DAIRY FARM BUSINESS SUMMARY

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PRO-DAIRY

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NEW YORK LARGE HERD FARMS, 300 COWS OR LARGER 2001

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2001 DAIRY FARM BUSINESS SUMMARY
LARGE HERD DAIRY FARMS
300 Cows or Larger

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2001 DAIRY FARM BUSINESS SUMMARY
LARGE HERD DAIRY FARMS[1]

INTRODUCTION

Dairy farmers throughout New York state have been participating in Cornell Cooperative Extension Farm Business Summary and Analysis Programs since the early 1950's. Managers of each participating farm business receive a comprehensive summary and analysis of the farm business.

Larger farms employ different technologies and management systems, and thus, achieve different efficiencies than smaller farms. This makes comparisons of a large farm's performance to the average of farms of all sizes not as meaningful as comparing to the average of similar sized farms. This report contains a summary and analysis of dairy farms with 300 or more cows. In addition, farms are sorted into three categories for many comparisons, 300 to 400 cows, 401 to 599 cows, and 600 and more cows per farm.

Farm managers should determine their business performance and then compare it with that of other similar farms. In this manner, strengths and areas for improvement can be identified. A goal that many managers set is to strive to be in the top 20 percent of farms for many of the production and financial benchmarks. Each manager should select and then revise annually the goals which their business strives to achieve.

Program Objective

The primary objective of the Dairy Farm Business Summary, DFBS, is to help farm managers improve the business and financial management of their dairy farm through appropriate use of historical farm data and the application of modern farm business analysis techniques. This information can also be used to track changes within the business, establish goals that will enable the business to better meet its objectives, compare the performance of the farm to other dairy producers, and establish a basis for financial projection of planned changes within the business.

Format

This report is comprised of six sections. The first section charts the progress of the large herd farm business over two years. Sixty-three of the large herd farms participated in the summary the last two years. The averages of selected business factors are presented for these farms and the changes that occurred from 2000 to 2001 are calculated.

The second section contains charts for additional analysis of large herd farms. The top 20 percent large farms (by rate of return on assets without appreciation) are compared to the average for all 67 large herd farms that participated in the 2001 DFBS program. Also presented is information concerning dairy enterprise efficiency, and milking parlor efficiency.

The summary and analysis section lists the average data for the 67 large herd farms that participated in the 2001 DFBS program. The format follows that of the individual farm DFBS printout and contains a brief explanation of each table and chart with comparisons to the top 20% large farms.

The fourth section presents a condensed summary and selected business factors for farms with 300-400 cows, 401-599 cows, and farms with 600 and more cows.

The fifth section contains the income and expense profiles for the 300-400 cow farms, 401-599 cow farms, and 600 and more cow farms on a per cow and per cwt. of milk basis.

The sixth section contains business charts for key measures of farm performance.

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[1] The large herd summary is comprised of farms with 300 or more cows. Cayuga, Chautauqua, Chenango, Clinton, Cortland, Erie, Genesee, Jefferson, Lewis, Livingston, Montgomery, Oneida, Ontario, Orleans, St. Lawrence, Saratoga, Schuyler, Washington, Wayne and Wyoming counties had farms of this size participating in 2001. This report was written by Jason Karszes, Senior Extension Associate, Pro-Dairy and Wayne A. Knoblauch, Professor, Farm Management. Linda Putnam was in charge of data preparation. Faye Butts prepared the publication. Data were collected by Cornell Cooperative Extension educators across the state. We also acknowledge the cooperation of Western New York and First Pioneer Farm Credit Associations for their assistance in data collection.

PROGRESS OF THE FARM BUSINESS

The 2001 business year for the New York State dairy industry was characterized by the continuation of wide yearly fluctuations in milk prices, costs, and weather patterns. Milk prices set new highs in 2001 but continuing challenges with producing forages and increasing costs partially offset the record milk price. The combination of these factors did result in significant increase in farm profitability over 2000 and the average farm in this report made significant financial progress.

For both 2000 and 2001, 63 farms that averaged more than 300 cows in New York participated in the Dairy Farm Business Summary Program (DFBS), administered by Cornell Cooperative Extension and Cornell University. The table on the following page shows selected factors from the 63 farms that participated in the DFBS project each of the last two years.

Comparing your business' performance with average data from these DFBS dairy farms can help you establish goals for your business. It is equally important to determine the progress your business has made over the past two or three years, to compare this progress to your goals, and to set goals for the future.

Milk income. Gross milk prices increased 18.9 percent, or $2.54 per cwt. Milk marketing expenses decreased 12.1 percent to $0.58 per cwt. These two changes led to an increase of 20.5% in net milk price received on farm, averaging $15.38 per cwt., the highest in the last ten years. Primarily due to the poor growing conditions in 2000 that continued into 2001, forage quality and quantity remained a challenge on many farms. With the lower forage quality, milk production per cow stayed the same at 22,622 pounds per cow. With milk production staying the same and only milk price driving income, gross milk income per cow increased 18.9 percent to $3,608. While production per cow did not increase, these farms continued to add cows and increased herd size by 50 cows, a 7.9 percent increase, which led to an identical increase in the milk marketed off the farm during the year. This increase in milk marketed, coupled with the large increase in milk price, led to an increase of $540,817 in gross milk earnings, an increase of 28.3 percent.

Cost control. With the increase in herd size, worker equivalents increased by 5.4 percent. With this increase being lower than the increase in herd size, labor efficiency increased by 2.1 percent, with milk sold per worker equivalent averaging 1,084,859 pounds. While labor efficiency continued to increase, hired labor costs increased at a faster rate. Hired labor costs per worker equivalent increased 4.4 percent and hired labor costs per cwt. of milk increased 3.6 percent, an increase of $0.09 per cwt.

While milk production per cow didn't increase, these farms did spend more on purchased grain and concentrates to maintain milk production. Grain and concentrate expenses per cwt. increased 9.2 percent to $4.03 per cwt., an increase of $0.34 per cwt.

Along with the increase in labor costs and purchased feed costs, crop input costs and machinery repairs increased significantly from 2000. These two areas saw increases totaling another 14 cents per cwt. While there were significant increases in some cost areas, there were also some decreases. With debt levels per cow decreasing ($3,020 to $2,967) and interest rates falling from 2000, interest paid averaged $0.86 per cwt., a decrease of $0.12 per cwt. All things considered, total farm operating costs per cwt. increased 3.7 percent to $14.09 per cwt.

Strong earnings rebound. The combinations of higher milk prices, increased costs, and maintained production led to a significant increase in farm earnings for 2001. Net farm income without appreciation increased 370.5 percent to $349,799. Net farm income, with appreciation, increased 255 percent to $592,971. The appreciation in 2001 is due primarily to the increase in cattle prices reflected on the balance sheet at the end of 2001.

- Labor and management income per operator/manager increased 1000 percent to $104,666.
- Rate of return to all capital without appreciation increased 193 percent to 9.1 percent. Rate of return on equity capital without appreciation increased 1250 percent to 11.5 percent.
- Farm net worth increased by 23.3 percent from the previous year.
- Debt to asset ratio fell from 0.50 to 0.47.

Overall, 2001 was a strong recovery year for the 300-cow and larger farms. While, on average, profits increased significantly from 2000, the changes on individual farms varied, with some farms actually doing worse in 2001 than in 2000. While the earnings did improve dramatically, the increase in expenses and milk production staying flat did not allow many farms to take full advantage of the high milk prices.

The importance of trend analysis is to identify performance factors that changed, ask why they changed, and look at what you can do differently in the future to positively influence that change. If you would like help in developing and looking at the trends in your business, contact your local extension service and become involved in a financial management education program.

PROGRESS OF THE FARM BUSINESS

Same 63 Large Herd Dairy Farms, 2000 & 2001

Selected Factors	Average of 63 Farms 2000	Average of 63 Farms 2001	Percent Change
Size of Business			
Average number of cows	629	679	7.9
Average number of heifers	478	512	7.1
Milk sold, lbs.	14,224,068	15,350,761	7.9
Worker equivalent	13.42	14.15	5.4
Total tillable acres	1,190	1,261	6.0
Rates of Production			
Milk sold per cow, lbs.	22,625	22,622	0.0
Hay DM per acre, tons	4.0	3.3	-17.5
Corn silage per acre, tons	15.9	16.7	5.0
Labor Efficiency & Costs			
Cows per worker	47	48	2.1
Milk sold/worker, lbs.	1,059,916	1,084,859	2.4
Hired labor cost/cwt.	$2.53	$2.62	3.6
Hired labor cost/worker	$32,751	$34,200	4.4
Hired labor cost as % of milk sales	18.9%	16.4%	-13.2
Cost Control			
Grain & conc. purchased as % of milk sales	28%	25%	-10.7
Grain & conc. per cwt. milk	$3.69	$4.03	9.2
Dairy feed & crop expense per cwt. milk	$4.60	$5.01	8.9
Labor & mach. costs/cow	$1,169	$1,204	3.0
Total farm operating costs per cwt. sold	$13.59	$14.09	3.7
Interest costs per cwt. milk	$0.98	$0.86	-12.2
Milk marketing costs per cwt. milk sold	$0.66	$0.58	-12.1
Operating cost of producing cwt. of milk	$11.71	$12.40	5.9
Capital Efficiency(average for the year)			
Farm capital per cow	$6,094	$6,225	2.1
Mach. & equip. per cow	$1,059	$1,051	-0.8
Asset turnover ratio	0.61	0.71	16.4
Income Generation			
Gross milk sales per cow	$3,035	$3,608	18.9
Gross milk sales per cwt.	$13.42	$15.96	18.9
Net milk sales per cwt.	$12.76	$15.38	20.5
Dairy cattle sales per cow	$259	$269	3.9
Dairy calf sales per cow	$41	$42	2.4
Profitability			
Net farm income w/o appreciation	$74,353	$349,799	370.5
Net farm income w/appreciation	$166,781	$592,971	255.5
Labor & mgt. income per operator/manager	$-11,630	$104,666	1,000.0
Rate of return on equity capital w/o appreciation	-1.0%	11.5%	1,250.0
Rate of return on all capital w/o appreciation	3.1%	9.1%	193.5
Financial Summary			
Farm net worth, end year	$1,947,679	$2,401,913	23.3
Debt to asset ratio	0.50	0.47	-6.0
Farm debt per cow	$3,020	$2,967	-1.8

RECEIPTS AND EXPENSES PER COW AND PER HUNDREDWEIGHT

Same 63 Large Herd Dairy Farms, 2000 & 2001

	2000		2001	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	629		679	
Cwt. of Milk Sold		142,241		153,508
Accrual Operating Receipts				
Milk	$3,035	$13.42	$3,608	$15.96
Dairy cattle	259	1.15	269	1.19
Dairy calves	41	0.18	42	0.19
Other livestock	14	0.06	8	0.04
Crops	51	0.23	39	0.17
Miscellaneous receipts	165	0.73	112	0.50
Total	$3,566	$15.77	$4,078	$18.04
Accrual Operating Expenses				
Hired labor	$572	$2.53	$592	$2.62
Dairy grain & concentrate	835	3.69	912	4.03
Dairy roughage	54	0.24	57	0.25
Nondairy feed	0	0.00	0	0.00
Machine hire, rent & lease	103	0.45	105	0.46
Machine repairs & vehicle expense	140	0.62	153	0.68
Fuel, oil & grease	68	0.30	64	0.28
Replacement livestock	55	0.24	44	0.19
Breeding	37	0.17	44	0.19
Veterinary & medicine	125	0.55	131	0.58
Milk marketing	149	0.66	131	0.58
Bedding	53	0.23	57	0.25
Milking supplies	70	0.31	67	0.30
Cattle lease	14	0.06	10	0.04
Custom boarding	56	0.25	80	0.35
bST expense	65	0.29	68	0.30
Other livestock expense	25	0.11	26	0.11
Fertilizer & lime	62	0.27	66	0.29
Seeds & plants	41	0.18	42	0.18
Spray & other crop expense	48	0.21	57	0.25
Land, building & fence repair	49	0.21	55	0.24
Taxes	32	0.14	36	0.16
Real estate rent/lease	67	0.30	63	0.28
Insurance	27	0.12	26	0.12
Utilities	64	0.28	66	0.29
Interest paid	223	0.98	193	0.86
Miscellaneous	41	0.18	39	0.17
Total Operating Expenses	$3,074	$13.59	$3,184	$14.09
Expansion livestock	106	0.47	90	0.40
Machinery depreciation	144	0.64	153	0.68
Real Estate depreciation	124	0.55	135	0.60
Total Expenses	$3,448	$15.25	$3,563	$15.76
Net Farm Income without appreciation	118	0.52	515	2.28

TOP 20 PERCENT COMPARISON TO AVERAGE AND FACTORS CONCERNING DAIRY ENTERPRISE AND PARLOR EFFICIENCY

In 2001, 34 of the 67 farms with over 300 cows filled out a supplementary data collection form in order to gain information on some additional management concerns of dairy farmers. Reported below are the averages and business charts for these factors. Each category is sorted independently, therefore farms that are the highest or lowest in one column may not necessarily be the highest or lowest in the next column. Please note that this is only descriptive data from 34 farms and only represents these 34 farms. See the Glossary beginning on page 49 for definitions of the factors in the table below.

On the following page selected factors for the top 20% of large herd farms as sorted by rate of return on all assets without appreciation are compared to the same factors for the average of all 67 farms over 300 cows that participated in the DFBS project in 2001. It is useful to see what factors are different between the average and the top 20% and to ask questions about where your own business fits into these factors

Twelve farms that were in the top 20 percent in 2001 were also in the summary in 2000. The table on page 7 shows income and expenses for these farms for both 2000 and 2001. Identifying the changes that occurred on these farms provides insight into what happened on the most profitable farms. How your farm changed in comparison should provide valuable management information.

SUPPLEMENTAL FARM BUSINESS CHART

34 Large Herd Farms, 2001

Milking System Only

Quintile	Pounds of Milk Harvested Per Hour of Milking Labor	Total Cows Milked Per Hour of Milking Labor Per Day	Pounds of Milk Harvested per Machine Per Year
Average of Highest Quintile	2,653	46	854,906
	1,737	27	623,699
	1,533	25	521,634
	1,402	22	397,247
Average of Lowest Quintile	1,082	17	281,499
Overall Average	1,686	28	536,214

Dairy Enterprise Only

Quintile	Worker Equivalents	Cows per Worker Equivalent	Pounds Sold per Worker Equivalent
Average of Highest Quintile	12.39	203	4,267,449
	6.65	139	3,219,188
	4.93	121	2,719,118
	3.48	99	2,345,307
Average of Lowest Quintile	2.18	72	1,544,914
Overall Average	5.95	127	2,822,139

TOP 20 PERCENT VS. AVERAGE
67 Large Herd Dairy Farms, 2001

Selected Factors	Average 2001	Top 20% 2001	Percent Difference
Size of Business			
Average number of cows	663	703	6.0
Average number of heifers	502	531	5.8
Milk sold, lbs.	15,056,711	16,504,842	9.6
Worker equivalent	14.02	14.76	5.3
Total tillable acres	1,251	1,340	7.1
Rates of Production			
Milk sold per cow, lbs.	22,701	23,483	3.4
Hay DM per acre, tons	3.23	2.93	-9.3
Corn silage per acre, tons	16.73	16.45	-1.7
Labor Efficiency & Costs			
Cows per worker	47	48	2.1
Milk sold/worker, lbs.	1,073,945	1,118,214	4.1
Hired labor cost/cwt.	$2.62	$2.35	-10.3
Hired labor cost/hired worker	$33,971	$31,522	-7.2
Hired labor cost as % of milk sales	16.4%	14.7%	-1.7
Cost Control			
Grain & conc. purchased as % of milk sales	25%	24%	-4.0
Grain & conc. per cwt. milk	$4.01	$3.87	-3.5
Dairy feed & crop expense per cwt. milk	$4.99	$4.99	0.0
Labor & mach. costs/cow	$1,213	$1,135	-6.4
Total farm operating costs per cwt. sold	$14.01	$13.33	-4.9
Interest costs per cwt. milk	$0.84	$0.67	-17.0
Milk marketing costs per cwt. milk sold	$0.58	$0.56	-3.4
Operating cost of producing cwt. of milk	$12.33	$11.04	-10.5
Capital Efficiency (average for the year)			
Farm capital per cow	$6,272	$5,782	-7.8
Mach. & equip. per cow	$1,065	$918	-13.8
Asset turnover ratio	0.71	0.81	14.1
Income Generation			
Gross milk sales per cow	$3,623	$3,769	4.0
Gross milk sales per cwt.	$15.95	$16.05	0.6
Net milk sales per cwt.	$15.37	$15.49	0.8
Dairy cattle sales per cow	$266	$295	10.9
Dairy calf sales per cow	$42	$36	-14.3
Profitability			
Net farm income without appreciation	$353,513	$645,147	82.5
Net farm income with appreciation	$591,268	$863,878	46.1
Labor & mgt. income per oper./manager	$105,225	$241,673	129.6
Rate of return on equity capital w/o appreciation	11.7%	23.7%	102.6
Rate of return on all capital w/o appreciation	9.2%	16.1%	75.0
Financial Summary			
Farm net worth, end of year	$2,408,232	$2,586,605	7.4
Debt to asset ratio	0.45	0.42	-6.7
Farm debt per cow	$2,921	$2,495	14.6

