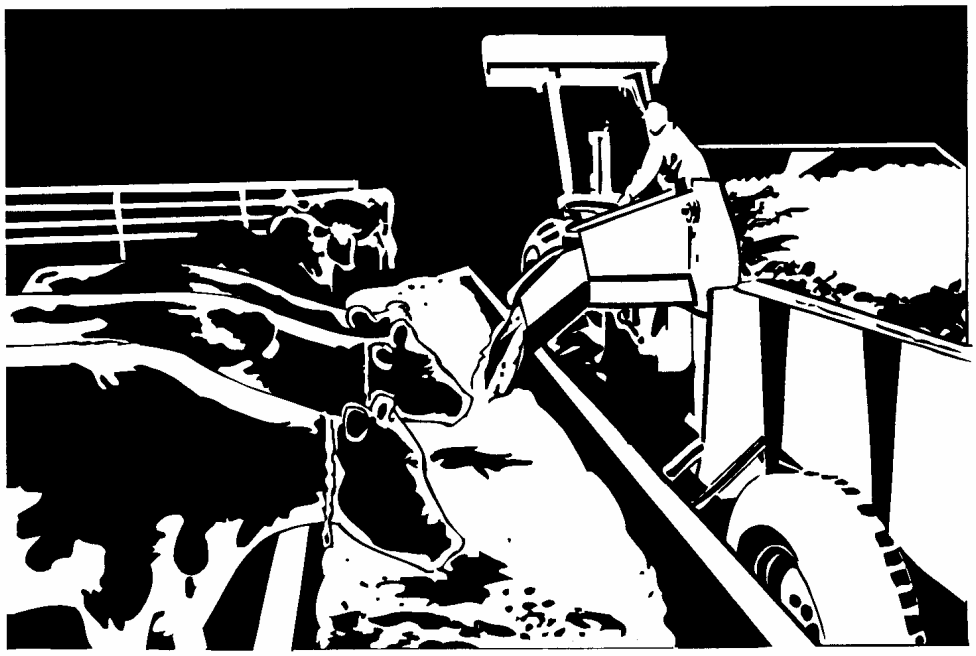
DAIRY FARM BUSINESS SUMMARY

JULY 2004

PRO-DAIRY

E.B. 2004-09

NEW YORK LARGE HERD FARMS, 300 COWS OR LARGER 2003



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2003 DAIRY FARM BUSINESS SUMMARY
LARGE HERD DAIRY FARMS
300 Cows or Larger

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2003 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. Fifty-one 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 2002 to 2003 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 55 large herd farms that participated in the 2003 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 55 large herd farms that participated in the 2003 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 percent 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 hundredweight 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. Albany, Cayuga, Chautauqua, Chenango, Clinton, Cortland, Erie, Genesee, Jefferson, Livingston, Madison, Montgomery, Niagara, Oneida, Orleans, Rensselaer, St. Lawrence, Saratoga, Washington, Wayne, Wyoming, and Yates counties had farms of this size participating in 2003. 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 2003 business year for the New York State dairy industry saw the continuation of the low milk prices that started in the summer of 2002. Milk prices didn't rebound until the second half of the year and averaged only 38 cents per cwt. higher for the year. Growing conditions also provided challenges this year, starting out with a nice early spring, and then turning extremely wet into the summer. The combination of these factors led to a year that was only marginally better than 2002, with low and negative profits and a continued decrease in farm net worth.

For both 2002 and 2003, 51 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 51 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 2.9 percent, or $0.38 per hundredweight. Milk marketing expenses increased 12 cents to $0.69 per hundredweight. These two changes led to an increase of 2.1 percent in net milk price received on farm, averaging $12.65 per hundredweight, the second lowest in the last ten years. With the challenging growing conditions in 2002 and 2003, forage quality has been a challenge on New York State dairy farms. Milk production per cow didn't change in 2003. With milk production staying the same, the increase in total milk shipped per farm of 4.3 percent was driven by the addition of 26 cows to the average herd size, which is now at 645 cows. The combination of increased herd size and level milk production coupled with the small increase in milk price lead to an increase in gross milk sales per farm of $96,572, an increase of 5.2 percent. While the early spring and high moisture levels increased corn yields to 16.7 tons per acre, the wet conditions decreased hay yields to 3.4 tons per acre.

Cost control. With the increase in herd size, worker equivalents increased by 5.0 percent. With this increase similar to the increase in herd size, labor efficiency stayed relatively unchanged, with cows per worker staying at 46 and milk sold per worker falling by 7,000 pounds. While labor efficiency didn't increase, hired labor costs actually decreased. Hired labor costs per worker equivalent decreased 6.5 percent and hired labor costs per hundredweight of milk decreased 1.2 percent, a decrease of $0.03 per hundredweight. The decrease in pay rates per worker equivalents lead to the decrease in labor costs per hundredweight.

