses	$_____	$44,857
Interest at 7% on average capital	_____	10,316
Value of operators' labor*	_____	6,340
Total Costs	$_____	$61,513
Total farm receipts	$_____	$64,682
Less milk sales	_____	53,534
Other Income	_____	11,148
Cost of Producing Milk (total costs less other income)	$_____	$50,365
Hundredweights of milk sold	_____	8,617
Cost per cwt. of milk sold**	$_____	$5.84
Average price received	$_____	$6.21

* Figured at $5,400 per operator (there were 668 operators on 569 farms)
** Does not include any charge for management

The average cost of producing milk using the whole farm figures has been calculated for selected years and is shown below. The average price received is also reported.

Table 37. COST OF PRODUCING MILK AND PRICES RECEIVED

Year	Operator's labor	Cwt. milk sold	Cost per cwt.	Av. price received
1959	$3,600	3,274	$4.76	$4.73
1965	3,600	5,239	4.18	4.41
1969	5,400	7,617	5.41*	5.80
1970	5,400	8,222	5.73*	6.10
1971	5,400	8,617	5.84*	6.21

* Used 7% interest charge (in previous years 5% was used)

Age of Operator

Questions are often asked about the age of the cooperators and the relationships if any to the nature of the business. Ages were obtained for the 1971 records and an analysis made based on age of the operators. For partnerships, the age of the younger partner was used.

Table 38. AGE OF OPERATOR AND FARM ORGANIZATION
569 New York Dairy Farms, 1971

Age	Number of farms	Number of cows	Number heifers	No. of crop acres	Man equiv-alent	Number free stall barns
Under 30	83	65	43	178	2.2	18
30 - 34	94	65	45	176	2.1	28
35 - 39	112	69	47	194	2.3	39
40 - 44	88	66	43	190	2.2	18
45 - 49	73	73	44	199	2.5	21
50 - 54	64	67	46	188	2.3	17
55 & over	55	64	43	160	2.4	15

The age distribution of the cooperators was fairly even with the smallest group being those 55 and over (table 38). This is as expected since the older farmers usually are well established and not as interested in the business management projects. The largest number were in the 35-39 age group. There was no striking difference in size by age groups but the under 35 and over 55 groups were slightly smaller in size.

Table 39. AGE OF OPERATOR AND BUSINESS SUMMARY
569 New York Dairy Farms, 1971

Age	Total receipts	Total expenses	Number operators	Labor income per operator
Under 30	$61,220	$41,175	1.4	$7,822
30 - 34	64,944	44,051	1.2	9,018
35 - 39	68,427	46,770	1.2	9,794
40 - 44	62,016	44,593	1.1	7,297
45 - 49	69,143	49,558	1.2	7,618
50 - 54	67,171	47,006	1.1	7,837
55 & over	61,841	44,329	1.1	5,933

The group under 30 had the highest average number of operators (1.4). This may be accounted for by the method of classifying a farm on the basis of the younger partner. The receipts, expenses, and labor incomes tended to increase by age groups up to 40. This may be a reflection of the process of the young men getting established. It is of interest to observe that the oldest group had the lowest average labor income.

Table 40. AGE OF OPERATOR AND CAPITAL INVESTMENT
569 New York Dairy Farms, 1971

Age	End Inventory Value of: Cattle	Machinery	Land & Bldgs.	Total
Under 30	$33,182	$28,838	$68,157	$139,806
30 - 34	36,423	31,426	74,032	152,618
35 - 39	35,623	33,250	74,364	154,610
40 - 44	32,954	32,428	68,082	144,189
45 - 49	37,766	35,756	83,493	167,940
50 - 54	35,362	34,071	87,373	168,774
55 & over	34,421	27,747	77,620	149,381

The average total capital investment was lowest for the age group under 30. This is as expected since these young men are just getting started in farming. The largest total investment was for the age groups 45 to 54. The age group 40 to 44 was second lowest. The operators 55 and over had the lowest machinery investment but relatively high land and building investments.