RECEIPTS AND EXPENSES PER COW AND PER HUNDREDWEIGHT

Same 12 Top 20% Large Herd Dairy Farms, 2000 & 2001

	2000		2001	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	653		720	
Cwt. Of Milk Sold		150,631		167,748
Accrual Operating Receipts				
Milk	$3,117	$13.51	$3,741	$16.06
Dairy cattle	275	1.19	297	1.27
Dairy calves	33	0.14	36	0.15
Other livestock	9	0.04	9	0.04
Crops	78	0.34	141	0.60
Miscellaneous receipts	150	0.65	129	0.55
Total	$3,662	$15.88	$4,351	$18.68
Accrual Operating Expenses				
Hired labor	$545	$2.36	$554	$2.38
Dairy grain & concentrate	874	3.79	913	3.92
Dairy roughage	80	0.35	75	0.32
Nondairy feed	0	0.00	0	0.00
Machine hire, rent & lease	125	0.54	126	0.54
Machine repairs & vehicle expense	134	0.58	136	0.58
Fuel, oil & grease	68	0.30	62	0.27
Replacement livestock	21	0.09	28	0.12
Breeding	37	0.16	45	0.19
Veterinary & medicine	122	0.53	124	0.53
Milk marketing	147	0.64	131	0.56
Bedding	46	0.20	47	0.20
Milking supplies	75	0.33	74	0.32
Cattle lease	2	0.01	1	0.01
Custom boarding	86	0.37	133	0.57
bST expense	71	0.31	71	0.31
Other livestock expense	22	0.09	23	0.10
Fertilizer & lime	61	0.26	85	0.37
Seeds & plants	38	0.16	45	0.19
Spray & other crop expense	57	0.25	66	0.28
Land, building & fence repair	71	0.31	57	0.25
Taxes	27	0.12	28	0.12
Real estate rent/lease	76	0.33	70	0.30
Insurance	22	0.10	22	0.10
Utilities	67	0.29	58	0.25
Interest paid	181	0.79	160	0.69
Miscellaneous	30	0.13	30	0.13
Total Operating Expenses	$3,086	$13.38	$3,165	$13.58
Expansion livestock	127	0.55	63	0.27
Machinery depreciation	108	0.47	128	0.55
Real Estate depreciation	127	0.55	130	0.56
Total Expenses	$3,449	$14.95	$3,486	$14.96
Net Farm Income without appreciation	214	0.93	865	3.71

Supplementary Information

Each year DFBS cooperators volunteer to complete supplementary data collection forms looking at selected management aspects of the business or specific research areas being studied. This is in addition to the normal DFBS data collection form. Two areas that were examined this year were the source of dairy replacements and the breakdown of the milk income and marketing expenses. Following is a summary of this information.

SOURCE OF DAIRY REPLACEMENTS
34 Large Herd Dairy Farms, 2001

Animals Entering Herd	Average
Number calving in 2001 for first time	234
Animals purchased, %[1]	13.3
Animals raised by farm, %[2]	86.7
Current Heifer Inventory	
Raised on dairy, %	86
Raised by a custom grower, %	14

[1] Animals purchased are animals purchased from a different farm and were not the farm's genetics.
[2] Animals raised by farm are animals that were born on the farm and entered the herd, which includes animals raised by the farm or custom grower.

On the average farm, 234 animals calved for the first time in 2001. The breakdown on the source of these animals was 13.3% purchased and 86.7% raised by the farm. Of the current heifer inventory, 86% were raised on the dairy and 14% were being raised by a custom grower. There is increased interest in evaluating the dairy replacement enterprise.

Milk Income and Marketing Expense Breakdown

Starting January 1st, 2000, the northeast switched to multiple components pricing, which changed the format of the milk check and how farmers received payment for their milk. To examine the breakdown of the gross milk income and the marketing expenses, 55 farms filled out a detailed form for all the different sources of income for milk sales and the milk marketing expenses on an accrual basis. This information is reported in the following two tables. The tables are divided into six different areas, each representing a different area of income or expenses.

The first section looks at the value of the milk components on a per cwt. basis. The second area looks at the Producer Price Differential. The third area looks at the premiums a farm receives. Any premiums not specifically noted as quality or volume related are included in market premiums. The fourth area looks at the expenses associated with marketing milk. A new line item in this section is the expenses associated with utilizing forward contracting or hedging programs to market milk, such as commission or broker fees. The fifth area is income from the compact program or from forward contracting or hedging programs. The sixth area is the patronage dividends or refunds from the milk cooperatives. Equity purchased in the milk cooperative utilizing a monthly deduction from the milk check or a percent of the patronage dividend is treated as a capital purchase and is not a milk marketing expense. The cumulative total for these six areas is the net price received on farms. For participating farms, the net farm price can be found on page 10 of the DFBS report.

The table on page 9 reports the averages for these different areas. The table on page 10 contains the range for each of the individual lines of the report. This table is in farm business chart format with each item sorted independently and ranked by fifths. Numbers for the different areas will not add to the totals for that quintile or to the net price received because the highest farms for each item were averaged, not the same farms throughout the six areas. This table shows the range of income and expenses received by farms for all the different areas.

For your individual farm, compare your accrual numbers following this same format to look at how you compare to other farms in your region and to identify possible areas to generate additional revenue.

AVERAGE[3] MILK INCOME AND MARKETING REPORT
55 Large Herd Dairy Farms, 2001

	Pounds	Percent	Price/Pound	Total	$/Cwt of Milk
BASE FARM PRICE					
Butterfat	548,914.58	3.63%	$ 1.84	$ 1,011,923.87	$ 6.70
Protein	445,900.15	2.95%	$ 1.94	$ 867,977.20	$ 5.73
Solids	866,228.60	5.67%	$ 0.14	$ 116,720.76	$ 0.77
Total Component Contribution					$ 13.20
PPD	15,171,836.69		$ 1.69	$ 225,482.33	$ 1.69
Base Farm Price					$ 14.89
Premiums					
Quality				$ 30,243.87	$ 0.19
Volume				$ 59,223.13	$ 0.39
Market Premiums				$ 66,199.58	$ 0.37
Total Premiums					$ 0.95
BASE FARM PRICE + PREMIUM					$ 15.84
Deductions					
Promo				$ 22,451.80	$ 0.15
Hauling + Stop Charges.				$ 61,208.25	$ 0.41
Market Fees & Coop Dues				$ 7,018.04	$ 0.04
Futures/Contract Fees				$ 0.00	$ 0.00
Total Deductions					$ 0.60
BASE FARM PRICE + PREMIUMS - DEDUCTIONS					$ 15.23
Marketing Programs					
Compact				$ 1,811.91	$ 0.01
Futures Contracts, Forward Contracting, Etc.				$ -10,077.15	$-0.06
Total Marketing Income					$-0.05
Patronage Dividends				$ 10,364.47	$ 0.10
NET PRICE RECEIVED ON FARM, ALL SOURCES					**$ 15.27**
PPD - Hauling, per cwt.					$ 1.28
PPD - Hauling + Market Premiums, per cwt.					$ 1.64

[3]Each calculation of an average is independent of all others. Therefore, math operations on the detail will not result in the totals. However, detail in the "$/Cwt of Milk" column will result in the totals.

MILK PRICE INFORMATION BY QUINTILE[4]
(Each Category Sorted Independently)
55 Large Herd Dairy Farms, 2001

	Lowest Quintile	◄			Highest Quintile ►
Butterfat, %	3.42	3.57	3.63	3.68	3.87
Protein, %	2.82	2.90	2.94	2.98	3.11
Other Solids, %	5.31	5.69	5.74	5.75	5.86
Butterfat, $ per Cwt.	6.23	6.58	6.68	6.79	7.21
Protein, $ per Cwt.	5.40	5.64	5.72	5.83	6.07
Other solids, $ per Cwt.	0.72	0.75	0.77	0.78	0.82
Total Component Value per Cwt.	**$ 12.44**	**$ 13.05**	**$ 13.21**	**$ 13.34**	**$ 13.95**
PPD, $ per Cwt.	1.45	1.56	1.63	1.76	2.05
Base Farm Price per Cwt.	**$ 14.16**	**$ 14.66**	**$ 14.87**	**$ 15.06**	**$ 15.69**
Quality, $ per Cwt.	.08	.15	.20	.24	.31
Volume, $ per Cwt.	.02	.23	.33	.53	.84
Market premium, $ per Cwt.	-.01	.12	.25	.44	1.05
Total Premium, $ per Cwt.	**.43**	**.73**	**.96**	**1.16**	**1.47**
Base Farm Price + Premiums per Cwt.	**$ 14.85**	**$ 15.50**	**$ 15.86**	**$ 16.09**	**$ 16.89**
Promotion, $ per Cwt.	.15	.15	.15	.15	.15
Hauling, $ per Cwt.	.24	.35	.39	.45	.63
Market fees & coop dues per Cwt.	.00	.01	.05	.06	.08
Futures/contract fees, $ per Cwt.	.00	.00	.00	.00	.00
Total Marketing Expenses per Cwt.	**$ .41**	**$ .55**	**$ .59**	**$ .64**	**$ .83**
Base + Premiums – Deductions per Cwt.	**$ 14.29**	**$ 14.94**	**$ 15.23**	**$ 15.49**	**$ 16.21**
Compact, $ per Cwt.	.00	.00	.00	.00	.05
Futures contract, forward contracting, $ per Cwt.	-.52	.00	.00	.00	.20
Total Marketing Income, $ per Cwt.	**$ -.52**	**$ .00**	**$ .00**	**$ .00**	**$ .25**
Patronage Dividends, $ per Cwt.	**$ .00**	**$ .00**	**$ .00**	**$ .04**	**$ .45**
Net Price Received From All Sources, $ per Cwt.	**$ 14.31**	**$ 14.98**	**$ 15.25**	**$ 15.52**	**$ 16.32**
PPD - hauling, $ per Cwt.	**1.03**	**1.17**	**1.26**	**1.37**	**1.56**
PPD - hauling + mkt premiums, $ per Cwt.	**1.19**	**1.33**	**1.51**	**1.82**	**2.37**

[4]Each calculation of an average is independent of all others. Therefore, math operations on the detail will not result in the totals.

SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics

Planning the optimal management strategies is a crucial component of operating a successful farm. Various combinations of farm resources, enterprises, business arrangements, and management techniques are used by the dairy farmers in this region. The following table shows important farm business characteristics and the number of farms with each characteristic.

BUSINESS CHARACTERISTICS
67 Large Herd Dairy Farms, 2001

Type of Farm	Number
Dairy	67

Type of Ownership	Number
Owner	63
Renter	4

Type of Business	Number
Single proprietorship	18
Partnership	15
Limited Liability Corporation	19
Subchapter S Corporation	14
Subchapter C Corporation	1

Business Record System	Number
Account Book	3
Accounting Service	6
On-Farm Computer	57
Other	1

BST Usage	Number
<25%	5
25-75%	29
>75%	22
Stopped Use in 2001	3
Not Used	8

Type of Barn	Number
Stanchion/Tie-Stall	0
Freestall	67
Combination	0

Milking System	Number
Pipeline	0
Herringbone Conventional	23
Herringbone Rapid Exit	14
Parallel	25
Parabone	2
Rotary	1
Other	2

Milking Frequency	Number
2x/day	14
3x/day	47
Other	6

Production Records	Number
Testing Service	53
On-Farm System	10
Other	1
None	3

Income Statement

In order for an income statement to accurately measure farm income, it must include cash transactions and accrual adjustments (changes in accounts payable, accounts receivable, inventories, and prepaid expenses).

Cash paid is the actual cash outlay during the year and does not necessarily represent the cost of goods and services actually used in 2001.

Change in inventory: Increases in inventories of supplies and other purchased inputs are subtracted in computing accrual expenses because they represent purchased inputs not actually used during the year. Decreases in purchased inventories are added to expenses because they represent inputs purchased in a prior year and used this year.

CASH AND ACCRUAL FARM EXPENSES
67 Large Herd Dairy Farms, 2001

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense		+	Change in Accounts Payable	=	Accrual Expenses
Hired Labor	$ 394,757		$ 1,562	<<		$ 1,154		$ 394,349
Feed								
Dairy grain & concentrate	632,084		21,634			-6,538		603,912
Dairy roughage	41,704		5,278			-314		36,112
Nondairy	70		0			0		70
Machinery								
Mach. hire, rent/lease	71,637		-449	<<		-2,652		69,434
Mach. rep. & farm veh. exp	105,168		1,685			-1,346		102,136
Fuel, oil & grease	44,289		588			-1,046		42,656
Livestock								
Replacement livestock	28,027		0	<<		-19		28,008
Breeding	30,010		826			-482		28,703
Vet & medicine	88,887		1,292			-1,363		86,232
Milk marketing	87,204		0	<<		435		87,638
Bedding	37,959		703			-330		36,926
Milk supplies	47,081		2,470			-909		43,702
Cattle lease/rent	5,632		-233	<		536		6,401
Custom boarding	52,351		-323	<<		-176		52,498
bST expense	46,243		526			-546		45,171
Other livestock expense	17,387		163			159		17,382
Crops								
Fertilizer & lime	47,835		1,950			-1,330		44,554
Seeds & plants	33,448		4,467			-496		28,485
Spray, other crop exp.	39,142		398			-392		38,352
Real Estate								
Land/bldg./fence repair	36,863		498			-34		36,330
Taxes	25,025		122	<<		-51		24,852
Rent & lease	42,835		1,272	<<		-351		41,212
Other								
Insurance	18,160		809	<<		53		17,404
Utilities (farm share)	44,377		-9	<<		-37		44,349
Interest paid	127,337		-284	<<		-834		126,787
Miscellaneous	26,063		-202			-40		26,226
Total Operating Expenses	$ 2,171,576		$ 44,742			$ -16,951		$ 2,109,882
Expansion livestock	$ 59,024		$ 0	<<		$ -213		$ 58,811
Machinery depreciation								$ 102,409
Building depreciation								$ 89,080
Total Accrual Expenses								$ 2,360,182

Change in prepaid expenses (noted above by <<) is a net change in non-inventory expenses that have been paid in advance of their use. If 2001 funds used to prepay 2002 leases exceed the amount of 2001 leases prepaid in 2000, the amount of this excess is subtracted to exclude it from 2001 accrual lease expenses. The excess prepaid lease is charged against the future year's business operation. A decrease in prepaid lease is added to accrual expenses because it represents use of resources during this year that were paid for in past years.

Change in accounts payable: An increase in accounts payable from beginning to end of year is added when calculating accrual expenses because these expenses were incurred (resources used) in 2001 but not paid for. A decrease is subtracted because the resource was used before 2001.

Accrual expenses are the costs of inputs actually used in this year's production. They are the total of cash paid, as well as changes in inventory, prepaid expenses, and accounts payable.

CASH AND ACCRUAL FARM RECEIPTS
67 Large Herd Dairy Farms, 2001

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	$2,379,993				$ 22,002		$ 2,401,995
Dairy cattle	87,377		$ 89,894		-702		176,569
Dairy calves	27,879				258		28,138
Other livestock	5,330		-162		-33		5,136
Crops	12,406		13,909		1,830		28,146
Government receipts	32,299		-108 [5]		-1,299		30,892
Custom machine work	8,326				-198		8,128
Gas tax refund	395				0		395
Other	34,154				143		34,297
Less nonfarm noncash cap.			0 [6]				0
Total Receipts	$2,588,159		$ 103,533		$ 22,003		$ 2,713,695

[5] Change in advanced government receipts.
[6] Gifts or inheritances of cattle or crops included in inventory

Cash receipts include the gross value of milk checks received during the year plus all other payments received from the sale of farm products, services, and government programs. Nonfarm income is not included in calculating farm profitability.

Changes in inventory of assets produced by the business are calculated by subtracting beginning of year values from end of year excluding appreciation. Increases in livestock inventory caused by herd growth and/or quality are added, and decreases caused by herd reduction and/or quality are subtracted. Changes in inventories of crops grown are also included. An annual increase in advanced government receipts is subtracted from cash income because it represents income received in 2001 for the 2002 crop year in excess of funds earned for 2001. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2001 but received in 2000.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. The January milk check for this December's marketings compared with the previous January's check is included as a change in accounts receivable.

Accrual receipts represent the value of all farm commodities produced and services actually generated by the farm business during the year.

Profitability Analysis

Farm operators[7] contribute labor, management, and equity capital to their businesses and the combination of these resources, and the other resources used in the business, determines profitability. Farm profitability can be measured as the return to all family resources or as the return to one or more individual resources such as labor and management.