With limited forage quality and slight increases in feed prices coupled with level milk production, purchased grain and concentrates per hundredweight increased to $4.00 per hundredweight, an increase of 5 percent.

While the majority of expense categories fell, they only fell a few cents. With purchased grain and concentrates costs increasing and milk marketing expenses increasing, total farm operating expenses increased 16 cents, or 1.2 percent. Even with low milk prices continuing through the first half of the year, costs to operate continued to increase.

Small Increase in Earnings. While the average farm added cows and showed an increase in milk prices, the increased costs offset some of the gains and profitability increased marginally over the previous year. Net farm income without appreciation increased 37.5 percent to $78,022. Net farm income with appreciation increased 31.0 percent to $196,209. The appreciation in 2003 is due primarily to the farms maintaining values for buildings and machinery, even though they are a year older.

- Labor and management income per operator/manager increased 21.5 percent to $-19,150.
- Rate of return to all capital without appreciation increased 30 percent to 1.69 percent. Rate of return on equity capital without appreciation increased 63 percent to -0.7 percent.
- Farm net worth decreased by 5.2 percent from the previous year.
- Debt to asset ratio stayed at 0.49.

Overall, 2003 was a challenging year for the 300 cow and larger farms and a continuation of the difficult times starting in 2002 and was the second year in a row that farms lost net worth. While, on average, profits did increase from 2002, the changes on individual farms varied, with some farms actually doing worse in 2003 than in 2002. The importance of trend analysis is to identify what areas changed, ask why they changed, and look at what you can do differently in the future to 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 51 Large Herd Dairy Farms, 2002 & 2003

Selected Factors	Average of 51 Farms 2002	Average of 51 Farms 2003	Percent Change
Size of Business			
Average number of cows	619	645	4.2
Average number of heifers	480	502	4.6
Milk sold, lbs.	14,298,698	14,912,192	4.3
Worker equivalent	13.38	14.05	5.0
Total tillable acres	1,186	1,222	3.0
Rates of Production			
Milk sold per cow, lbs.	23,105	23,111	0.0
Hay DM per acre, tons	3.6	3.4	-5.6
Corn silage per acre, tons	15.4	16.7	8.4
Labor Efficiency & Costs			
Cows per worker	46	46	0.0
Milk sold per worker, lbs.	1,068,662	1,061,366	-0.7
Hired labor cost per cwt.	$2.59	$2.56	-1.2
Hired labor cost per worker	$33,354	$31,195	-6.5
Hired labor cost as % of milk sales	20.0%	18.7%	-6.5
Cost Control			
Grain & concentrate purchased as % of milk sales	29%	30%	3.5
Grain & concentrate per cwt. milk	$3.81	$4.00	5.0
Dairy feed & crop expense per cwt. milk	$4.80	$4.97	3.5
Labor & machinery costs per cow	$1,181	$1,180	0.0
Total farm operating costs per cwt. sold	$13.20	$13.36	1.2
Interest costs per cwt. milk	$0.63	$0.59	-6.4
Milk marketing costs per cwt. milk sold	$0.57	$0.69	21.1
Operating cost of producing cwt. of milk	$11.12	$11.55	3.9
Capital Efficiency(average for the year)			
Farm capital per cow	$6,433	$6,394	-0.6
Machinery & equipment per cow	$1,096	$1,150	4.9
Asset turnover ratio	0.57	0.59	3.5
Income Generation			
Gross milk sales per cow	$2,995	$3,024	1.0
Gross milk sales per cwt.	$12.96	$13.34	2.9
Net milk sales per cwt.	$12.39	$12.65	2.1
Dairy cattle sales per cow	$250	$189	-24.4
Dairy calf sales per cow	$33	$47	42.4
Profitability			
Net farm income without appreciation	$56,729	$78,022	37.5
Net farm income with appreciation	$149,740	$196,209	31.0
Labor & mgt. income per operator/manager	$-24,403	$-19,150	21.5
Rate of return on equity capital w/o appreciation	-1.9%	-0.7%	63.2
Rate of return on all capital without appreciation	1.3%	1.7%	30.0
Financial Summary			
Farm net worth, end year	$2,065,480	$1,959,197	-5.2
Debt to asset ratio	0.49	0.49	0.0
Farm debt per cow	$3,153	$3,049	-3.3