Table 41. AGE OF OPERATOR AND EFFICIENCY FACTORS
569 New York Dairy Farms, 1971

Age	Lbs. milk per cow	Lbs. milk per man	Corn tons silage per acre	Machinery cost per cow	% feed is of milk
Under 30	12,700	378,400	16	168	25
30 - 34	12,700	400,400	15	169	24
35 - 39	13,100	397,900	15	179	24
40 - 44	12,400	369,600	14	176	25
45 - 49	12,600	360,900	15	181	26
50 - 54	13,100	376,800	14	184	25
55 & over	13,000	339,400	14	166	26

There did not seem to be any definite relationship between age and pounds of milk sold per cow. On the other hand, the best silage yields were obtained by the younger cooperators and the lowest by the older operators. Milk sold per man was highest for the 30 to 34 age group with a tendency for a gradual decline with the older age groups.

In general, the age of operator did not seem to be a major factor affecting these dairy farm businesses.

Farms With Free Stall Barns

Free stall barns with milking parlors are a relatively new feature on New York dairy farms. Advantages in the use of labor have been pointed out for the new type facilities. Many dairymen have been interested in learning more about the results from operations with this type of housing.

A total of 156 of the 569 farms in the 1971 summary reported having free stall barns. These were separated out for analysis. The averages for the free stall operations have been compared with the nonfree stall or other types of housing (table 42).

Table 42. COMPARISON OF FARMS WITH FREE STALL BARNS AND ALL OTHERS
569 New York Dairy Farms, 1971

Item	My farm	Farms with free stall barns	Farms with other types of barns
Number of farms		156	413
Size			
Man equivalent	_____	2.8	2.1
Number of cows	_____	93	57
Lbs. milk sold	_____	1,219,600	726,600
Milk Produced			
Lbs. milk sold per cow	_____	13,000	12,700
Lbs. milk sold per man	_____	440,700	354,800
Capital Use			
Land & building value	$_____	$102,507	$65,135
Total inventory value	$_____	$209,110	$132,230
Land & building per cow	$_____	$1,108	$1,150
Total inventory per cow	$_____	$2,279	$2,339
Total inventory per man	$_____	$76,749	$64,479
Total inventory per cwt. milk	$_____	$18	$19
Cost Factors			
Total labor cost	$_____	$15,314	$10,657
Total machinery cost	$_____	$16,142	$9,836
Labor cost per cow	$_____	$168	$194
Machinery cost per cow	$_____	$175	$175
Labor & machinery cost/cwt. milk	$_____	$2.66	$2.95
Financial Summary			
Total farm receipts	$_____	$91,644	$55,105
Total farm expenses	$_____	$63,729	$38,362
Labor income per operator	$_____	$10,936	$7,056
Receipts per cow	$_____	$977	$967
Expense per cow	$_____	$678	$664
Labor income per cow	$_____	$119	$134

Table 43. COMPARISON OF FARMS WITH FREE STALL AND OTHER TYPES OF BARNS By Herd Size, 569 New York Dairy Farms, 1971

	Herd Size				
	Less than 60 cows	60 to 79 cows	80 to 99 cows	100 to 119 cows	120 or more cows
Number of farms					
Free stall	29	38	31	24	34
Other	271	79	28	21	14
Number of men					
Free stall	1.9	2.2	2.6	3.2	3.9
Other	1.7	2.3	3.0	3.6	4.0
Number of cows					
Free stall	48	69	89	107	129
Other	43	68	87	104	143
Land & bldgs./cow					
Free stall	$1,098	$1,120	$1,033	$1,321	$1,023
Other	$1,144	$1,150	$1,273	$1,103	$1,108
Lbs. milk sold/cow					
Free stall	13,000	12,800	12,700	13,400	13,300
Other	12,700	12,400	13,000	13,500	12,100
Lbs. milk sold/man					
Free stall	333,000	423,600	447,400	463,600	529,300
Other	332,500	382,400	399,800	403,200	468,400
Labor cost/cow					
Free stall	$196	$157	$164	$175	$157
Other	$203	$173	$181	$192	$151
Machinery cost/cow					
Free stall	$192	$171	$168	$173	$175
Other	$178	$166	$178	$170	$162
Labor income/operator					
Free stall	$6,042	$8,559	$8,897	$13,761	$17,631
Other	$6,139	$7,816	$7,718	$12,958	$10,339

Each of the herd sizes over 80 cows had more free stall barns than others. This suggests that these new facilities are better suited for larger herds. With the exception of the farms with less than 60 cows, the free stall farms for each herd size had fewer men than the other farms.