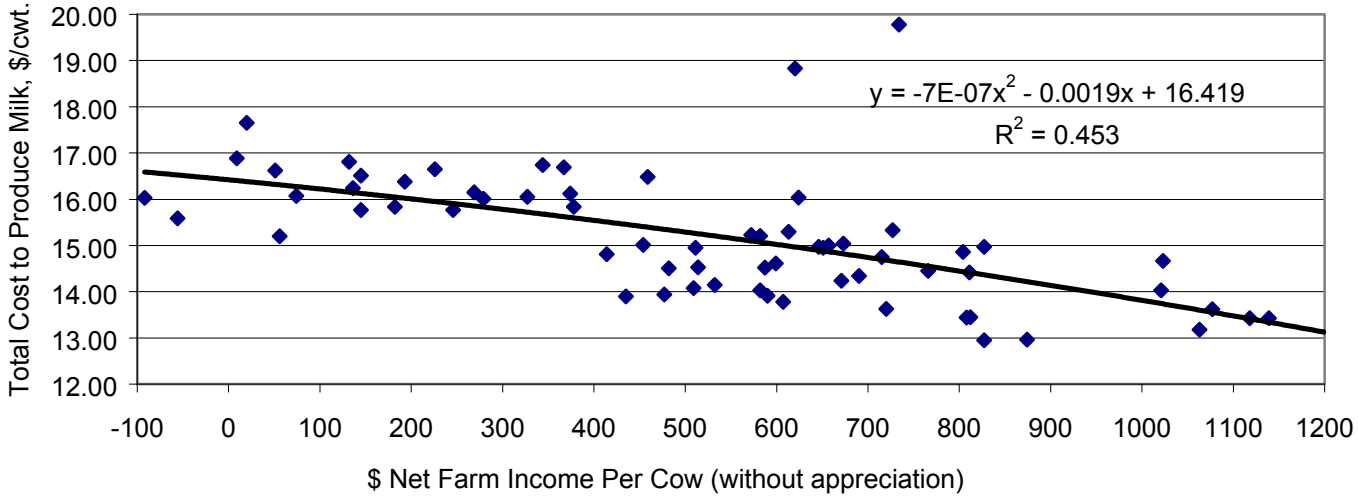
Net farm income is the return to the farm operators and other unpaid family members for their labor, management, and equity capital. It is the farm family's net annual return from working, managing, financing, and owning the farm business. This is not a measure of cash available from the year's business operation. Cash flow is evaluated later in this report.

Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

NET FARM INCOME
67 Large Herd Dairy Farms, 2001

Item	Average 67 Farms Total	Average 67 Farms Per Cow	Average Top 20%[8] Farms Total	Average Top 20%[8] Farms Per Cow
Total accrual receipts	$ 2,713,695		$ 3,075,488	
Appreciation: Livestock	139,331		152,211	
Machinery	14,783		8,865	
Real Estate	81,240		62,020	
Other Stock/Certificates	2,401		-4,365	
Total Including Appreciation	$ 2,951,450		$ 3,294,219	
Total accrual expenses	2,360,182		2,430,341	
Net Farm Income (with appreciation)	$ 591,268	$892	$ 863,878	$ 1,229
Net Farm Income (w/o appreciation)	$ 353,513	$533	$ 645,147	$ 918

TOTAL COST TO PRODUCE MILK VS. NET FARM INCOME PER COW
67 Large Herd Dairy Farms, 2001



[7]Operators are the individuals who are integrally involved in the operation and management of the farm business. They are not limited to those who own the farm or are formal members of the partnership or corporation.

[8]Top 20% of large herd farms by rate of return on all assets without appreciation.

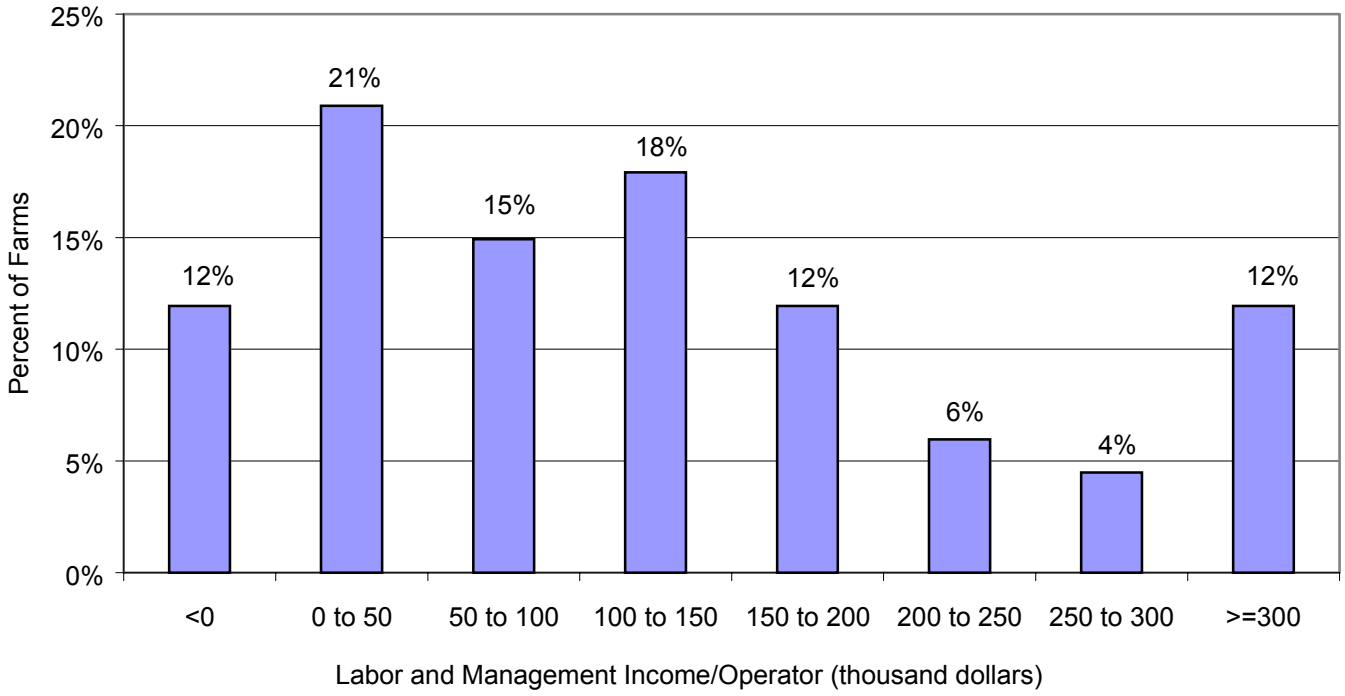
Labor and management income is the return which farm operators receive for their labor and management used in operating the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and management income is calculated by deducting a charge for unpaid family labor and the opportunity cost of using equity capital, at a real interest rate of five percent, from net farm income excluding appreciation. The interest charge of five percent reflects the long-term average rate of return above inflation that a farmer might expect to earn in comparable risk investments.

LABOR AND MANAGEMENT INCOME
67 Large Herd Dairy Farms, 2001

Item	Average 67 Farms	Average Top 20% Farms
Net farm income without appreciation	$ 353,513	$ 645,147
Family labor unpaid @ $2,000 per month	- 3,600	- 3,800
Interest on $2,200,024 ($2,289,979 for top 20%) average equity capital @ 5% real rate	- 110,001	- 114,499
Labor & Management Income per Farm (2.28 operators/farm; 2.18 operators for top 20%)	$ 239,912	$ 526,848
Labor & Management Income per Operator/Manager	$ 105,225	$ 241,673

Labor and management income per operator averaged $105,225 on these 67 farms in 2001. Returns to labor and management were less than $0 on 12 percent of the farms. Labor and management income per operator ranged from $0 to $200,000 on 66 percent of the farms while 22 percent showed labor and management incomes of $200,000 or more per operator.

DISTRIBUTION OF LABOR & MANAGEMENT INCOME PER OPERATOR
67 Large Herd Dairy Farms, 2001



Return on equity capital measures the net return remaining for the farmer's equity or owned capital after a charge has been made for the owner-operator's labor and management. The earnings or amount of net farm income allocated to labor and management is the opportunity cost of operators' labor and management estimated by the cooperators. Return on equity capital is calculated with and without appreciation. The rate of return on equity capital is determined by dividing the amount returned by the average farm net worth or equity capital. Return on total capital is calculated by adding interest paid to the return on equity capital and then dividing by average farm assets to calculate the rate of return on total capital.

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
67 Large Herd Dairy Farms, 2001

Item	Average 67 Farms	Average Top 20% Farms
Net farm income with appreciation	$ 591,268	$ 863,878
Family labor unpaid @ $2,000 per month	- 3,600	- 3,800
Value of operators' labor & management	- 92,579	- 98,578
Return on equity capital with appreciation	$ 495,089	$ 761,500
Interest paid	+ 126,787	+ 110,464
Return on total capital with appreciation	$ 621,876	$ 871,964
Return on equity capital without appreciation	$ 257,334	$ 542,769
Return on total capital without appreciation	$ 384,121	$ 653,233
Rate of return on average equity capital:		
with appreciation	22.5%	33.3 %
without appreciation	11.7%	23.7 %
Rate of return on average total capital:		
with appreciation	15.0%	21.5 %
without appreciation	9.2%	16.1 %
Net farm income from operations ratio	0.13	0.21

Farm and Family Financial Status

The first step in evaluating the financial position of the farm is to construct a balance sheet which identifies all the assets and liabilities of the business. The second step is to evaluate the relationship between assets, liabilities, and net worth and changes that occurred during the year.

Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business. For 2001, leases were discounted by 7.75 percent.

Advanced government receipts are included as current liabilities. Government payments received in 2001 that are for participation in the 2000 program are the end year balance and payments received in 2000 for participation in the 2001 program are the beginning year balance.

Current Portion or principal due in the next year for intermediate and long term debt is included as a current liability.

2001 FARM BUSINESS & NONFARM BALANCE SHEET

67 Large Herd Dairy Farms, 2001

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 20,863	$ 18,563	Accounts payable	$ 56,744	$ 39,579
Accounts receivable	134,473	156,476	Operating debt	175,592	187,730
Prepaid expenses	7,818	10,284	Short Term	8,105	17,957
Feed & supplies	439,567	495,751	Advanced govt. receipts	0	108
			Current Portion:		
			Intermediate	123,001	176,311
			Long Term	51,631	71,254
Total Current	$ 602,721	$ 681,074	Total Current	$ 415,074	$ 492,938
Intermediate			Intermediate		
Dairy cows:			Structured debt		
owned	$ 675,581	$ 809,615	1-10 years	$ 665,627	$ 698,739
leased	12,464	8,074	Financial lease		
Heifers	323,629	419,037	(cattle/machinery)	56,477	39,642
Bulls/other livestock	7,039	6,660	Farm Credit stock	12,069	12,206
Mach./equipment owned	632,131	703,909	Total Intermediate	$ 734,173	$ 750,587
Mach./equipment leased	44,013	31,568			
Farm Credit stock	12,069	12,206			
Other stock/certificate	72,964	85,453			
Total Intermediate	$1,779,890	$2,076,522			
			Long Term		
Long Term			Structured debt		
Land/buildings:			>10 years	$ 757,237	$ 765,391
owned	$1,515,689	$1,659,552	Financial lease		
leased	726	464	(structures)	726	464
Total Long Term	$1,516,415	$1,660,016	Total Long Term	$ 757,963	$ 765,855
			Total Farm Liab.	$1,907,210	$2,009,380
Total Farm Assets	$3,899,026	$4,417,612	FARM NET WORTH	$1,991,816	$2,408,232

Nonfarm Assets, Liabilities & Net Worth (Average of 29 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	$ 3,309	$ 6,497	Nonfarm Liabilities	$ 1,270	$ 2,195
Cash value life insurance	33,460	38,922			
Nonfarm real estate	9,391	6,897			
Auto (personal share)	7,604	7,017			
Stocks & bonds	25,588	35,634			
Household furnishings	17,328	17,328			
All other nonfarm assets	14,461	5,854			
Total Nonfarm Assets	$ 111,141	$ 118,149	NONFARM NET WORTH	$ 109,871	$ 115,954

Farm & Nonfarm Assets, Liabilities, and Net Worth[9]	Jan. 1	Dec. 31
Total Assets	$ 4,010,167	$ 4,535,761
Total Liabilities	1,908,480	2,011,575
TOTAL FARM & NONFARM NET WORTH	$ 2,101,687	$ 2,524,186

[9]Assumes that average nonfarm assets and liabilities for the nonreporting farms were the same as for those reporting.

The following condensed balance sheet, including deferred taxes, contains average data from only those farmers who elected to provide the additional information required to compute deferred taxes. Deferred taxes represent an estimate of the taxes that would be paid if the farm were sold at year end fair market values on the date of the balance sheet. Accuracy is dependent on the accuracy of the market values and the tax basis data provided. Any tax liability for assets other than livestock, machinery, land, buildings and nonfarm assets is excluded. It is assumed that all gain on purchased livestock and machinery is ordinary gain and that listed market values are net of selling costs. The effects of investment tax credit carryover and recapture, carryover of operating losses, alternative minimum taxes and other than average exemptions and deductions are excluded because they have only minor influence on the taxes of most farms. The dramatic impact of including deferred taxes is clear. Total farm liabilities were increased 69 percent on these 32 farms by including deferred taxes.

Deferred taxes on these farms totaled an average of $482,931, roughly one-third of the pretax net worth. Percent equity for the farm decreased from 66 percent to 43 percent when deferred taxes are included on these farms. When examining net worth, especially as a source of cash for retirement or other purposes, deferred taxes become an important consideration. Deferred taxes in this calculation specify that all assets were sold during one tax year. Therefore, tax management strategies such as making sales in more than one year or installment sales warrant careful consideration to reduce income tax liabilities.

CONDENSED BALANCE SHEET INCLUDING DEFERRED TAXES
December 31, 2001
32 New York Dairy Farms, 2001

Assets		Liabilities & Net Worth	
		Current debts & payables	$ 193,082
		Current deferred taxes	101,163
Total Current Assets	$ 301,520	Total Current Liabilities	$ 294,245
		Intermediate debts & leases	$ 254,454
		Intermediate deferred taxes	236,038
Total Inter. Assets	$ 948,173	Total Intermediate Liabilities	$ 490,492
		Long term debts & leases	$ 237,602
		Long term deferred taxes	138,020
Total Long Term Assets	$ 782,854	Total Long Term Liabilities	$ 375,622
TOTAL FARM ASSETS	$ 2,032,546	TOTAL FARM LIABILITIES	$ 1,160,359
		Farm Net Worth	$ 872,187
		Percent Equity (Farm)	42.91%
		Nonfarm debts	$ 4,064
		Nonfarm deferred taxes	7,710
Total Nonfarm Assets	$ 63,879	Total Nonfarm Liabilities	$ 11,774
TOTAL ASSETS	$ 2,096,425	TOTAL LIABILITIES	$ 1,172,133
		Total Net Worth	$ 924,292
		Percent Equity (Total)	44.09%

Balance sheet analysis involves examination of relative asset and debt levels for the business. Percent equity is calculated by dividing end of year net worth by end of year assets and multiplying by 100. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect business solvency and the potential capacity to borrow. Debt levels per productive unit represent old standards that are still useful if used with measures of cash flow and repayment ability.

BALANCE SHEET ANALYSIS
67 Large Herd Dairy Farms, 2001

Item		Average 67 Farms		Average Top 20% Farms
Financial Ratios - Farm:				
Percent equity		55%		58%
Debt/asset ratio: total		0.45		0.42
long-term		0.46		0.27
intermediate/current		0.45		0.49
Leverage Ratio		0.83		0.71
Current Ratio		1.38		1.63
Working Capital: $188,136	as % of Total Expenses:	8%	$284,875	12%
Farm Debt Analysis:				
Accounts payable as % of total debt		2%		2%
Long-term liabilities as a % of total debt		38%		23%
Current & intermediate liabilities as a % of total debt		62%		77%
Cost of term debt (weighted average)		5.3%		4.9%

	Average 67 Farms		Average Top 20% Farms	
Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$ 2,921	$ 3,169	$ 2,495	$ 3,345
Long-term debt	1,113	1,208	571	766
Long-term & intermediate	2,204	2,392	1,882	2,523
Intermediate & current debt	1,807	1,961	1,923	2,579

Farm inventory balance is an accounting of the value of assets used on the balance sheet and the changes that occur from the beginning to end of year. Changes in the livestock inventory are included in the dairy analysis. Net investment indicates whether the capital stock is being expanded (positive) or depleted (negative).

FARM INVENTORY BALANCE
67 Large Herd Dairy Farms, 2000

Item	Average of 67 Farms			
		Real Estate		Machinery & Equipment
Value beginning of year		$ 1,515,689		$ 632,131
Purchases	$ 230,192 [10]		$ 167,113	
Gift/inheritance	+ 1,229		+ 322	
Lost capital	- 71,601			
Sales	- 8,117		- 8,031	
Depreciation	- 89,080		- 102,409	
Net investment		= 62,623		= 56,995
Appreciation		+ 81,240		+ 14,783
Value end of year		$ 1,659,552		$ 703,909

[10] $43,940 land and $186,252 buildings and/or depreciable improvements.