RECEIPTS AND EXPENSES PER COW AND PER HUNDREDWEIGHT

Same 51 Large Herd Dairy Farms, 2002 & 2003

	2002		2003	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	619		645	
Cwt. of Milk Sold		142,987		149,122
Accrual Operating Receipts				
Milk	$2,995	$12.96	$3,024	$13.34
Dairy cattle	250	1.09	189	0.83
Dairy calves	33	0.15	47	0.23
Other livestock	7	0.03	9	0.04
Crops	58	0.25	80	0.35
Miscellaneous receipts	186	0.80	110	0.50
Total	$3,529	$15.28	$3,459	$15.29
Accrual Operating Expenses				
Hired labor	$598	$2.59	$587	$2.56
Dairy grain & concentrate	880	3.81	909	4.00
Dairy roughage	70	0.30	72	0.33
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	NA[2]	NA[2]	7	0.03
Machine hire, rent & lease	75	0.33	66	0.30
Machine repairs & vehicle expense	134	0.58	139	0.61
Fuel, oil & grease	59	0.26	75	0.33
Replacement livestock	39	0.17	36	0.17
Breeding	44	0.19	44	0.19
Veterinary & medicine	129	0.56	124	0.54
Milk marketing	132	0.57	155	0.69
Bedding	55	0.24	55	0.23
Milking supplies	69	0.30	63	0.28
Cattle lease	4	0.02	4	0.02
Custom boarding	70	0.30	63	0.27
bST expense	69	0.30	61	0.26
Livestock professional fees	NA[2]	NA[2]	6	0.03
Other livestock expense	31	0.13	24	0.11
Fertilizer & lime	58	0.25	56	0.25
Seeds & plants	49	0.21	43	0.19
Spray & other crop expense	52	0.23	41	0.17
Crop professional fees	NA[2]	NA[2]	6	0.03
Land, building & fence repair	45	0.19	37	0.16
Taxes	36	0.16	40	0.18
Real estate rent/lease	62	0.27	60	0.26
Insurance	31	0.13	30	0.13
Utilities	71	0.31	74	0.32
Interest paid	145	0.63	129	0.59
Other professional fees	NA[2]	NA[2]	13	0.05
Miscellaneous	40	0.17	19	0.08
Total Operating Expenses	$3,049	$13.20	$3,036	$13.36
Expansion livestock	54	0.23	29	0.14
Extraordinary expense	NA[2]	NA[2]	1	0.00
Machinery depreciation	167	0.72	149	0.66
Real Estate depreciation	168	0.73	131	0.59
Total Expenses	$3,437	$14.88	$3,346	$14.75
Net Farm Income without appreciation	$92	$0.40	$113	$0.54

[2] NA=not available in 2002 data. Expense was included in other categories.

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

In 2003, 25 of the 55 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 25 farms and only represents these 25 farms. See the Glossary beginning on page 48 for definitions of the factors in the table below.

On the following page selected factors for the top 20 percent 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 55 farms over 300 cows that participated in the DFBS project in 2003. 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.

Eleven farms that were in the top 20 percent in 2003 were also in the summary in 2002. The table on page 7 shows income and expenses for these farms for both 2002 and 2003. 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

25 Large Herd Farms, 2003

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	2,310	46	947,601
↓	1,813	29	726,087
	1,602	25	584,552
	1,423	22	425,588
Average of Lowest Quintile	1,046	16	254,203
Overall Average	1,639	28	587,607

Dairy Enterprise Only

Quintile	Worker Equivalents	Cows per Worker Equivalent	Pounds Sold per Worker Equivalent
Average of Highest Quintile	11.66	181	4,011,524
↓	6.96	132	2,971,225
	5.29	109	2,459,318
	4.35	94	2,122,904
Average of Lowest Quintile	2.57	77	1,729,064
Overall Average	6.17	119	2,658,807