There was no significant difference in the production per cow for the free stall and the other types of barns. On the other hand, the free stall barn operations produced more milk per man and had higher labor incomes than the conventional barns.

Table 44. SELECTED FARM BUSINESS SUMMARY FACTORS
New York Dairy Farms, Selected Years 1961-1971

Item	Year			
	1961	1966	1970	1971
Number of farms	490	731	509	569
Financial Summary				
Average capital invested	$53,722	$76,996	$132,545	$147,378
Total farm receipts	$22,505	$39,180	$66,467	$64,682*
Total farm expenses	$16,125	$27,109	$47,795	$44,857*
Labor income per operator	$3,352	$7,522	$7,983	$8,127
Size of Business				
Number of cows	38	47	65	67
Pounds of milk sold	378,700	561,000	822,200	861,700
Crop acres	99	138	168	185
Man equivalent	1.8	1.8	2.2	2.2
Total work units	516	569	691	729
Rates of Production				
Milk sold per cow	10,000	11,900	12,600	12,900
Tons hay per acre	2.6	2.5	2.7	2.7
Tons corn silage per acre	12	14	15	16
Labor Efficiency				
Cows per man	21	26	30	30
Pounds milk sold per man	210,400	311,700	373,700	391,700
Work units per man	287	316	314	331
Cost Control Factors				
Machinery cost per cow	$107	$132	$175	$173
Machinery cost/cwt. milk	$1.07	$1.11	$1.38	$1.34
Feed bought per cow	$125	$156	$192	$194
Feed bought/cwt. milk	$1.25	$1.30	$1.52	$1.51
Feed & crop expense/cwt. milk	$1.53	$1.68	$1.91	$1.95
% Feed is of milk receipts	28%	27%	25%	24%
Capital Efficiency				
Total investment per man	$30,620	$44,760	$62,380	$69,680
Total investment per cow	$1,450	$1,710	$2,110	$2,290
Machinery investment/cow	$291	$375	$447	$478
Total investment/cwt. milk	$15	$14	$17	$18
Other				
Price per cwt. milk sold	$4.18	$4.91	$6.10	$6.21
Acres hay & hay crop silage	57	88	119	155
Acres corn silage	11	24	49	51
Total acres in crops/cow	NA	2.9	2.6	2.8
Lime & fertilizer expense per crop acre	$7	$10	$13	$13
Farm income per cow	$168	$257	$287	$296
Labor income per cow	$84	$160	$145	$142

* Change in handling depreciation accounted for this decrease

FARM BUSINESS SUMMARY
Top 10 Percent of the Farms by Labor Income
569 New York Dairy Farms, 1971

CAPITAL INVESTMENT

	1/1/71	1/1/72
Livestock	$ 50,575	$ 55,405
Feed & supplies	18,040	21,712
Machinery & equip.	41,319	46,706
Land & buildings	94,940	102,406
TOTAL INVESTMENT	$204,874	$226,229

EXPENSES

Labor	
Hired	$10,201
Feed	
Dairy concentrate	19,033
Hay and other	825
Machinery	
Machine hire	1,870
Machinery repair	4,575
Auto expense	262
Gas and oil	2,203
Livestock	
Purchased animals	4,356
Breeding fees	831
Veterinary, medicine	1,460
Other livestock expense	3,084
Crops	
Fertilizer and lime	4,459
Seeds and plants	1,285
Spray and other	1,064
Real Estate	
Land, building, fence repair	1,893
Taxes	2,281
Insurance	1,698
Rent	1,984
Other Cash Expense	
Telephone (farm share)	254
Electricity (farm share)	1,211
Miscellaneous	823
TOTAL CASH EXPENSES	$65,652
Machinery depreciation	6,152
Building depreciation	617
Unpaid labor	630
TOTAL FARM EXPENSES	$73,051