Statement of Owner Equity

The Statement of Owner Equity has two purposes. It allows (1) verification that the accrual income statement and market value balance sheet are interrelated and consistent (in accountants terms, they reconcile) and (2) identification of the causes of change in equity that occurred on the farm during the year. The Statement of Owner Equity allows you to determine to what degree the change in equity was caused by (1) earnings from the business, and nonfarm income, in excess of withdrawals being retained in the business (called retained earnings), (2) outside capital being invested in the business or farm capital being removed from the business (called contributed/withdrawn capital) and (3) increases or decreases in the value (price) of assets owned by the business (called change in valuation equity).

Retained earnings is an excellent indicator of farm generated financial progress.

STATEMENT OF OWNER EQUITY (RECONCILIATION)
67 Large Herd Dairy Farms, 2001

Item	Average 67 Farms		Average Top 20% Farms	
Beginning of year farm net worth		$ 1,991,816		$1,993,352
Net farm income w/o appreciation	$ 353,513		$ 645,147	
+ Nonfarm cash income	+ 4,948		+ 5,624	
- Personal withdrawals & family expenditures excluding nonfarm borrowings	- 111,921		- $ 149,857	
Retained Earnings		+$ 246,540		+ $ 500,914
Nonfarm noncash transfers to farm	$ 1,551		$ 0	
+ Cash used in business from nonfarm capital	+ 2,379		+ 0	
- Note/mortgage from farm real estate sold (nonfarm)	- 0		- 0	
Contributed/Withdrawn Capital	=	+$ 3,930		+ $ 0
Appreciation	$ 237,755		$ 218,731	
- Lost capital	- 71,601		- 128,365	
Change in Valuation Equity		+$ 166,154		+ $ 90,366
Imbalance/Error		- 208		- -1,973
End of year farm net worth[11]		=$ 2,408,232		= $2,586,605
Change in net worth w/apprec.		$ 416,416		$ 593,253
Change in Net Worth				
Without appreciation		$ 178,661		$ 374,522
With appreciation		$ 416,416		$ 593,253

[11]May not add due to rounding.

Cash Flow Statement

Completing an annual cash flow statement is an important step in understanding the sources and uses of funds for the business. Understanding last year's cash flow is the first step toward planning and managing cash flow for the current and future years.

The annual cash flow statement is structured to show net cash provided by operating activities, investing activities, financing activities and from reserves. All cash inflows and outflows, including beginning and end balances, are included. Therefore, the sum of net cash provided from all four activities should be zero. Any imbalance is the error from incorrect accounting of cash inflows/outflows.

ANNUAL CASH FLOW STATEMENT
67 Large Herd Dairy Farms, 2001

Item		Average 67 Farms	
Cash Flow from Operating Activities			
Cash farm receipts	$ 2,588,159		
- Cash farm expenses	2,171,576		
= Net cash farm income		$ 416,583	
Personal withdrawals/family expenses including nonfarm debt payments	$ 112,321		
- Nonfarm income	4,948		
- Net cash withdrawals from the farm		$ 107,373	
= Net Provided by Operating Activities			$ 309,210
Cash Flow From Investing Activities			
Sale of Assets: Machinery	$ 8,031		
+ real estate	8,117		
+ other stock/cert.	4,086		
= Total asset sales		$ 20,234	
Capital purchases: expansion livestock	$ 59,024		
+ machinery	167,113		
+ real estate	230,192		
+ other stock/cert.	14,174		
- Total invested in farm assets		$ 470,503	
= Net Provided by Investment Activities			$ -450,269
Cash Flow From Financing Activities			
Money borrowed (inter. & long term)	$ 356,882		
+ Money borrowed (short-term)	15,405		
+ Increase in operating debt	12,138		
+ Cash from nonfarm cap. used in business	2,379		
+ Money borrowed - nonfarm	401		
= Cash inflow from financing		$ 387,205	
Principal payments (inter. & long-term)	$ 242,684		
+ Principal payments (short-term)	5,553		
+ Decrease in operating debt	0		
- Cash outflow for financing		$ 248,237	
= Net Provided by Financing Activities			$ 138,968
Cash Flow From Business			
Beginning farm cash, checking & savings		$ 20,863	
- Ending farm cash, checking & savings		18,563	
= Net Provided from Reserves			$ 2,300
Imbalance (error)			$ 209

ANNUAL CASH FLOW STATEMENT

13 Top 20% Large Herd Dairy Farms, 2001

Item		Average Top 20% Farms	
Cash Flow from Operating Activities			
Cash farm receipts	$2,851,281		
- Cash farm expenses	2,308,253		
= Net cash farm income		$ 543,028	
Personal withdrawals/family expenses including nonfarm debt payments	$ 149,900		
- Nonfarm income	5,624		
- Net cash withdrawals from the farm		$ 144,276	
= Net Provided by Operating Activities			$ 398,752
Cash Flow From Investing Activities			
Sale of Assets: Machinery	$ 8,003		
+ real estate	3,025		
+ other stock/cert.	1,545		
= Total asset sales		$ 12,573	
Capital purchases: expansion livestock	$ 47,944		
+ machinery	185,403		
+ real estate	318,176		
+ other stock/cert.	16,387		
- Total invested in farm assets		$ 567,910	
= Net Provided by Investment Activities			$ -555,337
Cash Flow From Financing Activities			
Money borrowed (inter. & long term)	$ 439,791		
+ Money borrowed (short-term)	1,900		
+ Increase in operating debt	0		
+ Cash from nonfarm cap. used in business	0		
+ Money borrowed - nonfarm	43		
= Cash inflow from financing		$ 441,734	
Principal payments (inter. & long-term)	$ 284,736		
+ Principal payments (short-term)	982		
+ Decrease in operating debt	3,414		
- Cash outflow for financing		$ 289,132	
= Net Provided by Financing Activities			$ 152,602
Cash Flow From Business			
Beginning farm cash, checking & savings		$ 21,187	
- Ending farm cash, checking & savings		19,177	
= Net Provided from Reserves			$ 2,010
Imbalance (error)			$ -1,973

Repayment Analysis

A valuable use of cash flow analysis is to compare the debt payments planned for the last year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business. However, the critical question to many farmers and lenders is whether planned payments can be made in 2002. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2002 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Large Herd Dairy Farms, 2000 & 2001

	Same 63 Dairy Farms			Same 12 Top 20% Farms		
	2001 Payments		Planned	2001 Payments		Planned
Debt Payments	Planned	Made	2002	Planned	Made	2002
Long-term	$ 124,327	$ 162,052	$ 122,627	$ 92,466	$ 153,947	$ 77,936
Intermediate-term	191,947	209,435	222,523	220,027	238,458	293,204
Short-term	5,803	5,625	10,465	481	1,064	2,058
Operating (net reduction)	7,674	0	9,902	10,404	3,698	2,917
Accounts payable (net reduction)	4,226	18,268	238	833	6,931	417
Total	$ 333,977	$ 395,380	$ 365,755	$ 324,211	$ 404,098	$ 376,532
Per cow	$ 492	$ 582		$ 450	$ 561	
Per cwt. 2001 milk	$ 2.18	$ 2.58		$ 1.93	$ 2.41	
Percent of total 2001 receipts	12%	14%		10%	13%	
Percent of 2001 milk receipts	14%	16%		12%	15%	

The cash flow coverage ratio and debt coverage ratio measure the ability of the farm business to meet its planned debt payments schedule. The ratios show the percentage of payments planned for 2001 (as of December 31, 2000) that could have been made with the amount available for debt service in 2001. Farmers who did not participate in DFBS in 2000 have their 2001 cash flow coverage ratio based on planned debt payments for 2002.

COVERAGE RATIOS
Same 63 Large Herd Dairy Farms, 2000 & 2001

Item	Average	Item	Average
Cash Flow Coverage Ratio		Debt Coverage Ratio	
Cash farm receipts	$ 2,641,362	Net farm income (w/o apprec.)	$ 349,799
- Cash farm expenses	2,223,543	+ Depreciation	195,766
+ Interest paid (cash)	131,857	+ Interest paid (accrual)	131,272
- Net personal withdrawals from farm[12]	105,597	- Net personal withdrawals from farm[12]	105,597
(A) = Amount Available for Debt Service	$ 444,079	(A') = Repayment Capacity	$ 571,240
(B) = Debt Payments Planned for 2001 (as of December 31, 2000)	$ 333,977	(B) = Debt Payments Planned for 2001 (as of December 31, 2000)	$ 333,977
(A/ B)= Cash Flow Coverage Ratio for 2001	1.33	(A'/B)= Debt Coverage Ratio for 2001	1.71

Same 12 Top 20% Dairy Farms, 2000 & 2001

(A) = Amount Available for Debt Service	$ 498,382	(A') = Repayment Capacity	$ 789,176
(B) = Debt Payments Planned for 2001	324,211	(B) = Debt Payments Planned for 2001	324,211
(A/ B)= Cash Flow Coverage Ratio for 2001	1.54	(A'/B)= Debt Coverage Ratio for 2001	2.43

[12]Personal withdrawals and family expenditures less nonfarm income and nonfarm money borrowed. If family withdrawals are excluded, or inaccurately included, the cash flow coverage ratio will be incorrect.

ANNUAL CASH FLOW WORKSHEET

67 Large Herd Dairy Farms, 2001

Item	Average 67 Farms Per Cow	Average 67 Farms Per Cwt.	Total
Number cows and cwt. milk	663	150,567	
Accrual Operating Receipts			
Milk	$ 3,623	$ 15.95	$ 2,401,995
Dairy cattle	266	1.17	176,569
Dairy calves	42	0.19	28,138
Other livestock	8	0.03	5,136
Crops	42	0.19	28,146
Misc. receipts	111	0.49	73,712
Total	$ 4,093	$ 18.02	$ 2,713,695
Accrual Operating Expenses			
Hired labor	$ 595	$ 2.62	$ 394,349
Dairy grain & concentrate	911	4.01	603,912
Dairy roughage	54	0.24	36,112
Nondairy feed	0	0.00	70
Mach. hire/rent/lease	105	0.46	69,434
Mach. repair & farm vehicle expense	154	0.68	102,136
Fuel, oil & grease	64	0.28	42,656
Replacement livestock	42	0.19	28,008
Breeding	43	0.19	28,703
Vet & medicine	130	0.57	86,232
Milk marketing	132	0.58	87,638
Bedding	56	0.25	36,926
Milking supplies	66	0.29	43,702
Cattle lease	10	0.04	6,401
Custom boarding	79	0.35	52,498
bST expense	68	0.30	45,171
Other livestock expense	26	0.12	17,382
Fertilizer & lime	67	0.30	44,554
Seeds & plants	43	0.19	28,485
Spray/other crop expenses	58	0.25	38,352
Land, building, fence repair	55	0.24	36,330
Taxes	37	0.17	24,852
Real estate rent/lease	62	0.27	41,212
Insurance	26	0.12	17,404
Utilities	67	0.29	44,349
Miscellaneous	40	0.17	26,226
Total Less Interest Paid	$ 2,991	$ 13.17	$ 1,983,095
Net Accrual Operating Income (without interest paid)	$ 1,102	$ 4.85	$ 730,600
- Change in livestock/crop inventory[13]	156	0.69	103,533
- Change in accounts receivable	33	0.15	22,003
- Change in feed/supply inventory[14]	67	0.30	44,742
+ Change in accounts payable[15]	-24	-0.11	-16,117
NET CASH FLOW	$ 820	$ 3.61	$ 543,920
- Net personal withdrawals from farm (see footnote on p. 23)	$ 161	$ 0.71	$ 106,972
Available for Farm Debt Payments & Investments	$ 659	$ 2.90	$ 436,948
- Farm debt payments	583	2.57	386,618
Available for Farm Investment	$ 76	$ 0.33	$ 50,330
- Capital purchases: cattle, machinery & improvements	$ 710	$ 3.12	$ 470,503

[13]Includes change in advance government receipts.

[14]Includes change in prepaid expenses.

[15]Excludes change in interest account payable.

ANNUAL CASH FLOW WORKSHEET

13 Top 20% Large Herd Dairy Farms, 2001

Item	Average Top 20% Farms		
	Per Cow	Per Cwt.	Total
No. cows or cwt. milk	703	165,048	
Accrual Operating Receipts			
Milk	$ 3,769	$ 16.05	$ 2,649,427
Dairy cattle	295	1.26	207,367
Dairy calves	36	0.15	25,498
Other livestock	8	0.04	5,924
Crops	142	0.60	99,774
Misc. receipts	124	0.53	87,496
Total	$ 4,375	$ 18.63	$ 3,075,488
Accrual Operating Expenses			
Hired labor	$ 552	$ 2.35	$ 388,242
Dairy grain & concentrate	908	3.87	638,309
Dairy roughage	71	0.30	50,044
Nondairy feed	0	0.00	259
Mach. hire/rent/lease	125	0.53	88,172
Mach. repair & farm vehicle expense	138	0.59	97,147
Fuel, oil & grease	62	0.26	43,344
Replacement livestock	26	0.11	18,354
Breeding	43	0.18	30,033
Vet & medicine	122	0.52	85,570
Milk marketing	131	0.56	92,208
Bedding	44	0.19	30,960
Milking supplies	70	0.30	49,495
Cattle lease	1	0.01	897
Custom boarding	129	0.55	90,526
bST expense	72	0.30	50,336
Other livestock expense	22	0.09	15,407
Fertilizer & lime	83	0.35	58,184
Seeds & plants	45	0.19	31,485
Spray/other crop expenses	64	0.27	44,975
Land, building, fence repair	57	0.24	39,855
Taxes	28	0.12	19,389
Real estate rent/lease	67	0.29	47,304
Insurance	22	0.09	15,550
Utilities	59	0.25	41,305
Miscellaneous	32	0.14	22,593
Total Less Interest Paid	$ 2,973	$ 12.66	$ 2,089,941
Net Accrual Operating Income (without interest paid)	$ 1,402	$ 5.97	$ 985,547
- Change in livestock/crop inventory[16]	274	1.16	192,274
- Change in accounts receivable	45	0.19	31,932
- Change in feed/supply inventory[17]	144	0.61	101,449
+ Change in accounts payable[18]	-9	-0.04	-6,398
NET CASH FLOW	$ 930	$ 3.96	$ 653,775
- Net personal withdrawals from farm(see footnote p.23)	$ 205	$ 0.87	$ 144,233
Available for Farm Debt Payments & Investments	$ 725	$ 3.09	$ 509,542
- Farm debt payments	561	2.39	394,590
Available for Farm Investment	$ 164	$ 0.70	$ 114,952
- Capital purchases: cattle, machinery & improvements	$ 808	$ 3.44	$ 567,910

[16]Includes change in advance government receipts.

[17]Includes change in prepaid expenses.

[18]Excludes change in interest account payable.

Cropping Analysis

The cropping program is an important part of the dairy farm business and often represents opportunities for improved productivity and profitability. A complete evaluation of what the available land resources are, how they are being used, how well crops are producing, and what it costs to produce them is important to evaluating alternative cropping and feed purchasing alternatives.

LAND RESOURCES AND CROP PRODUCTION
67 Large Herd Dairy Farms, 2001

Item	Average 67 Farms			Average Top 20% Farms		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	634	617	1,251	549	791	1,340
Nontillable	41	16	57	15	17	32
Other nontillable	166	8	174	92	22	114
Total	841	641	1,482	655	831	1,486
Crop Yields	Farms	Acres[19]	Prod/Acre	Farms	Acres	Prod/Acre
Hay crop	63	591	3.23 tn DM	12	679	2.93 tn DM
Corn silage	62	558	16.75 tn	12	615	16.46 tn
Other forage	2	78	2.46 tn DM	0	0	0.00 tn DM
Total forage	63	1,143	4.29 tn DM	12	1,294	4.13 tn DM
Corn grain	21	233	116 bu	5	261	117 bu
Oats	3	44	80 bu	1	70	90 bu
Wheat	12	100	54 bu	2	64	61 bu
Other crops	17	132		0	0	
Tillable pasture	14	104		6	41	
Idle	16	98		4	58	
Total Tillable Acres	67	1,251		13	1,340	

[19]This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were corn grain 73, oats 2, wheat 18, tillable pasture 22 and idle 23.

Average crop acres and yields compiled for the region are for the farms reporting each crop. Yields of forage crops have been converted to tons of dry matter using dry matter coefficients reported by the farmers. Grain production has been converted to bushels of dry grain equivalent based on dry matter information provided.

The following crop/dairy ratios indicate the relationship between forage production, forage production resources, and the dairy herd.

CROP/DAIRY RATIOS
67 Large Herd Dairy Farms, 2001

Item	Average 67 Farms	Average Top 20% Farms
Total tillable acres per cow	1.89	1.91
Total forage acres per cow	1.62	1.70
Harvested forage dry matter, tons per cow	6.95	7.02

Cropping Analysis (continued)

A number of cooperators have allocated crop expenses among the hay crop, corn, and other crops produced. Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per acre and per production unit for hay and corn. Additional expense items such as fuels, labor, and machinery repairs are not included. Rotational grazing was used on one farm.