TOP 20 PERCENT VS. AVERAGE
55 Large Herd Dairy Farms, 2003

Selected Factors	Average 2003	Top 20% 2003	Percent Difference
Size of Business			
Average number of cows	684	694	1.5
Average number of heifers	538	538	0.0
Milk sold, lbs.	15,892,733	16,052,663	1.0
Worker equivalent	14.73	14.68	-0.3
Total tillable acres	1,237	1,520	22.9
Rates of Production			
Milk sold per cow, lbs.	23,228	23,134	-0.4
Hay DM per acre, tons	3.52	3.30	-6.3
Corn silage per acre, tons	17.63	16.56	-6.1
Labor Efficiency & Costs			
Cows per worker	46	47	2.2
Milk sold/worker, lbs.	1,079,303	1,093,506	1.3
Hired labor cost/cwt.	$2.69	$2.50	-7.1
Hired labor cost/hired worker	$33,973	$30,191	-11.1
Hired labor cost as % of milk sales	20.2%	18.5%	-8.4
Cost Control			
Grain & conc. purchased as % of milk sales	30%	28%	-6.7
Grain & conc. per cwt. milk	$3.93	$3.73	-5.1
Dairy feed & crop expense per cwt. milk	$4.89	$4.63	-5.3
Labor & mach. costs/cow	$1,164	$1,112	-4.5
Total farm operating costs per cwt. sold	$13.33	$12.66	-5.0
Interest costs per cwt. milk	$0.54	$0.50	-7.4
Milk marketing costs per cwt. milk sold	$0.63	$0.69	9.5
Operating cost of producing cwt. of milk	$11.64	$10.68	-8.3
Capital Efficiency (average for the year)			
Farm capital per cow	$6,233	$6,488	4.1
Mach. & equip. per cow	$1,011	$1,104	9.2
Asset turnover ratio	0.59	0.58	-1.7
Income Generation			
Gross milk sales per cow	$3,091	$3,124	1.1
Gross milk sales per cwt.	$13.30	$13.51	1.6
Net milk sales per cwt.	$12.67	$12.81	1.1
Dairy cattle sales per cow	$207	$212	2.4
Dairy calf sales per cow	$49	$72	46.9
Profitability			
Net farm income without appreciation	$90,956	$270,125	197.0
Net farm income with appreciation	$205,794	$356,316	73.1
Labor & mgt. income per oper./manager	$-17,103	$79,240	563.3
Rate of return on equity capital w/o appreciation	-0.7%	14.4%	2,157.1
Rate of return on all capital w/o appreciation	1.6%	9.7%	506.3
Financial Summary			
Farm net worth, end of year	$2,209,465	$2,579,753	16.8
Debt to asset ratio	0.49	0.44	-10.2
Farm debt per cow	$3,093	$2,970	-4.0

RECEIPTS AND EXPENSES PER COW AND PER HUNDREDWEIGHT

Same 11 Top 20% Large Herd Dairy Farms, 2002 & 2003

	2002		2003	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	649		694	
Cwt. of Milk Sold		149,446		160,527
Accrual Operating Receipts				
Milk	$2,991	$12.99	$3,124	$13.51
Dairy cattle	254	1.10	212	0.91
Dairy calves	36	0.15	72	0.31
Other livestock	6	0.03	4	0.02
Crops	41	0.18	133	0.58
Miscellaneous receipts	175	0.76	102	0.44
Total	$3,503	$15.21	$3,647	$15.77
Accrual Operating Expenses				
Hired labor	$582	$2.53	$578	$2.50
Dairy grain & concentrate	828	3.60	862	3.73
Dairy roughage	75	0.32	49	0.21
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	NA [3]	NA [3]	21	0.09
Machine hire, rent & lease	79	0.34	69	0.30
Machine repairs & vehicle expense	150	0.65	130	0.56
Fuel, oil & grease	54	0.23	64	0.28
Replacement livestock	1	0.01	18	0.08
Breeding	32	0.14	37	0.16
Veterinary & medicine	122	0.53	118	0.51
Milk marketing	117	0.51	161	0.69
Bedding	42	0.18	45	0.19
Milking supplies	69	0.30	68	0.29
Cattle lease	1	0.01	3	0.01
Custom boarding	61	0.26	67	0.29
bST expense	67	0.29	80	0.35
Livestock professional fees	NA [3]	NA [3]	4	0.02
Other livestock expense	31	0.13	25	0.11
Fertilizer & lime	69	0.30	75	0.32
Seeds & plants	44	0.19	41	0.18
Spray & other crop expense	53	0.23	35	0.15
Crop professional fees	NA [3]	NA [3]	9	0.04
Land, building & fence repair	52	0.22	35	0.15
Taxes	39	0.17	41	0.18
Real estate rent/lease	44	0.19	44	0.19
Insurance	29	0.13	39	0.17
Utilities	63	0.27	63	0.27
Interest paid	131	0.57	117	0.50
Other professional fees	NA [3]	NA [3]	15	0.06
Miscellaneous	42	0.18	17	0.07
Total Operating Expenses	$2,877	$12.49	$2,930	$12.66
Expansion livestock	70	0.30	64	0.28
Extraordinary Expense	NA [3]	NA [3]	2	0.01
Machinery depreciation	157	0.68	143	0.62
Real Estate depreciation	154	0.67	120	0.52
Total Expenses	$3,258	$14.14	$3,259	$14.09
Net Farm Income without appreciation	245	1.07	389	1.68

[3] NA=not available in 2002 data. Expense was included in other categories.