RECEIPTS

Milk sales	$ 94,118
Livestock sold	9,485
Crop sales	1,031
Government payments	880
Gas tax refund	167
Machine work	265
Work off farm	33
Miscellaneous	863
TOTAL CASH RECEIPTS	$106,842
Increase in livestock & feed inventories	8,502
TOTAL FARM RECEIPTS	$115,344

FINANCIAL SUMMARY

Total Farm Receipts	$115,344
Total Farm Expenses	73,051
Farm Income	$ 42,293
Int. on av. capital @ 7%	15,088
Farm Labor Income	$ 27,205
Number of operators (63)	1.10
LABOR INCOME/OPERATOR	$ 24,732

BUSINESS FACTORS

Man equivalent	3.0
Number of cows	110
Number of heifers	69
Acres of hay	144
Acres of corn silage	90
Total acres of crops	318
Lbs. of milk sold	1,525,100
Lbs. milk sold/cow	13,900
Tons hay/acre	2.9
Tons corn silage/acre	16
Lbs. of milk sold/man	508,400
Cows per man	37
% Feed is of milk receipts	20%
Feed & crop expense/cwt. milk	$1.69
Lime & fertilizer/crop acre	$14
Machinery cost/cow	$165
Av. price/cwt. milk	$6.17

FARM BUSINESS SUMMARY
Average of 569 New York Dairy Farms, 1971

CAPITAL INVESTMENT

	1/1/71	1/1/72
Livestock	$ 32,857	$ 35,327
Feed & supplies	9,071	10,538
Machinery & equip.	28,748	32,059
Land & buildings	70,774	75,381
TOTAL INVESTMENT	$141,450	$153,305

EXPENSES

Labor	
Hired	$ 4,801
Feed	
Dairy concentrate	13,029
Hay and other	444
Machinery	
Machine hire	899
Machinery repair	2,566
Auto expense	220
Gas and oil	1,452
Livestock	
Purchased animals	2,540
Breeding fees	601
Veterinary, medicine	881
Other livestock expense	1,979
Crops	
Fertilizer and lime	2,432
Seeds and plants	686
Spray and other	620
Real Estate	
Land, building, fence repair	1,206
Taxes	1,543
Insurance	1,006
Rent	760
Other Cash Expense	
Telephone (farm share)	208
Electricity (farm share)	859
Miscellaneous	631
TOTAL CASH EXPENSES	$39,363
Machinery depreciation	4,297
Building depreciation	417
Unpaid labor	780
TOTAL FARM EXPENSES	$44,857

RECEIPTS

Milk sales	$53,534
Livestock sold	5,590
Crop sales	389
Government payments	360
Gas tax refund	111
Machine work	91
Work off farm	49
Miscellaneous	621
TOTAL CASH RECEIPTS	$60,745
Increase in livestock & feed inventories	3,937
TOTAL FARM RECEIPTS	$64,682

FINANCIAL SUMMARY

Total Farm Receipts	$64,682
Total Farm Expenses	44,857
Farm Income	$19,825
Int. on av. capital @ 7%	10,316
Farm Labor Income	$ 9,509
Number of operators (668)	1.17
LABOR INCOME/OPERATOR	$ 8,127

BUSINESS FACTORS

Man equivalent	2.2
Number of cows	67
Number of heifers	44
Acres of hay	98
Acres of corn silage	54
Total acres of crops	185
Lbs. of milk sold	861,700
Lbs. of milk sold/cow	12,900
Tons hay/acre	2.7
Tons corn silage/acre	16
Lbs. of milk sold/man	391,700
Cows per man	30
% Feed is of milk receipts	24
Feed & crop expense/cwt. milk	$1.95
Lime & fertilizer/crop acre	$13
Machinery cost/cow	$173
Av. price/cwt. milk	$6.21