CROP RELATED ACCRUAL EXPENSES
Large Herd Dairy Farms Reporting, 2001

Item	Total Per Till. Acre	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Sh. Bu.	Hay Crop Per Acre	Hay Crop Per Ton DM
No. of farms reporting	67	6			6	
Ave. number of acres	1,251	531			539	
Fertilizer/lime	$ 35.61	$ 25.19	$ 4.29	$ 0.19	$ 42.34	$ 12.72
Seed/plants	22.77	34.91	5.95	0.26	14.53	4.37
Spray/other crop exp.	30.66	50.71	8.64	0.38	7.59	2.28
TOTAL	$ 89.04	$ 110.81	$ 18.88	$ 0.83	$ 64.46	$ 19.37
Average Top 20% Farms:						
No. of farms reporting	14					
Ave. number of acres	1,340					
Fertilizer/lime	$ 43.42					
Seeds/plants	23.50					
Spray/other crop exp.	33.56					
TOTAL	$ 100.48					

Most machinery costs are associated with crop production with crop production and should be analyzed with the crop enterprise. Total machinery expenses include the major fixed costs (interest and depreciation), as well as the accrual operating costs. Although machinery costs have not been allocated to individual crops, they are shown below per total tillable acre.

ACCRUAL MACHINERY EXPENSES
67 Large Herd Dairy Farms, 2001

Machinery Expense Item	Average 67 Farms Total Expenses	Average 67 Farms Per Till. Acre	Average Top 20% Farms Total Expenses	Average Top 20% Farms Per Till. Acre
Fuel, oil & grease	$ 42,656	$ 34.10	$ 43,344	$ 32.35
Mach. repairs & farm veh. exp.	102,136	81.64	97,147	72.50
Machine hire, rent & lease	69,434	55.50	88,172	65.80
Interest (5%)	35,291	28.21	32,272	24.08
Depreciation	102,409	81.86	90,101	67.24
Total	$ 351,926	$ 281.32	$ 351,036	$ 261.97

Dairy Analysis

Analysis of the dairy enterprise can reveal a great deal about the strengths and weaknesses of the dairy farm business. Information on this page should be used in conjunction with DHI and other dairy production information. Changes in dairy herd size and market values that occur during the year are identified in the table below. The change in inventory value without appreciation is attributed to physical changes in herd size and quality. Any change in inventory is included as an accrual farm receipt when calculating all of the profitability measures on pages 9 and 10.

DAIRY HERD INVENTORY
67 Large Herd Dairy Farms, 2001

	Dairy Cows		Heifers					
			Bred		Open		Calves	
Item	No.	Value	No.	Value	No.	Value	No.	Value
Average 67 Farms:								
Beginning year (owned)	620	$ 675,581	185	$ 183,973	151	$ 93,063	137	$ 46,594
+ Change w/o apprec.		58,244		10,370		16,210		5,068
+ Appreciation		75,790		31,259		19,044		13,456
End year (owned)	670	$ 809,615	193	$ 225,602	174	$128,317	150	$ 65,118
End including leased	688							
Average number	663		502 (all age groups)					
Average Top 20% Farms:								
Beginning year (owned)	667	$ 740,715	177	$ 180,235	184	$119,569	129	$ 46,273
+ Change w/o apprec.		66,602		42,076		11,206		6,415
+ Appreciation		79,971		33,666		29,293		9,281
End of year (owned)	728	$ 887,288	218	$ 255,977	201	$160,068	149	$ 61,969
End including leased	736							
Average number	703		531 (all age groups)					

Total milk sold and milk sold per cow are extremely valuable measures of size and productivity, respectively, on the dairy farm. These measures of milk output are based on pounds of milk marketed during the year. Farm managers on DHI should compare milk sold per cow with their rolling herd average on the test date nearest December 31 to see how close the DHI estimate of milk produced is to actual milk sales.

MILK PRODUCTION
67 Large Herd Dairy Farms, 2001

Item	Average 67 Farms	Average Top 20% Farms
Total milk sold, lbs.	15,056,711	16,504,842
Milk sold per cow, lbs.	22,701	23,483
Average milk plant test, percent butterfat	3.59 %	3.61 %

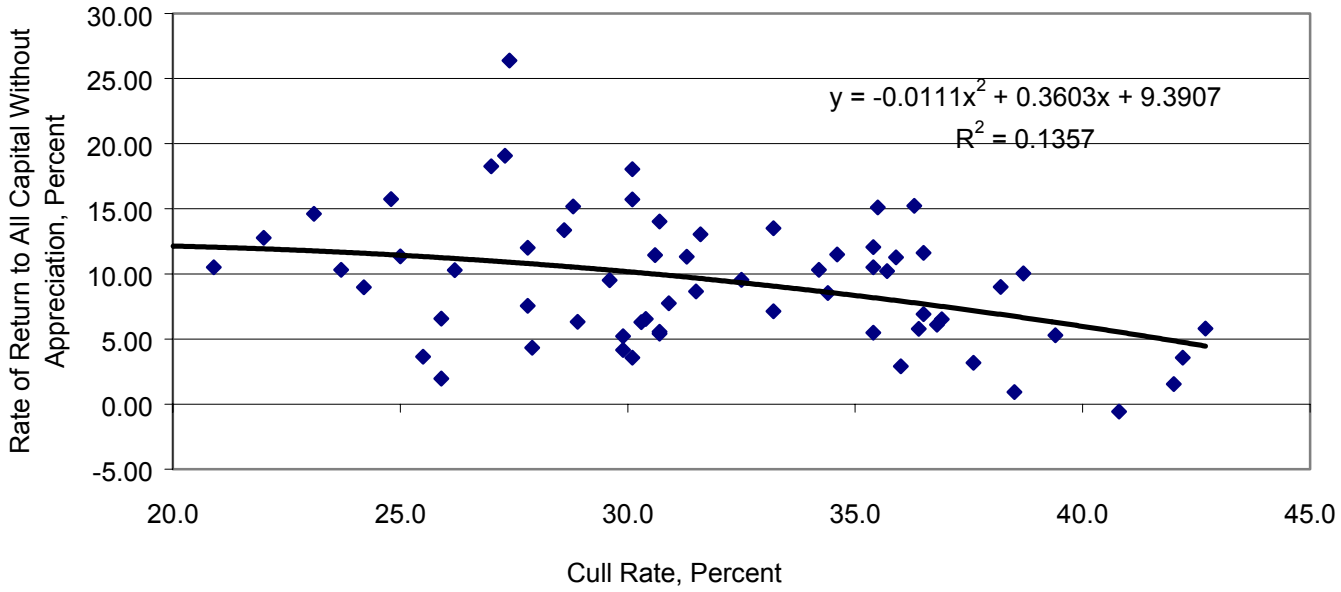
ANIMALS LEAVING THE HERD
67 Large Herd Dairy Farms, 2001

	Average 67 Farms		Average Top 20% Farms	
	Number	Percent[20]	Number	Percent[21]
Cows sold for beef	175	26.2	190	26.1
Cows sold for dairy	8	1.2	1	0.1
Cows died	34	5.1	29	4.0
Culling rate[18]	---	31.3	---	30.1

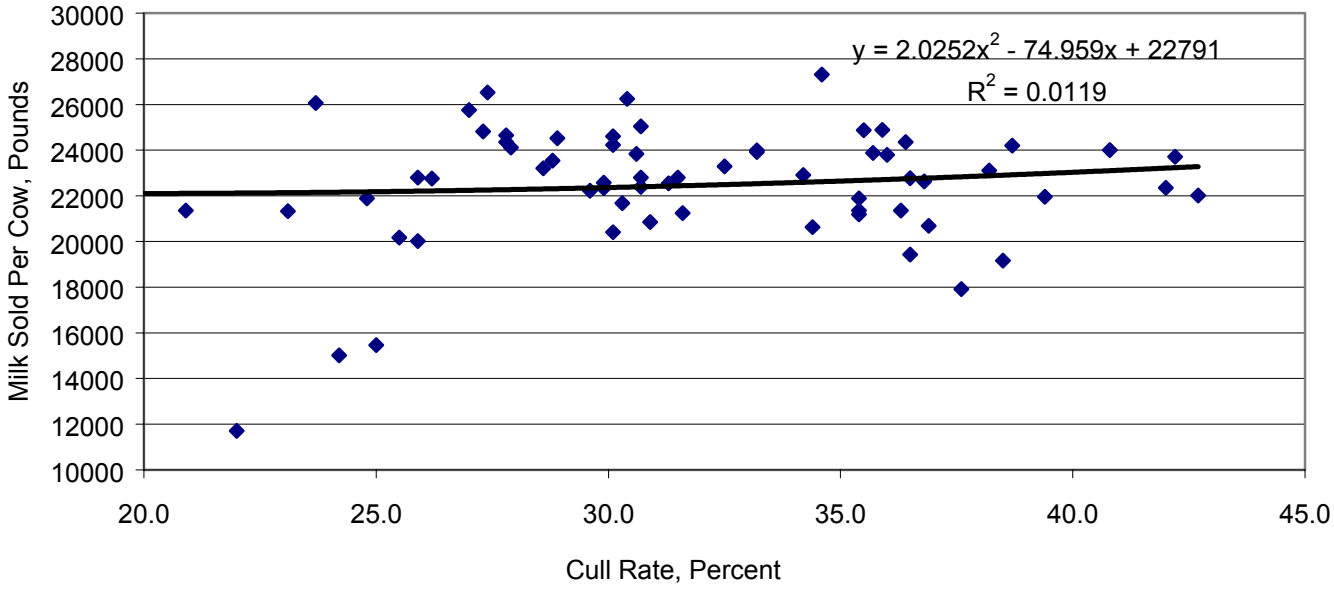
[20]Percent of average number of cows in the herd.
[21]Cows sold for beef plus cows died.

Cull rate measures the turnover of cows within the dairy herd and is comprised of both animals that die on the farm and animals that are sold as beef. Cull rates are impacted by the herd management skills of the farm owners and where the business is in terms of growth cycles and cow life cycles. The following two charts look at the relationship between percent cull rates and milk production and profit levels. While there is no significant relationship between cull rate and these two measures, it is interesting to note that all of the farms that averaged over 15% return to all capital without appreciation, averaged less than a 30% cull rate.

RETURN TO ALL CAPITAL WITHOUT APPRECIATION VERSUS CULL RATE
67 Large Herd Dairy Farms, 2001



MILK SOLD PER COW VERSUS CULL RATE
67 Large Herd Dairy Farms, 2001



The cost of producing milk has been compiled using the whole farm method and is featured in the following table. Accrual receipts from milk sales can be compared with the accrual costs of producing milk per cow and per hundredweight of milk. Using the whole farm method, operating costs of producing milk are estimated by deducting nonmilk accrual receipts from total accrual operating expenses including expansion livestock purchased. Purchased inputs cost of producing milk are the operating costs plus depreciation. Total costs of producing milk include the operating costs of producing milk plus depreciation on machinery and buildings, the value of unpaid family labor, the value of operators' labor and management, and the interest charge for using equity capital.

ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK

67 Large Herd Dairy Farms, 2001

	Average 67 Farms			Average Top 20% Farms		
Item	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Costs of Producing Milk						
Operating costs	$ 1,856,993	$ 2,801	$12.33	$ 1,822,288	$ 2,592	$ 11.04
Purchased inputs costs	$ 2,048,482	$ 3,090	$13.61	$ 2,004,280	$ 2,851	$ 12.14
Total Costs	$ 2,254,662	$ 3,401	$14.97	$ 2,221,157	$ 3,160	$ 13.46
Accrual Receipts From Milk	$ 2,401,995	$ 3,623	$15.95	$ 2,649,427	$ 3,769	$ 16.05
Net Milk Receipts	$ 2,314,357	$ 3,491	$15.37	$ 2,557,219	$ 3,638	$ 15.49
Net Farm Income w/o appreciation	$ 353,513	$ 533	$2.35	$ 645,147	$ 918	$ 3.91
Net Farm Income with appreciation	$ 591,268	$ 892	$3.93	$ 863,878	$ 1,229	$ 5.23

The accrual operating expenses most commonly associated with the dairy enterprise are listed in the table below. Evaluating these costs per unit of production enables an evaluation of the dairy enterprise.

DAIRY RELATED ACCRUAL EXPENSES

67 Large Herd Dairy Farms, 2001

	Average 67 Farms		Average Top 20% Farms	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	$ 911	$4.01	$ 908	$ 3.87
Purchased dairy roughage	54	0.24	71	0.30
Total Purchased Dairy Feed	$ 965	$4.25	$ 979	$ 4.17
Purchased grain & concentrate as % of milk receipts	25%		24 %	
Purchased feed & crop expense	$ 1,133	$4.99	$ 1,171	$ 4.99
Purchased feed & crop expense as % of milk receipts	31%		31 %	
Breeding	$ 43	$0.19	$ 43	$ 0.18
Veterinary & medicine	130	0.57	122	0.52
Milk marketing	132	0.58	131	0.56
Bedding	56	0.25	44	0.19
Milking supplies	66	0.29	70	0.30
Cattle lease	10	0.04	1	0.01
Custom boarding	79	0.35	129	0.55
bST expense	68	0.30	72	0.30
Other livestock expenses	26	0.12	22	0.09

Cost of Producing Milk

The cost of producing milk has been compiled below using the whole farm method. The following steps are used in the calculations.

1. The cost of expansion livestock is added to total accrual operating expenses to offset any related inventory increase included in accrual receipts.

2. Accrual milk sales are deducted form total accrual receipts to get total accrual nonmilk receipts which are used to represent total nonmilk operating costs.

3. Total accrual nonmilk receipts are subtracted from total accrual operating expenses including expansion livestock to calculate the operating costs of producing milk.

4. Machinery depreciation and building depreciation are added to operating costs to determine the purchased inputs cost of producing milk.

5. The opportunity costs of equity capital, operator's labor and operator's management and the value of unpaid family labor are added to all other costs to obtain the total costs of producing milk. This cost includes all the operating, depreciation, and imputed costs of producing milk.

COST OF PRODUCING MILK WHOLE FARM METHOD CALCULATIONS

67 Large Herd Dairy Farms, 2001

Item	Average 67 Farms		Average Top 20% Farms	
Total Accrual Operating Expenses	$ 2,109,882		$ 2,200,405	
Expansion Livestock, Accrual	+ 58,811		+ 47,944	
1. Total Accrual Operating Expenses, Including Expansion Livestock		$ 2,168,693		$ 2,248,349
Total Accrual Receipts	$ 2,713,695		$ 3,075,488	
Milk Sales, Accrual	- 2,401,995		- 2,649,427	
2. Total Accrual Nonmilk Receipts		- 311,700		- 426,061
3. Operating Costs of Producing Milk		$ 1,856,993		$ 1,822,288
Cwt. of Milk Sold	÷ 150,567.1		÷ 165,048.4	
Operating Costs/Cwt.	= $12.33		= $11.04	
Machinery Depreciation		+ 102,409		+ 90,101
Building Depreciation		+ 89,080		+ 91,891
4. Purchased Inputs Cost of Producing Milk		$ 2,048,482		$ 2,004,280
Cwt. of Milk Sold	÷ 150,567.1		÷ 165,048.4	
Purchased Inputs Cost/Cwt.	= $13.61		= $12.14	
Family Labor Unpaid ($2,000/month)		+ 3,600		+ 3,800
Real Interest on Equity Cap.		+ 110,001		+ 114,499
Value of Operators' Labor & Management		+ 92,579		+ 98,578
5. Total Costs of Producing Milk		$ 2,254,662		$ 2,221,157
Cwt. Milk Sold	÷ 150,567.1		÷ 165,048.4	
Total Costs/Cwt.	= $14.97		= $13.46	

Capital and Labor Efficiency Analysis

Capital efficiency factors measure how intensively the capital is being used in the farm business. Measures of labor efficiency are key indicators of management's success in generating products per unit of labor input.