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
25 Large Herd Dairy Farms, 2003

Animals Entering Herd	Average
Number calving in 2003 for first time	265
Animals purchased, %[4]	5.1
Animals raised by farm, %[5]	94.9
Current Heifer Inventory	
Raised on dairy, %	77
Raised by a custom grower, %	23

[4] Animals purchased are animals purchased from a different farm and were not the farm's genetics.
[5] 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, 265 animals calved for the first time in 2003. The breakdown on the source of these animals was 5.1 percent purchased and 94.9 percent raised by the farm. Of the current heifer inventory, 77 percent were raised on the dairy and 23 percent 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, 48 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 13 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[6] MILK INCOME AND MARKETING REPORT
48 Large Herd Dairy Farms, 2003

	Pounds	Percent	Price/Pound	Total	$/Cwt of Milk
BASE FARM PRICE					
Butterfat	512,724.40	3.61%	$ 1.217	$ 623,982.27	$ 4.39
Protein	422,248.00	2.97%	$ 2.336	$ 986,242.21	$ 6.95
Solids	780,244.60	5.49%	$ 0.013	$ 10,436.17	$ 0.07
Total Component Contribution					$ 11.41
PPD	14,200,443.00			$ 106,685.13	$ 0.75
Base Farm Price					$ 12.16
Premiums					
Quality				$ 27,573.48	$ 0.19
Volume				$ 43,293.96	$ 0.30
Market Premiums				$ 66,501.00	$ 0.47
Total Premiums					$ 0.96
BASE FARM PRICE + PREMIUM					$ 13.12
Deductions					
Promo				$ 22,112.19	$ 0.16
Hauling + Stop Charges.				$ 64,942.33	$ 0.46
Market Fees & Coop Dues				$ 7,766.31	$ 0.05
Total Deductions					$ 0.67
BASE FARM PRICE + PREMIUMS - DEDUCTIONS					$ 12.45
Marketing Programs					
Compact				$ 44.33	$ 0.00
Futures Contracts, Forward Contracting, Etc.				$ 9,972.08	$ 0.07
Total Marketing Income					$ 0.07
Patronage Dividends				$ 17,675.83	$ 0.12
NET PRICE RECEIVED ON FARM, ALL SOURCES					**$ 12.64**
PPD - Hauling, per cwt.					$ 0.29
PPD - Hauling + Market Premiums, per cwt.					$ 0.76

[6]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[7]
(Each Category Sorted Independently)
48 Large Herd Dairy Farms, 2003

	Lowest Quintile	←		→	Highest Quintile
Butterfat, %	3.42	3.54	3.63	3.69	3.89
Protein, %	2.89	2.94	2.98	3.01	3.15
Other Solids, %	4.98	5.67	5.71	5.73	5.81
Butterfat, $ per Cwt.	3.67	4.28	4.38	4.48	5.57
Protein, $ per Cwt.	5.48	6.94	7.03	7.17	7.76
Other solids, $ per Cwt.	0.04	0.07	0.07	0.08	0.09
Total Component Value per Cwt.	**$ 10.03**	**$ 11.30**	**$ 11.54**	**$ 11.69**	**$ 12.47**
PPD, $ per Cwt.	0.43	0.58	0.64	0.87	1.45
Base Farm Price per Cwt.	**$ 10.59**	**$ 12.02**	**$ 12.26**	**$ 12.47**	**$ 13.59**
Quality, $ per Cwt.	.02	.14	.21	.24	.30
Volume, $ per Cwt.	.00	.15	.25	.35	.62
Market premium, $ per Cwt.	.01	.12	.22	.43	2.21
Total Premium, $ per Cwt.	**.33**	**.60**	**.75**	**.94**	**2.58**
Base Farm Price + Premiums per Cwt.	**$ 12.33**	**$ 12.73**	**$ 13.01**	**$ 13.47**	**$ 14.44**
Promotion, $ per Cwt.	.12	.15	.15	.16	.19
Hauling, $ per Cwt.	.32	.36	.42	.49	.96
Market fees & coop dues per Cwt.	.01	.03	.05	.08	.11
Total Marketing Expenses per Cwt.	**$ .50**	**$ .57**	**$ .63**	**$ .71**	**$ 1.17**
Base + Premiums – Deductions per Cwt.	**$ 11.71**	**$ 12.16**	**$ 12.37**	**$ 12.74**	**$ 13.42**
Compact, $ per Cwt.	.00	.00	.00	.00	.00
Futures contract, forward contracting, $ per Cwt.	.01	.00	.00	.00	.30
Total Marketing Income, $ per Cwt.	**$ -.01**	**$ .00**	**$ .00**	**$ .00**	**$ .30**
Patronage Dividends, $ per Cwt.	**$ -.10**	**$ .00**	**$ .02**	**$ .24**	**$ .66**
Net Price Received From All Sources, $ per Cwt.	**$ 12.05**	**$ 12.35**	**$ 12.59**	**$ 12.94**	**$ 13.50**

[7]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
55 Large Herd Dairy Farms, 2003

Type of Farm	Number
Dairy	55

Type of Ownership	Number
Owner	53
Renter	2

Type of Business	Number
Single proprietorship	16
Partnership	9
Limited Liability Corporation	23
Subchapter S Corporation	7
Subchapter C Corporation	0

Business Record System	Number
Account Book	3
Accounting Service	2
On-Farm Computer	50
Other	0

BST Usage	Number
Used consistently	38
Used inconsistently	7
Stopped Use in 2003	1
Not Used	9
Average % bst usage of those reporting	74%

Type of Barn	Number
Stanchion/Tie-Stall	0
Freestall	54
Combination	1

Milking System	Number
Pipeline	1
Herringbone Conventional	17
Herringbone Rapid Exit	9
Parallel	22
Parabone	3
Rotary	1
Other	2

Milking Frequency	Number
2x/day	14
3x/day	35
Other	6

Production Records	Number
Testing Service	45
On-Farm System	5
Other	0
None	5

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 2003.

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
55 Large Herd Dairy Farms, 2003

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense		+	Change in Accounts Payable	=	Accrual Expenses
Hired Labor	$ 427,575		$ 740	<<		$ 1,223		$ 428,058
Feed								
Dairy grain & concentrate	599,693		-7,518			18,000		625,211
Dairy roughage	54,682		681			-182		53,819
Nondairy	43		7			0		36
Professional nutritional services	3,843		0			0		3,843
Machinery								
Mach. hire, rent/lease	41,698		0	<<		1,728		43,426
Mach. rep. & farm veh. exp	86,076		-505			2,532		89,113
Fuel, oil & grease	47,126		44			834		47,916
Livestock								
Replacement livestock	20,610		0	<<		0		20,610
Breeding	27,890		-694			144		28,728
Vet & medicine	89,193		133			-278		88,782
Milk marketing	99,373		0	<<		253		99,626
Bedding	41,315		-503			735		42,553
Milk supplies	45,377		29			503		45,851
Cattle lease/rent	2,214		0	<		200		2,414
Custom boarding	65,041		0	<<		1,671		66,712
bST expense	45,660		337			334		45,657
Livestock professional fees	3,298		61			38		3,275
Other livestock expense	15,560		-245			293		16,098
Crops								
Fertilizer & lime	35,506		-5012			306		36,313
Seeds & plants	30,328		-1,947			273		32,548
Spray, other crop exp.	24,475		-1,248			116		25,839
Crop professional fees	4,087		0			195		4,282
Real Estate								
Land/bldg./fence repair	22,354		-215			659		23,228
Taxes	26,548		26	<<		-24		26,498
Rent & lease	36,069		-551	<<		774		37,394
Other								
Insurance	20,934		-68	<<		-368		20,634
Utilities (farm share)	48,844		0	<<		144		48,988
Interest paid	86,520		0	<<		-302		86,218
Other professional fees	12,838		17			119		12,940
Miscellaneous	13,312		15			-747		12,550
Total Operating Expenses	$ 2,078,082		$ -11,905			$ 29,173		$ 2,119,160
Expansion livestock	$ 30,365		$ 0	<<		$ 0		$ 30,365
Extraordinary expense	$ 270		$ 0			$ 0		$ 270
Machinery depreciation								$ 97,065
Building depreciation								$ 90,458
Total Accrual Expenses								$ 2,337,318

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 2003 funds used to prepay 2004 leases exceed the amount of 2003 leases prepaid in 2002, the amount of this excess is subtracted to exclude it from 2003 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 2003 but not paid for. A decrease is subtracted because the resource was used before 2003.

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
55 Large Herd Dairy Farms, 2003

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	$2,092,403				$ 21,519		$ 2,113,922
Dairy cattle	103,119		$ 38,395		82		141,596
Dairy calves	24,668		8,608		2		33,278
Other livestock	4,486		-856		-15		3,615
Crops	13,033		41,227		2,121		56,381
Government receipts	35,161		255 [8]		-3,319		32,097
Custom machine work	8,498				191		8,689
Gas tax refund	395				0		395
Other	22,947				-28		22,919
Less nonfarm noncash cap.			0 [9]				0
Total Receipts	$2,304,710		$ 87,629		$ 20,553		$ 2,412,892

[8] Change in advanced government receipts.
[9] 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 2003 for the 2004 crop year in excess of funds earned for 2003. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2003 but received in 2002.

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[10] 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.