CAPITAL EFFICIENCY
67 Large Herd Dairy Farms, 2001

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Average 67 Farms:				
Farm capital	$ 296,599	$ 6,272	$ 3,324	$ 6,559
Real estate		2,395		2,505
Machinery & equipment	50,343	1,065	564	
Ratios				
Asset turnover ratio	Operating Expense	Interest Expense	Depreciation Expense	
0.71	0.75	0.05	0.07	
Average Top 20% Farms:				
Farm capital	$ 275,397	$ 5,782	$ 3,033	$ 7,404
Real estate		2,074		2,656
Machinery & equipment	43,729	918	482	
Ratios				
Asset turnover ratio	Operating Expense	Interest Expense	Depreciation Expense	
0.81	0.70	0.04	0.06	

LABOR FORCE INVENTORY AND ANALYSIS
67 Large Herd Dairy Farms, 2001

Labor Force	Months	Age	Years of Education	Value of Labor & Mgmt.
Operator number 1	13.5	45	14	$ 47,032
Operator number 2	8.7	41	14	27,908
Operator number 3	3.7	38	14	12,781
Operator number 4	1.3	31	13	4,858
Family paid	5.3			
Family unpaid	1.8			
Hired	134.0			
Total	168.3 / 12 = 14.02 Worker Equivalent			
	2.28 Operator/Manager Equivalent			
Average Top 20% Farms:				
Total	177.1 / 12 = 14.76 Worker Equivalent			
Operator's	2.18 Operator/Manager Equivalent			

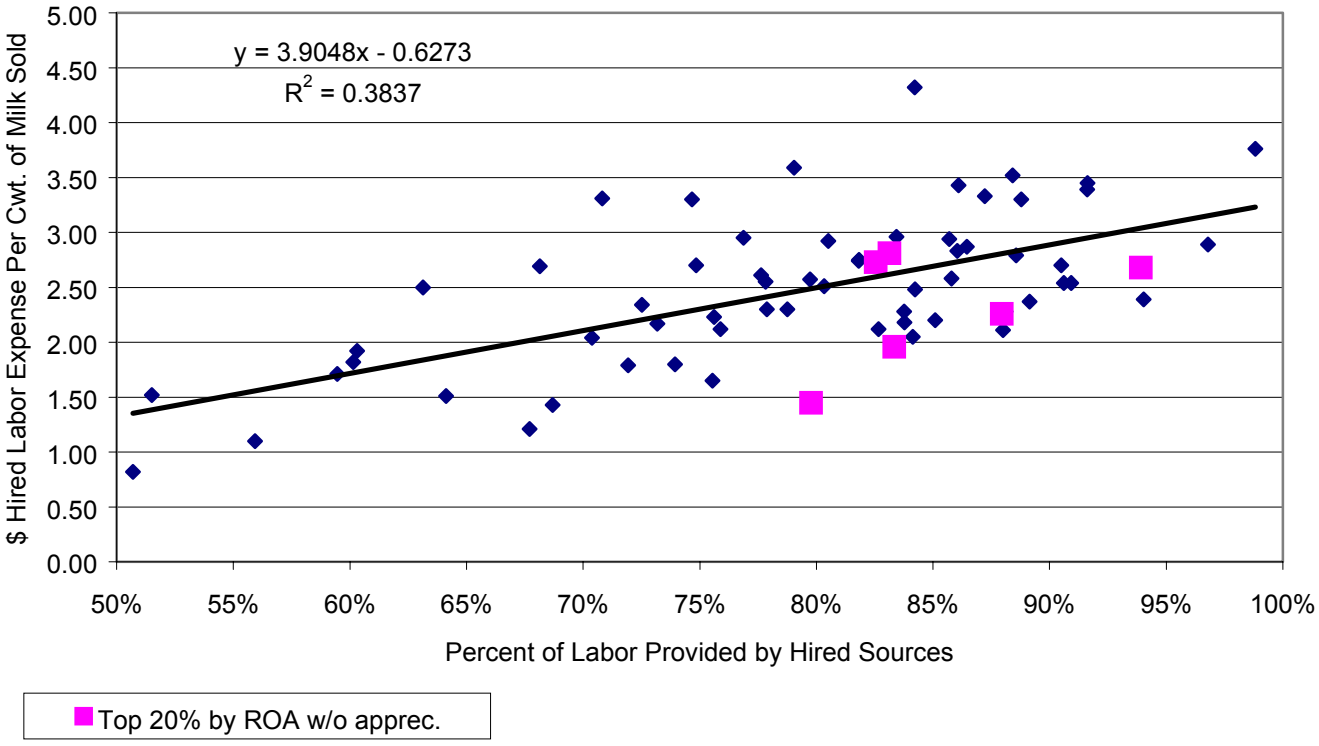
Labor	Average 67 Farms		Average Top 20% Farms	
Efficiency	Total	Per Worker	Total	Per Worker
Cows, average number	663	47	703	48
Milk sold, pounds	15,056,711	1,073,945	16,504,842	1,118,214
Tillable acres	1,251	89	1,340	91
Work units	6,473	462	6,907	468

	Average 67 Farms			Average Top 20% Farms		
Labor Costs	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Value of operator(s) labor ($2,000/mo.)	$ 54,400	$ 82	$0.36	$ 54,600	$ 78	$ 0.33
Family unpaid ($2,000/mo.)	3,600	5	0.02	3,800	5	0.02
Hired	394,349	595	2.62	388,242	552	2.35
Total Labor	$ 452,349	$ 682	$3.00	$ 446,642	$ 635	$ 2.71
Machinery Cost	351,926	531	2.34	351,036	499	2.13
Total Labor & Machinery	$ 804,275	$ 1,213	$5.34	$ 797,678	$ 1,135	$ 4.83
Hired labor expense per hired worker equiv.		$ 33,971			$ 31,522	
Hired labor expense as % of milk sales		16.4%			14.7%	

Labor Cost Evaluation

Labor costs have been the first or second largest expense on large dairy farms in New York the last four years. A key factor to track on these farms is hired labor expense per cwt. milk sold. The chart below shows the relationship between hired labor expenses per cwt. and percent of labor provided by hired labor sources and can be used to see how your farms' expense compares to other farms. To calculate percent of labor provided by hired sources use the worksheet below.

HIRED LABOR EXPENSE PER CWT OF MILK SOLD VERSUS PERCENT OF LABOR PROVIDED BY HIRED SOURCES
67 Large Herd Dairy Farms, 2001



Worksheet for Determining Percent of Labor From Hired Sources

Divide total hired and family paid months of labor by the total months of labor provided from all sources. These values can be found on page 11 of your farm's Dairy Farm Business Summary report.

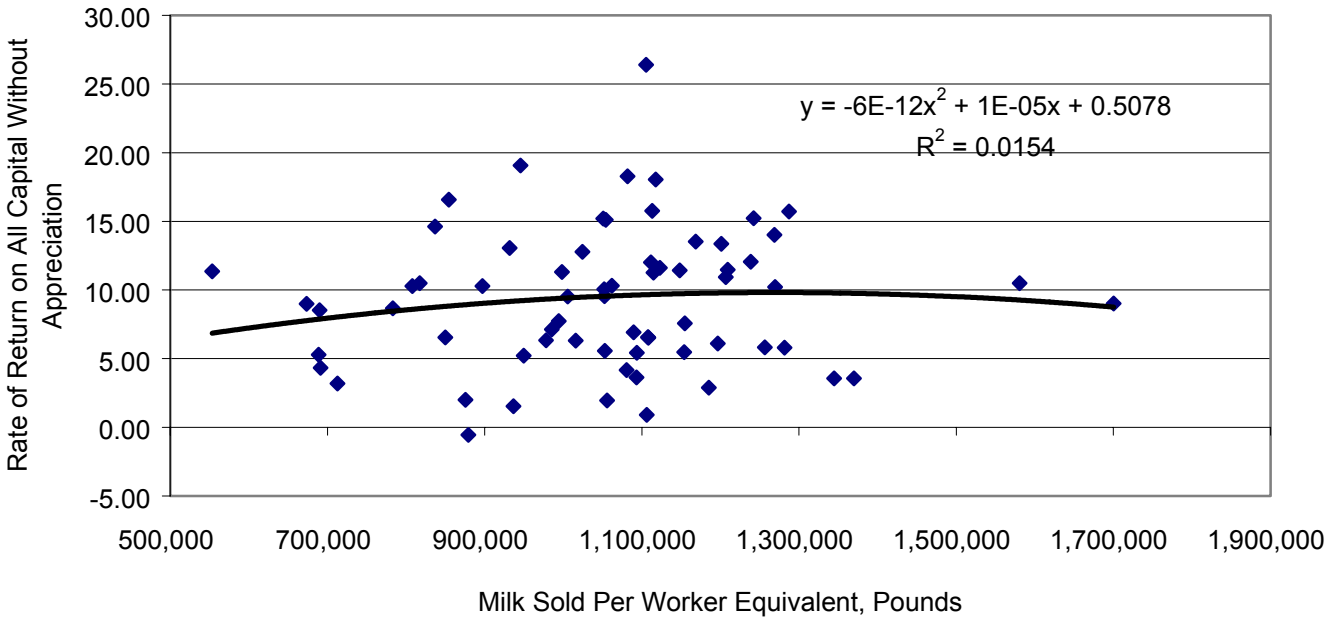
Months of hired labor		_____		
Months of family paid labor	+	_____		
Total hired labor	=		_____	
Total Labor Months	÷		_____	
Percent of labor from hired sources	x 100 =			_____%

The table below is the business chart for labor costs on a per worker and per hour basis and shows the range of costs for these farms. Hired Labor expenses are all expenses that are associated with labor, and are not just payroll. The chart below shows the relationship between labor efficiency and return on all capital without appreciation. Labor efficiency improvements are one method that is used to allow the business to reward their employees while maintaining their labor costs per cwt. of milk produced. A second area is improved cost control of day to day activities, which is one reason why some farms can generate higher than average profits while having some of the higher labor costs per cwt. of milk sold.

Hired Labor Expense Business Charts
67 Large Herd Dairy Farms, 2001

Decile	Hired Labor Expense per Cwt	Hired Labor Expense as % of Milk Sales	Hired Labor Expense per Hired Worker Equivalent	Hired Labor Expense per Hour
Average of Lowest Decile	$ 1.29	8%	$ 21,068	$ 7.63
	1.81	12	25,451	9.22
	2.11	13	27,479	9.96
	2.26	14	29,370	10.64
	2.45	15	31,214	11.31
	2.60	16	33,450	12.12
	2.75	17	35,019	12.69
	2.90	18	37,004	13.41
	3.27	20	38,850	14.08
Average of High est Decile	3.68	22	43,516	15.77

RATE OF RETURN ON ALL CAPITAL WITHOUT APPRECIATION VERSUS MILK SOLD PER WORKER EQUIVALENT
67 Large Herd Dairy Farms, 2001



CONDENSED SUMMARY & SELECTED BUSINESS FACTORS

CONDENSED FARM BUSINESS SUMMARY FOR THREE LARGE HERD GROUPS

67 Large Herd Dairy Farms, 2001

Item	20 Farms with 300-400 Cows		20 Farms with 401-599 Cows		27 Farms with ≥600 Cows	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.	Per Cow	Per Cwt.
ACCRUAL EXPENSES						
Hired labor	$489	$2.25	$533	$2.38	$644	$2.79
Dairy grain & concentrate	854	3.93	888	3.95	933	4.05
Dairy roughage	55	0.25	60	0.27	52	0.23
Nondairy feed	0	0.00	0	0.00	0	0.00
Machine hire, rent & lease	134	0.62	92	0.41	102	0.44
Machine repairs & farm vehicle expense	179	0.82	156	0.69	147	0.64
Fuel, oil & grease	73	0.34	69	0.31	60	0.26
Replacement livestock	87	0.40	34	0.15	34	0.15
Breeding	44	0.20	43	0.19	43	0.19
Veterinary & medicine	116	0.53	140	0.63	130	0.56
Milk marketing	129	0.60	146	0.65	128	0.55
Bedding	42	0.19	50	0.22	61	0.26
Milking supplies	59	0.27	53	0.23	72	0.31
Cattle lease & rent	4	0.02	0	0.00	15	0.06
Custom boarding	60	0.28	63	0.28	90	0.39
bST expense	53	0.25	56	0.25	76	0.33
Other livestock expense	44	0.20	26	0.12	22	0.09
Fertilizer & lime	65	0.30	62	0.27	70	0.30
Seeds & plants	41	0.19	42	0.19	44	0.19
Spray & other crop expense	51	0.23	55	0.24	61	0.26
Land, building & fence repair	62	0.29	59	0.26	51	0.22
Taxes & rent	113	0.52	91	0.40	99	0.43
Utilities	79	0.36	67	0.30	64	0.28
Interest paid	188	0.87	187	0.83	193	0.84
Misc. (including insurance)	73	0.34	65	0.29	64	0.28
Total Operating Expenses	$3,094	$14.25	$3,036	$13.53	$3,254	$14.13
Expansion livestock	94	0.43	58	0.26	98	0.43
Machinery depreciation	168	0.78	153	0.68	151	0.66
Building depreciation	118	0.55	126	0.56	141	0.61
Total Accrual Expenses	$3,474	$16.01	$3,373	$15.03	$3,644	$15.83
ACCRUAL RECEIPTS						
Milk sales	$3,497	$16.10	$3,555	$15.83	$3,676	$15.96
Dairy cattle	257	1.18	245	1.09	276	1.20
Dairy calves	50	0.23	35	0.16	43	0.19
Other livestock	25	0.12	5	0.02	4	0.02
Crops	27	0.13	72	0.32	35	0.15
Miscellaneous receipts	115	0.53	88	0.39	119	0.51
Total Accrual Receipts	$3,971	$18.29	$4,000	$17.82	$4,154	$18.03
PROFITABILITY ANALYSIS (Total)						
Net farm income (without appreciation)	$174,650		$312,424		$516,438	
Net farm income (with appreciation)	$311,211		457,504		$897,801	
Labor & management income	$110,734		223,391		$347,990	
Number of operators	1.75		2.22		2.53	
Labor & management income/operator	$63,277		$100,627		$137,545	
Rates of return on: Equity capital w/o apprec.	8.7%		13.7%		11.7%	
Equity capital w/ apprec.	20.1%		22.2%		23.3%	
All capital w/o apprec.	7.8%		10.7%		9.1%	
All capital w/ apprec.	14.1%		15.5%		15.0%	

SELECTED BUSINESS FACTORS FOR THREE LARGE HERD GROUPS

67 Large Herd Dairy Farms, 2001

Item	20 Farms with 300-400 Cows	20 Farms with 401-599 Cows	27 Farms with ≥ 600 Cows
Cropping Program Analysis			
Total Tillable acres	708	1,000	1,840
Tillable acres rented[22]	362	542	862
Hay crop acres[22]	341	450	793
Corn silage acres[22]	248	414	792
Hay crop, tons DM/acre	3.2	3.5	3.2
Corn silage, tons/acre	17.1	17.3	16.4
Forage DM per cow, tons	7.0	7.7	6.7
Tillable acres/cow	2.0	2.0	1.8
Fertilizer & lime expense/tillable acre	$32.27	$30.80	$38.49
Machinery cost/tillable acre	$306	$261	$282
Dairy Analysis			
Number of cows	352	499	1,016
Number of heifers	248	385	777
Milk sold, lbs.	7,643,968	11,202,318	23,402,738
Milk sold/cow, lbs.	21,734	22,468	23,033
Operating cost of prod. milk/cwt.	$12.50	$11.80	$12.48
Total cost of prod. milk/cwt.	$15.52	$14.51	$15.01
Price/cwt. milk sold	$16.10	$15.83	$15.96
Purchased dairy feed/cow	$909	948	$985
Purchased dairy feed/cwt. milk	$4.18	4.22	$4.28
Purchased grain & concentrate as % of milk receipts	24%	25%	25%
Purchased feed & crop expense/cwt. milk	$4.91	$4.93	$5.03
Capital Efficiency			
Farm capital/worker	$273,144	$266,220	$315,986
Farm capital/cow	$6,216	6,093	$6,345
Real estate/cow	$2,165	2,382	$2,457
Machinery investment/cow	$1,221	1,072	$1,020
Asset turnover ratio	0.70	0.70	0.71
Labor Efficiency			
Worker equivalent	8.01	11.42	20.40
Operator/manager equivalent	1.75	2.22	2.53
Milk sold/worker, lbs.	954,303	980,939	1,147,193
Cows/worker	44	44	50
Labor cost/cow	$628	$649	$707
Financial Measures			
Percent equity	56%	58%	53%
Debt/asset ratio - long term	0.49	0.43	0.47
Debt/asset ratio - intermediate & current	0.41	0.42	0.47
Change in net worth with appreciation	$209,959	$326,585	$635,891
Total farm debt per cow	$2,758	$2,668	$3,045
Debt payments made per cow	$618	$735	$533
Debt payments as % of milk sales	18%	21%	15%
Amount available for debt service	$216,134	$326,307	$678,639
Debt coverage ratio for 2001	1.69	1.64	1.74

[22]Average of all farms, not only those reporting data.

INCOME AND EXPENSE PROFILES BY HERD SIZE

Use two of the following six tables to make an income and expense profile for your dairy farm business. The first two tables represent farms with 300 to 400 cows. The second two tables are of farms with 401-599 cows. The third set of tables are of farms with 600 or more cows. The figures in the quintile columns represent the average of the top 20 percent to the bottom 20 percent for each receipt and expenditure category. Each line is computed independently. The farms that comprise the top 20 percent in milk sales do not necessarily make up the top 20 percent of any other category. On each line circle the income and cost measures closest to the one for your farm. Then draw a vertical line connecting your circles on each table. The strongest profile will be a relatively straight line on the left side of the table.

RECEIPTS AND EXPENSES PER COW

20 Large Herd Dairy Farms with 300 – 400 Cows, 2001

	QUINTILE				
Item	1	2	3	4	5
Accrual Operating Receipts					
Milk	$3,878	$3,718	$3,587	$3,428	$2,931
Dairy cattle	548	262	229	154	95
Dairy calves	108	54	44	31	14
Other livestock	119	1	0	0	-3
Crops	155	73	17	-18	-88
Misc. receipts	235	136	95	76	34
Total Operating Receipts	$4,545	$4,155	$3,991	$3,865	$3,358
Accrual Operating Expenses					
Hired labor	$250	$392	$491	$579	$710
Dairy grain & concentrate	554	804	879	966	1,085
Dairy roughage	0	0	2	31	248
Nondairy feed	0	0	0	0	0
Mach. hire/rent/lease	22	70	121	180	290
Mach. repair & farm veh. exp.	98	128	158	225	286
Fuel, oil & grease	41	56	67	86	117
Replacement livestock	0	0	6	71	364
Breeding	17	29	44	55	76
Vet & medicine	43	79	102	131	222
Milk marketing	75	112	130	142	184
Bedding	16	28	40	56	69
Milking supplies	28	43	52	70	108
Cattle lease	0	0	0	0	19
Custom boarding	0	0	3	67	229
bST expense	0	18	69	88	93
Other livestock expense	14	20	37	56	92
Fertilizer & lime	7	36	53	86	138
Seeds & plants	11	27	37	48	87
Spray/other crop expenses	3	27	48	68	107
Land, building, fence repair	13	28	51	80	136
Taxes	8	24	39	49	68
Real estate rent/lease	4	21	34	77	238
Insurance	16	19	23	34	44
Utilities	47	67	76	83	127
Interest	87	144	189	233	291
Miscellaneous	19	25	39	61	91
Total Operating Expenses	$2,296	$2,935	$3,226	$3,375	$3,657
Expansion Livestock	0	0	3	103	380
Machinery Depreciation	72	122	151	212	290
Building Depreciation	26	71	101	155	241
Net Farm Income w/o Apprec.	$872	$668	$525	$341	$93

RECEIPTS AND EXPENSES PER CWT. OF MILK SOLD
20 Large Herd Dairy Farms With 300 – 400 Cows, 2001

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$18.12	$16.17	$15.92	$15.64	$15.29
Dairy cattle	2.88	1.17	1.02	.72	.43
Dairy calves	.49	.25	.21	.14	.06
Other livestock	.69	.00	.00	.00	-.02
Crops	.67	.37	.08	-.08	-.44
Misc. receipts	1.07	.68	.47	.33	.16
Total Operating Receipts	$21.68	$18.66	$18.07	$17.43	$16.65
Accrual Operating Expenses					
Hired labor	$1.27	$1.81	$2.22	$2.55	$3.38
Dairy grain & concentrate	3.08	3.59	3.98	4.20	4.61
Dairy roughage	.00	.00	.01	.15	1.21
Nondairy feed	.00	.00	.00	.00	.00
Mach. hire/rent/lease	.10	.39	.57	.77	1.24
Mach. repair & farm veh. exp.	.47	.58	.72	.99	1.44
Fuel, oil & grease	.21	.25	.32	.37	.55
Replacement livestock	.00	.00	.03	.36	1.65
Breeding	.08	.16	.20	.24	.32
Vet & medicine	.23	.38	.45	.57	.97
Milk marketing	.37	.54	.58	.66	.81
Bedding	.08	.13	.19	.25	.31
Milking supplies	.14	.21	.24	.31	.48
Cattle lease	.00	.00	.00	.00	.09
Custom boarding	.00	.00	.01	.31	1.01
bST expense	.00	.07	.31	.37	.42
Other livestock expense	.06	.10	.17	.24	.41
Fertilizer & lime	.03	.16	.25	.36	.81
Seeds & plants	.06	.12	.16	.23	.42
Spray/other crop expenses	.02	.13	.21	.28	.48
Land, building, fence repair	.06	.15	.23	.36	.62
Taxes	.04	.11	.18	.23	.35
Real estate rent/lease	.02	.09	.16	.37	.99
Insurance	.07	.09	.11	.15	.24
Utilities	.23	.29	.33	.40	.57
Interest	.36	.64	.92	1.14	1.47
Miscellaneous	.08	.11	.19	.28	.49
Total Operating Expenses	$12.11	$13.90	$14.29	$14.91	$16.02
Expansion Livestock	.00	.00	.01	.47	1.83
Machinery Depreciation	.31	.55	.67	1.04	1.45
Building Depreciation	.11	.31	.45	.74	1.31
Net Farm Income w/o Apprec.	$4.46	$3.32	$2.28	$1.53	$0.42

RECEIPTS AND EXPENSES PER COW
20 Large Herd Dairy Farms With 401 – 599 Cows, 2001

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$4,298	$3,754	$3,517	$3,247	$2,924
Dairy cattle	447	244	216	200	126
Dairy calves	50	45	40	32	10
Other livestock	36	0	0	-1	-7
Crops	231	142	35	-6	-43
Misc. receipts	175	119	80	53	24
Total Operating Receipts	$4,887	$4,256	$3,955	$3,731	$3,158
Accrual Operating Expenses					
Hired labor	$313	$467	$521	$618	$766
Dairy grain & concentrate	734	831	876	930	1,047
Dairy roughage	0	0	9	55	224
Nondairy feed	0	0	0	0	2
Mach. hire/rent/lease	21	64	84	116	175
Mach. repair & farm veh. exp.	83	113	151	187	245
Fuel, oil & grease	46	57	67	74	99
Replacement livestock	0	0	0	4	168
Breeding	14	32	42	53	72
Vet & medicine	90	116	144	158	193
Milk marketing	84	114	132	152	234
Bedding	15	34	46	57	95
Milking supplies	24	42	52	60	85
Cattle lease	0	0	0	0	0
Custom boarding	0	0	6	64	251
bST expense	0	31	65	85	96
Other livestock expense	4	16	22	32	63
Fertilizer & lime	21	43	61	86	106
Seeds & plants	18	36	41	45	78
Spray/other crop expenses	8	33	51	69	114
Land, building, fence repair	16	28	39	71	144
Taxes	11	22	33	45	87
Real estate rent/lease	27	36	41	52	102
Insurance	13	19	24	30	45
Utilities	40	55	64	74	99
Interest	94	143	187	227	271
Miscellaneous	11	28	36	48	63
Total Operating Expenses	$2,553	$2,841	$2,948	$3,159	$3,644
Expansion Livestock	0	0	1	39	258
Machinery Depreciation	84	116	157	187	216
Building Depreciation	52	93	125	148	209
Net Farm Income w/o Apprec.	$1,202	$778	$647	$487	$48

RECEIPTS AND EXPENSES PER CWT. OF MILK SOLD
20 Large Herd Dairy Farms With 401 – 599 Cows, 2001

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$17.60	$15.88	$15.64	$15.41	$14.90
Dairy cattle	2.08	1.16	.97	.85	.53
Dairy calves	.23	.19	.18	.15	.05
Other livestock	.17	.00	.00	-.01	-.03
Crops	.96	.57	.16	-.03	-.24
Misc. receipts	.84	.52	.36	.23	.11
Total Operating Receipts	$20.15	$18.39	$17.80	$16.89	$16.16
Accrual Operating Expenses					
Hired labor	$1.48	$2.11	$2.44	$2.72	$3.25
Dairy grain & concentrate	3.49	3.76	3.91	4.07	4.66
Dairy roughage	.00	.00	.04	.23	.95
Nondairy feed	.00	.00	.00	.00	.01
Mach. hire/rent/lease	.09	.30	.39	.54	.78
Mach. repair & farm veh. exp.	.40	.55	.66	.82	1.01
Fuel, oil & grease	.22	.25	.31	.33	.45
Replacement livestock	.00	.00	.00	.02	.77
Breeding	.06	.15	.19	.24	.32
Vet & medicine	.42	.57	.61	.71	.85
Milk marketing	.40	.54	.62	.66	.98
Bedding	.08	.16	.20	.26	.40
Milking supplies	.11	.20	.22	.28	.39
Cattle lease	.00	.00	.00	.00	.00
Custom boarding	.00	.00	.03	.29	1.19
bST expense	.00	.15	.29	.36	.43
Other livestock expense	.02	.07	.10	.16	.27
Fertilizer & lime	.10	.20	.29	.37	.49
Seeds & plants	.08	.16	.18	.22	.34
Spray/other crop expenses	.04	.14	.24	.32	.50
Land, building, fence repair	.07	.13	.18	.33	.59
Taxes	.05	.09	.14	.23	.40
Real estate rent/lease	.12	.16	.19	.24	.46
Insurance	.06	.08	.12	.14	.20
Utilities	.19	.26	.29	.33	.42
Interest	.37	.62	.81	1.13	1.39
Miscellaneous	.05	.13	.17	.21	.26
Total Operating Expenses	$11.63	$13.34	$13.97	$14.19	$14.99
Expansion Livestock	.00	.00	.00	.17	1.16
Machinery Depreciation	.38	.52	.66	.85	1.04
Building Depreciation	.21	.44	.58	.70	.91
Net Farm Income w/o Apprec.	$4.83	$3.48	$2.86	$2.25	$0.25

RECEIPTS AND EXPENSES PER COW
27 Large Herd Dairy Farms With 600 or More Cows, 2001

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$4,111	$3,863	$3,641	$3,565	$3,323
Dairy cattle	544	349	277	206	74
Dairy calves	67	50	47	42	30
Other livestock	20	3	1	0	-1
Crops	192	92	31	-33	-145
Misc. receipts	232	155	105	82	49
Total Operating Receipts	$4,673	$4,400	$4,201	$3,986	$3,625
Accrual Operating Expenses					
Hired labor	$452	$569	$641	$700	$827
Dairy grain & concentrate	803	890	942	996	1,134
Dairy roughage	1	18	42	76	140
Nondairy feed	0	0	0	0	0
Mach. hire/rent/lease	17	53	82	124	266
Mach. repair & farm veh. exp.	83	116	153	186	242
Fuel, oil & grease	37	53	64	70	91
Replacement livestock	0	0	0	9	174
Breeding	23	37	43	52	81
Vet & medicine	95	117	128	141	167
Milk marketing	92	121	133	141	188
Bedding	26	48	57	75	104
Milking supplies	41	54	70	83	117
Cattle lease	0	0	0	5	65
Custom boarding	0	0	18	59	230
bST expense	41	77	85	91	97
Other livestock expense	5	17	24	31	50
Fertilizer & lime	13	50	66	96	139
Seeds & plants	17	37	46	52	84
Spray/other crop expenses	15	51	70	81	108
Land, building, fence repair	11	26	43	71	127
Taxes	18	27	34	46	61
Real estate rent/lease	16	38	63	84	128
Insurance	17	21	24	28	47
Utilities	36	54	64	79	98
Interest	90	167	199	249	317
Miscellaneous	12	24	33	47	87
Total Operating Expenses	$2,873	$3,128	$3,296	$3,382	$3,631
Expansion Livestock	0	3	74	181	320
Machinery Depreciation	70	133	161	192	239
Building Depreciation	63	103	146	179	241
Net Farm Income w/o Apprec.	$968	$643	$541	$356	$117

RECEIPTS AND EXPENSES PER CWT. OF MILK SOLD
27 Large Herd Dairy Farms With 600 or More Cows, 2001

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$16.66	$16.26	$16.05	$15.73	$15.04
Dairy cattle	2.38	1.59	1.15	.87	.33
Dairy calves	.29	.21	.20	.18	.13
Other livestock	.09	.01	.00	.00	.00
Crops	.87	.39	.13	-.14	-.63
Misc. receipts	1.02	.66	.47	.35	.21
Total Operating Receipts	$19.60	$18.78	$18.10	$17.57	$16.12
Accrual Operating Expenses					
Hired labor	$2.04	$2.46	$2.75	$3.00	$3.47
Dairy grain & concentrate	3.59	3.88	4.05	4.33	4.70
Dairy roughage	.01	.08	.18	.34	.59
Nondairy feed	.00	.00	.00	.00	.00
Mach. hire/rent/lease	.07	.23	.35	.56	1.22
Mach. repair & farm veh. exp.	.38	.51	.63	.80	1.03
Fuel, oil & grease	.16	.23	.28	.30	.38
Replacement livestock	.00	.00	.00	.04	.75
Breeding	.10	.16	.19	.23	.34
Vet & medicine	.42	.50	.55	.64	.71
Milk marketing	.39	.54	.58	.62	.78
Bedding	.11	.21	.26	.33	.44
Milking supplies	.18	.24	.29	.36	.50
Cattle lease	.00	.00	.00	.02	.28
Custom boarding	.00	.00	.08	.26	1.03
bST expense	.18	.32	.36	.38	.42
Other livestock expense	.02	.07	.10	.14	.21
Fertilizer & lime	.05	.22	.30	.40	.61
Seeds & plants	.07	.16	.20	.23	.35
Spray/other crop expenses	.06	.22	.30	.35	.49
Land, building, fence repair	.04	.11	.18	.31	.58
Taxes	.08	.12	.15	.20	.27
Real estate rent/lease	.07	.16	.26	.36	.59
Insurance	.07	.09	.10	.13	.22
Utilities	.16	.24	.27	.33	.43
Interest	.41	.70	.87	1.07	1.38
Miscellaneous	.06	.10	.14	.21	.37
Total Operating Expenses	$12.47	$13.63	$14.41	$14.75	$15.31
Expansion Livestock	.00	.01	.32	.81	1.37
Machinery Depreciation	.31	.55	.69	.84	1.04
Building Depreciation	.28	.47	.62	.77	1.01
Net Farm Income w/o Apprec.	$4.02	$2.83	$2.42	$1.52	$0.51

FARM BUSINESS CHART

The Farm Business chart is a tool which can be used in analyzing your business. Compare your business by drawing a line through or near the figure in each column which represents your current level of performance. The ten figures in each column represent the average of each 10 percent or decile of farms included in this summary. 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 10 percent for any other factor. Use this information to identify business areas where more challenging goals are needed.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS

67 Large Herd Dairy Farms, 2001

Size of Business			Rates of Production			Labor Efficiency	
Worker Equivalent	Number of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(11)[23]	(11)	(11)	(10)	(9)	(9)	(11)	(11)
31.7	1,710	39,350,324	26,320	6.0	22	69	1,427,398
22.1	1,076	24,363,043	24,815	4.5	19	57	1,247,292
17.6	808	18,881,814	24,299	4.0	18	54	1,185,411
14.6	660	15,605,295	23,879	3.8	18	51	1,125,973
12.9	588	13,741,854	23,095	3.4	17	48	1,100,677
12.0	518	11,819,119	22,640	3.2	17	45	1,062,868
10.6	440	9,852,289	22,096	3.0	16	44	1,020,280
9.4	394	8,489,732	21,441	2.7	16	41	946,214
7.4	353	7,517,139	20,740	2.1	14	38	845,907
6.0	316	6,292,938	16,953	1.6	12	32	684,644

Cost Control

Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(10)	(10)	(11)	(11)	(10)	(10)
$609	19%	$346	$863	$812	$4.09
793	22	437	1,030	989	4.60
834	23	463	1,109	1,029	4.74
867	24	510	1,157	1,065	4.83
889	25	564	1,199	1,115	4.91
922	26	588	1,255	1,152	5.02
959	26	614	1,309	1,195	5.18
998	27	634	1,364	1,251	5.32
1,066	29	678	1,421	1,305	5.54
1,139	31	748	1,577	1,390	5.87

[23] ( ) = page number of the participant's DFBS where factor is located.
CALC=Need to calculate for each farm; refer to the Glossary for definition.