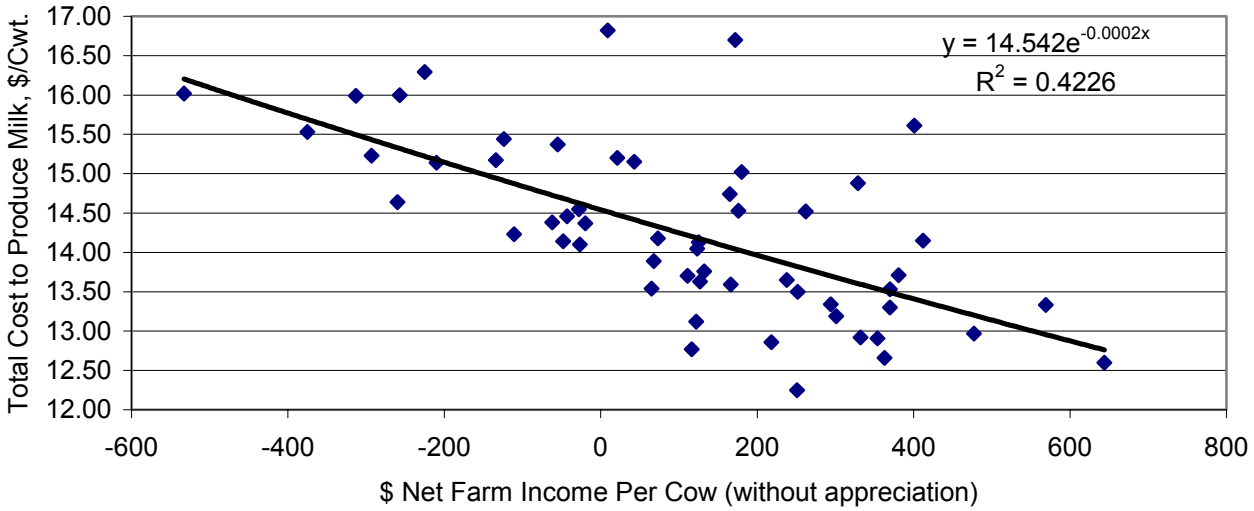
Net farm income is the return to the farm operators and other unpaid family members for their labor, management, and equity capital. It is the farm family's net annual return from working, managing, financing, and owning the farm business. This is not a measure of cash available from the year's business 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
55 Large Herd Dairy Farms, 2003

Item	Average 55 Farms Total	Average 55 Farms Per Cow	Average Top 20%[11] Farms Total	Average Top 20%[11] Farms Per Cow
Total accrual receipts	$ 2,412,892		$ 2,531,544	
Appreciation: Livestock	7,390		13,518	
Machinery	20,689		-10,410	
Real Estate	76,810		73,781	
Other Stock/Certificates	9,949		9,302	
Total Including Appreciation	$ 2,527,730		$ 2,617,735	
Total accrual expenses	2,337,318		2,261,419	
Net Farm Income (with appreciation)	$ 190,412	$278	$ 356,316	$513
Net Farm Income (w/o appreciation)	$ 75,574	110	$ 270,125	$389

TOTAL COST TO PRODUCE MILK VS. NET FARM INCOME PER COW
55 Large Herd Dairy Farms, 2003



[10]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.

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

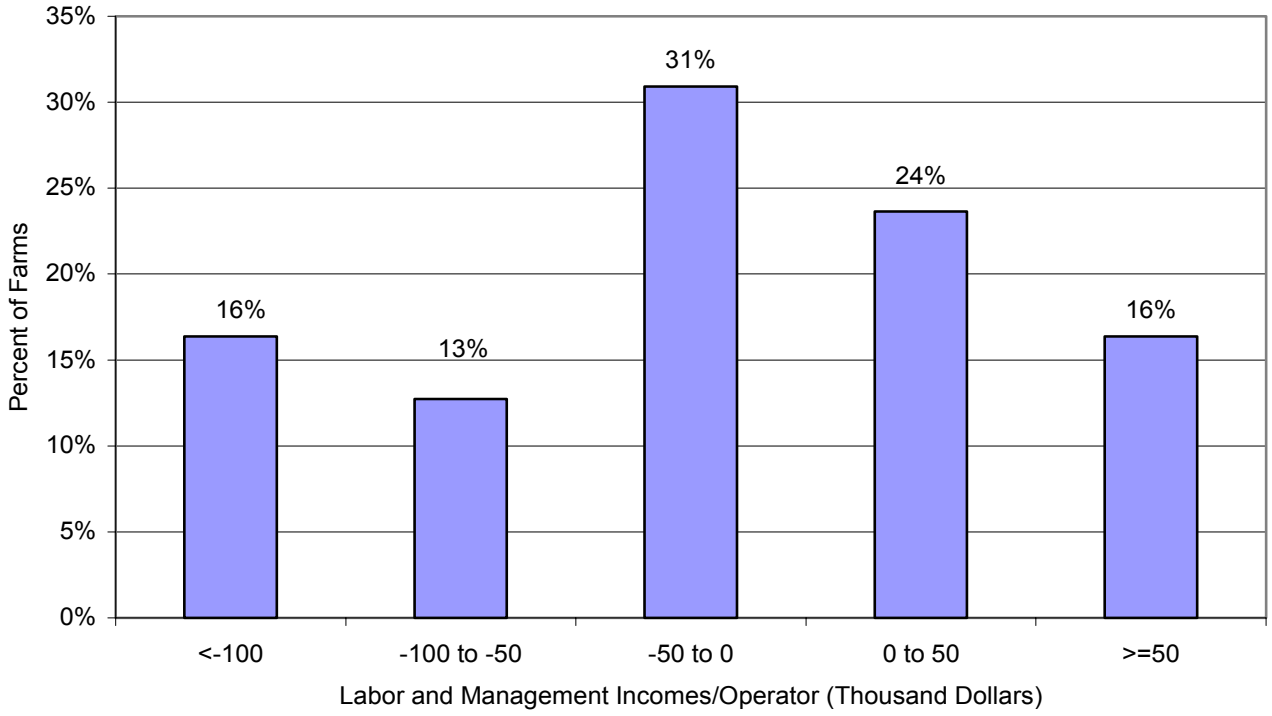
Labor and management income is the return which farm operators receive for their labor and management used in operating the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. 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
55 Large Herd Dairy Farms, 2003