Cost Control (con't)

Hired Labor Expense			Expenses Per Cwt.		
Per Cwt.	Per Hired Worker Equiv.	As % of Milk Sales	Milk Marketing	Veterinary & Medicine	Other Livestock
(11)	(11)	(11)	(10)	(10)	(10)
$1.29	$21,068	8%	$0.33	$0.27	$0.01
1.81	25,451	12	0.45	0.40	0.05
2.11	27,479	13	0.52	0.46	0.07
2.26	29,370	14	0.56	0.50	0.08
2.45	31,214	15	0.58	0.54	0.10
2.60	33,450	16	0.60	0.58	0.13
2.75	35,019	17	0.63	0.63	0.16
2.90	37,004	18	0.67	0.67	0.20
3.27	38,850	20	0.72	0.75	0.26
3.68	43,516	22	1.02	0.97	0.37

Machinery & Crop Expense		Operating Cost		Total Cost	
Per Tillable Acre	Per Ton Dry Matter	Per Cow	Per Cwt.	Per Cow	Per Cwt.
(CALC)	(CALC)	(10)	(10)	(10)	(10)
$205	$23	$2,005	$9.77	$2,683	$12.85
286	72	2,351	10.86	2,974	13.75
322	79	2,489	11.26	3,177	14.18
335	86	2,635	11.70	3,280	14.58
358	95	2,777	12.23	3,371	14.93
383	102	2,883	12.68	3,456	15.19
402	108	3,014	13.01	3,591	15.84
427	117	3,096	13.52	3,688	16.11
470	128	3,173	13.93	3,830	16.56
927	266	3,385	14.62	3,999	17.78

bST Expense Per Cow	bST Expense Per Cwt.	Percent Herd On bST	Culling Rate	Expense Ratios		
				Operating	Depreciation	Interest
(10)	(10)	(CALC)	(10)	(11)	(11)	(11)
$13	$0.06	10%	14	62%	3%	2%
40	0.18	29	25	68	4	2
60	0.27	44	28	70	5	3
73	0.31	54	30	73	6	4
81	0.34	59	31	75	7	5
85	0.36	62	32	76	8	5
88	0.38	65	35	78	9	6
92	0.39	67	36	81	10	7
94	0.41	69	37	83	10	8
100	0.44	73	41	88	12	8

Income Generation

Milk Receipts Per Cwt.	Net Milk Receipts Per Cwt.	Milk Receipts Per Cow	Dairy Cattle Sales Per Cow	Dairy Calf Sales Per Cow
(10)	(10)	(10)	(10)	(10)
$18.32	$17.70	$4,263	$648	$101
16.64	16.06	4,044	430	56
16.31	15.68	3,853	332	50
16.11	15.51	3,736	276	49
15.97	15.34	3,614	244	46
15.81	15.21	3,566	227	43
15.65	15.08	3,519	208	38
15.54	14.96	3,403	174	34
15.29	14.74	3,274	128	26
14.79	14.17	2,826	50	10

Debt Management

Farm Debt Per Cow		Cost of	Planned Debt Payments	
Total	Intermediate & Long Term	Borrowed Capital	Per Cow	Per Cwt.
(5)	(5)	(5)	(8)	(8)
$1,132	$752	3.4%	$155	$0.66
1,770	1,358	4.2	342	1.49
2,208	1,580	4.5	417	1.92
2,551	1,880	4.9	480	2.14
2,841	2,161	5.2	511	2.28
3,257	2,382	5.5	544	2.49
3,438	2,670	5.8	580	2.63
3,602	2,849	6.2	608	2.75
3,955	3,070	6.7	659	2.99
4,382	3,660	7.7	822	3.92

Cash Flow Analysis

Amount Available for Family Living, Debt Service & Investment		Personal Withdrawals & Family Expenditures		Cash Flow Coverage
Per Cow	Per Cwt.	Per Cow	Per Cwt.	Ratio
(Optional Page 12)		(CALC)	(CALC)	(8)
$1,355	$6.45	$407	$1.85	14.79
1,049	4.85	280	1.26	2.12
1,004	4.42	247	1.09	1.87
938	4.12	210	0.93	1.63
848	3.89	165	0.76	1.41
788	3.59	147	0.64	1.29
757	3.29	130	0.57	1.18
689	2.93	113	0.48	1.02
595	2.53	90	0.43	0.78
439	2.04	52	0.22	0.51

Capital Efficiency

Farm Capital Per Cow	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Labor Cost Per Worker Equivalent	Asset Turnover Ratio
(11)	(11)	(11)	(CALC)	(11)
$3,761	$720	$483	$22,100	1.17
4,831	1,499	742	25,130	0.92
5,545	1,822	840	26,528	0.83
6,011	2,106	943	28,086	0.79
6,219	2,276	1,042	29,570	0.73
6,484	2,427	1,156	31,719	0.68
6,823	2,657	1,321	33,272	0.65
7,313	2,924	1,436	34,566	0.61
7,804	3,335	1,594	36,050	0.55
9,196	4,428	1,941	40,973	0.50

Solvency

Percent Equity	Leverage Ratio	Debt to Asset Ratios		
		Total	Current/Intermediate	Long Term
(5)	(5)	(5)	(5)	(5)
83%	-0.74	0.18	0.14	0.00
72	0.39	0.29	0.24	0.11
69	0.49	0.34	0.31	0.25
61	0.69	0.41	0.40	0.33
57	0.80	0.45	0.42	0.39
52	0.97	0.50	0.49	0.48
48	1.12	0.54	0.54	0.59
44	1.31	0.57	0.59	0.73
39	1.56	0.62	0.67	0.85
21	3.31	0.81	0.92	1.11

Profitability

Labor and Mgmt. Income Per Operator	Rate Return to Equity Capital		Rate Return to All Capital	
	Without Appreciation	With Appreciation	Without Appreciation	With Appreciation
(3)	(3)	(3)	(3)	(3)
$570,253	32.2%	58.5%	19.0%	28.0%
285,564	24.3	36.4	15.0	22.0
208,088	20.0	32.1	12.8	19.3
159,542	17.3	28.5	11.3	17.3
128,959	12.9	25.3	10.3	15.9
92,391	10.5	20.9	8.9	13.7
60,437	7.4	17.1	6.8	12.1
37,680	4.8	13.3	5.8	10.2
12,606	1.5	10.8	4.3	8.5
-79,706	-10.3	3.1	1.7	5.3

Profitability, Continued

Net Farm Income Without Appreciation		Net Farm Income From Operations Ratio	Net Income Efficiency Ratio
Per Cow	Per Cwt.		
(10)	(10)	(3)	(CALC)
$1,207	$5.07	27%	24%
862	4.04	21	19
760	3.41	19	14
672	3.02	17	12
606	2.74	15	10
543	2.42	13	9
443	1.95	11	8
315	1.37	8	7
166	0.78	5	5
9	0.03	0	3

IDENTIFY AND SET GOALS

If businesses are to be successful, they must have direction. Written goals help provide businesses with an identifiable direction over both the long and short term. Goal setting is as important on a dairy farm as it is in other businesses. Written goals are a tool which farm operators can use to ensure that the business continues to move in the proper direction. Goals should be SMART:

1. Goals should be **S**pecific.

2. Goals should be **M**easurable.

3. Goals should be **A**chievable but challenging.

4. Goals should be **R**ewarding.

5. Goals should designate a **T**ime when each goal will be achieved.

Goal setting on a dairy farm does not have to be a complex process. In many cases it provides a process for writing down and agreeing on goals that you have already given some thought to. It is also important to remember that once you write out your goals they are not cast in concrete. If a change takes place which has a major impact on the farm business, the goals should be reworked to accommodate that change. Refer to your goals as often as necessary to keep the farm business progressing.

It is important to identify both objectives (long-range) and goals (short-range) when looking at the future of your farm business.

A suggested format for writing out your goals is as follows:

a. Begin with a mission statement which describes why the business exists based on the preferences and values of the owners.

b. Identify 4-6 objectives.

c. Identify SMART goals.

Worksheet for Setting Goals

I. Mission and Objectives

_____

_____

_____

_____

_____

_____

_____

_____

Worksheet for Setting Goals (Continued)

II. Goals

What	How	When	Who is Responsible

Summarize Your Business Performance

The Farm Business Charts on pages 43-46 can be used to help identify strengths and weaknesses of your farm business. Identify three major strengths and three areas of your farm business that need improvement.

Strengths:

Needs improvement:

GLOSSARY AND LOCATION OF COMMON TERMS

Some of the following definitions include formulas for calculating the factor being described. Page references to the individual Dairy Farm Business Summary are provided in parentheses for ease of calculation for your farm.

Accounts Payable - Open accounts or bills owed to feed and supply firms, cattle dealers, veterinarians and other providers of farm services and supplies.

Accounts Receivable - Outstanding receipts from items sold or sales proceeds not yet received, such as the payment for December milk sales received in January.

Accrual Expenses - (defined on page 13).

Accrual Receipts - (defined on page 13).

Annual Cash Flow Statement - (defined on page 21).

Appreciation - (defined on page 14).

Asset Turnover Ratio - The ratio of total farm income to total farm assets, calculated by dividing total accrual operating receipts plus appreciation by average total farm assets.

Balance Sheet - A "snapshot" of the business financial position at a given point in time, usually December 31. The balance sheet equates the value of assets to liabilities plus net worth.

Capital Efficiency - The amount of capital invested per production unit. Relatively high investments per worker with low to moderate investments per cow imply efficient use of capital.

Cash From Nonfarm Capital Used in the Business - Transfers of money from nonfarm savings or investments to the farm business where it is used to pay operating expenses, make debt payments and/or capital purchases.

Cash Flow Coverage Ratio - (defined on page 23).

Cash Paid - (defined on page 11).

Cash Receipts - (defined on page 13).

Change in Accounts Payable - (defined on page 11).

Change in Accounts Receivable - (defined on page 11).

Change in Inventory - (defined on page 11).

Cost of Borrowed Capital - A weighted average of the cost of borrowed capital to the farm. Calculate by multiplying end of year principal of each loan that is borrowed by the interest rate for each loan at that time. Add up each amount that is calculated for each loan and then divide by total amount of borrowed funds. Do not include accounts payable. This information is found on pages 8 & 9 of the data entry form.

Cows per Worker Equivalent for the Dairy Enterprise - Determined by dividing the average number of milking and dry cows by the number of worker equivalents in the dairy enterprise.

Culling Rate – Culling rate is calculated by dividing the number of animals that left the herd for culling purposes and that died by the average number of milking and dry cows for the year.

Current Portion - (defined on page 16).

Dairy (farm) - A farm business where dairy farming is the primary enterprise, operating and managing this farm is a full-time occupation for one or more people and cropland is owned.

Debt Coverage Ratio – (defined on page 23).

Debt Per Cow - Total end-of-year debt divided by end-of-year number of cows.

Debt to Asset Ratios - (defined on page 19).

Deferred Taxes - (defined on page 18).

Depreciation Expense Ratio - The percentage of Total Accrual Receipts that is charged to depreciation expense. Machinery Depreciation (DFBS p. 2) plus Building Depreciation (p. 2) divided by Total Accrual Receipts (p. 3) times 100.

Dry Matter - The amount or proportion of dry material that remains after all water is removed. Commonly used to measure dry matter percent and tons of dry matter in feed.

Equity Capital - The farm operator/manager's owned capital or farm net worth.

Expansion Livestock - Purchased dairy cattle and other livestock that cause an increase in herd size from the beginning to the end of the year.

Farm Debt Payments as Percent of Milk Sales - Amount of milk income committed to debt repayment, calculated by dividing planned debt payments by total milk receipts. A reliable measure of repayment ability, see page 18.

Farm Debt Payments Per Cow - Planned or scheduled debt payments per cow represent the repayment plan scheduled at the beginning of the year divided by the average number of cows for the year. This measure of repayment ability is used in the Financial Analysis Chart.

Financial Lease - A long-term non-cancellable contract giving the leassee use of an asset in exchange for a series of lease payments. The term of a financial lease usually covers a major portion of the economic life of the asset. The lease is a substitute for purchase. The lessor retains ownership of the asset.

Hired Labor Expense per Hired Worker Equivalent - The total cost to the farm per hired worker equivalent. Divide accrual hired labor expense (p. 2) by number of hired plus family paid worker equivalents (p. 11).

Hired Labor Expense as % of Milk Sales - The percentage of the gross milk receipts that is used for labor expense. Divide accrual hired labor expense (p. 2) by accrual milk sales (p. 3).

Income Statement - A complete and accurate account of farm business receipts and expenses used to measure profitability over a period of time such as one year or one month.

Interest Expense Ratio - The percentage of Total Accrual Receipts that is used for interest expense. Total Accrual Interest (p. 2) divided by Total Accrual Receipts (p. 3) times 100.

Labor and Management Income - (defined on page 15).

Labor and Management Income Per Operator - The return to the owner/manager's labor and management per full-time operator.

Labor Efficiency - Production capacity and output per worker.

Leverage Ratio - Dollars of debt per dollar of equity, computed by dividing total liabilities by total equity.

Liquidity - Ability of business to generate cash to make debt payments or to convert assets to cash.

Machinery & Crop Expenses per Tillable Acre - A measure of the cost to produce crops on a tillable acre basis. Add total crop expenses (p. 2) and total machinery expenses (p. 9), then divide by number of tillable acres, owned & rented (p. 9).

Machinery & Crop Expense per Ton Dry Matter - A measure of the cost per ton of DM to produce a crop. It is not a measure of total costs to produce feed. Add total crop expenses (p. 2) and total machinery expenses (p. 9), then divide by total forage, production, tons DM (p. 9).

Milk Sold per Worker Equivalent for the Dairy Enterprise – Determined by dividing the total amount of milk produced in the year by the number of worker equivalents in the dairy enterprise

Net Farm Income - (defined on page 14).

Net Farm Income from Operations Ratio - The percentage of each gross dollar that is generated that is net farm income. Net Farm Income without Appreciation (p. 3) divided by Total Accrual Receipts (p. 3) times 100.

Net Farm Income without Appreciation per Cwt. - The amount of net farm income, without appreciation, per cwt., that the farm generated. Divide net farm income without appreciation (p. 3) by number of cwt. of milk sold, which is total milk sold (p. 10) divided by 100.

Net Farm Income without Appreciation per Cow - The amount of net farm income, without appreciation, per cow that the farm generated. Divide net farm income without appreciation (p. 3) by average number of cows for the year (p. 10).

Net Income Efficiency Ratio - A measure of how efficiently the business is in generating net income, taking into account the differences in number of operators, debt levels, and amount of unpaid family labor being used on a farm. Net farm income without appreciation minus unpaid family labor charge (p. 3), plus Accrual Interest Paid (p. 2), divided by number of operators (p. 3), divided by Total Accrual Receipts (p. 3) times 100.

Net Milk Receipts per Cwt. - The mail box price received by farmers before any farmer authorized assignments or deductions. Accrual Receipts from milk, per cwt. (p. 10) minus accrual milk marketing expense per cwt. (p. 10).

Net Worth - The value of assets less liabilities equal net worth. It is the equity the owner has in owned assets.

Operating Costs of Producing Milk - (defined on page 30).

Operating Expense Ratio - The percentage of Total Accrual Receipts that is used for operating expenses, excluding interest & depreciation. Total Accrual Expenses (p. 2) minus Machinery Depreciation (p. 2), minus Building Depreciation (p. 2), minus Accrual Interest Expense (p. 2), divided by Total Accrual Receipts (p. 3) times 100.

Opportunity Costs - The cost or charge made for using a resource based on its value in its most likely alternative use. The opportunity cost of a farmer's labor and management is the value he/she would receive if employed in his/her most qualified alternative position.

Other Livestock Expenses - All other dairy herd and livestock expenses not included in more specific categories. Other livestock expenses include; bedding, DHIC, milk house and parlor supplies, livestock board, registration fees and transfers.

Percent Herd on bST – Calculated by taking the accrual bST expense for the year and dividing by an average price of $5.25 per dose, then dividing by 26, then dividing by the average number of milking and dry cows in the herd.

Personal Withdrawals and Family Expenditures Including Nonfarm Debt Payments - All the money removed from the farm business for personal or nonfarm use including family living expenses, health and life insurance, income taxes, nonfarm debt payments, and investments.

Personal Withdrawals & Family Expenditures per Cwt. - The amount of money on a per cwt. basis that the family uses for family living and personal expenses. This is the total amount, per cwt., used by the family, including farm and nonfarm income. Personal withdrawals/family expense, including nonfarm debt payments (p. 7) divided by pounds milk sold (p. 10) divided by 100.

Personal Withdrawals & Family Expenditures per Cow - The amount of money on a per cow basis that the family used for family living and personal expenses. This is the total amount, per cow, used by the family, including farm and nonfarm income. Personal withdrawals/family expense, including nonfarm debt payments (p. 7) divided by average number of cows (p. 10).

Pounds of Milk Harvested per Hour of Milking Labor – Calculated by dividing the total pounds milk produced by the total number of labor hours used to operate the milking center for 1 year. The total number of labor hours is estimated by multiplying the number of hours to operate the milking center for one day, which was provided by the participating dairies, by 365. Operating the milking center includes setting up, milking, and washing down the milking center, but doesn't include time spent to bring cows to and from the milking center.

Pounds of Milk Harvested per Machine Per Year – Calculated by dividing the total pounds of milk produced for the year by the number of milking machines in the milking center.

Profitability - The return or net income the owner/manager receives for using one or more of his or her resources in the farm business. True "economic profit" is what remains after deducting all the costs including the opportunity costs of the owner/manager's labor, management, and equity capital.

Purchased Inputs Cost of Producing Milk - (defined on page 30).

Repayment Analysis - an evaluation of the business' ability to make planned debt payments.

Replacement Livestock - Dairy cattle and other livestock purchased to replace those that were culled or sold from the herd during the year.

Return on Equity Capital - (defined on page 16).

Return on Total Capital - (defined on page 16).

Solvency - The extent or ability of assets to cover or pay liabilities. Debt/asset and leverage ratios are common measure of solvency.

Total Costs of Producing Milk - (defined on page 30).

Total Cows Milked Per Hour of Milking Labor Per Day – Determined by dividing the average number of milking and dry cows by the labor hours required to operate the milking center for a one day period.

Total Labor Costs per Worker Equivalent, All Labor - The average cost per worker equivalent when considering all labor (hired, paid family, family non-paid, and operators) used on the farm and total costs for this labor. Total Labor Cost (p. 11) divided by number of worker equivalents (p. 11).

Whole Farm Method - A procedure used to calculate costs of producing milk on dairy farms without using enterprise cost accounts. All non-milk receipts are assigned a cost equal to their sale value and deducted from total farm expenses to determine the costs of producing milk.

Worker Equivalents for the Dairy Enterprise – Determined by the farmer estimating how many of hours of labor are spent in the milking center and dairy complex performing all routine tasks. Labor spent in the field or in the dairy replacement enterprise is excluded. The daily labor estimate is multiplied by 365 days and then divided by 2,760 hours to get the number of worker equivalents.

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