Item	Average 55 Farms	Average Top 20% Farms
Net farm income without appreciation	$ 75,574	$ 270,125
Family labor unpaid @ $2,200 per month	- 2,504	- 3,380
Interest on $2,162,625 ($2,466,410 for top 20%) average equity capital @ 5% real rate	- 108,131	- 123,321
Labor & Management Income per Farm (2.05 operators/farm; 1.81 operators for top 20%)	$ -35,061	$ 143,424
Labor & Management Income per Operator/Manager	$ -17,103	$ 79,240

Labor and management income per operator averaged $-17,103 on these 55 farms in 2003. Returns to labor and management were less than $0 on 60 percent of the farms. Labor and management income per operator ranged from $0 to $50,000 on 24 percent of the farms while 16 percent showed labor and management incomes of $50,000 or more per operator.

DISTRIBUTION OF LABOR & MANAGEMENT INCOMES PER OPERATOR
55 Large Herd Dairy Farms, 2003



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
55 Large Herd Dairy Farms, 2002

Item	Average 55 Farms	Average Top 20% Farms
Net farm income with appreciation	$ 190,412	$ 356,316
Family labor unpaid @ $2,200 per month	- 2,504	- 3,380
Value of operators' labor & management	- 89,245	- 81,636
Return on equity capital with appreciation	$ 98,663	$ 441,332
Interest paid	+ 86,218	+ 81,042
Return on total capital with appreciation	$ 184,881	$ 522,374
Return on equity capital without appreciation	$ -16,175	$ 355,141
Return on total capital without appreciation	$ 70,043	$ 436,183
Rate of return on average equity capital:		
with appreciation	4.6%	17.9 %
without appreciation	-0.7%	14.4 %
Rate of return on average total capital:		
with appreciation	4.3%	11.6 %
without appreciation	1.6%	9.7 %
Net farm income from operations ratio	0.03	0.11

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 2003, leases were discounted by 5.5 percent.

Advanced government receipts are included as current liabilities. Government payments received in 2003 that are for participation in the 2004 program are the end year balance and payments received in 2002 for participation in the 2003 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.

2003 FARM BUSINESS & NONFARM BALANCE SHEET

55 Large Herd Dairy Farms, 2003

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 23,709	$ 31,621	Accounts payable	$ 67,071	$ 96,252
Accounts receivable	125,092	145,645	Operating debt	160,308	144,111
Prepaid expenses	4,541	4,765	Short Term	4,377	13,486
Feed & supplies	390,333	419,430	Advanced govt. receipts	255	0
			Current Portion:		
			Intermediate	165,328	163,441
			Long Term	73,163	69,123
Total Current	$ 543,675	$ 601,461	Total Current	$ 470,502	$ 486,413
Intermediate			Intermediate		
Dairy cows:			Structured debt		
owned	$ 780,079	$ 821,164	1-10 years	$ 835,737	$ 830,132
leased	2,133	1,135	Financial lease		
Heifers	427,660	440,470	(cattle/machinery)	23,375	10,194
Bulls/other livestock	6,507	6,139	Farm Credit stock	13,034	13,420
Mach./equipment owned	670,596	681,902	Total Intermediate	$ 872,146	$ 853,746
Mach./equipment leased	21,242	9,059			
Farm Credit stock	13,034	13,420			
Other stock/certificate	98,653	124,833			
Total Intermediate	$2,019,904	$2,098,122			
			Long Term		
Long Term			Structured debt		
Land/buildings:			>10 years	$ 709,236	$ 809,565
owned	$1,604,090	$1,659,606	Financial lease		
leased	349	0	(structures)	349	0
Total Long Term	$1,604,439	$1,659,606	Total Long Term	$ 709,585	$ 809,565
			Total Farm Liab.	$2,052,233	$ 2,149,724
Total Farm Assets	$4,168,018	$4,359,189	FARM NET WORTH	$2,115,785	$ 2,209,465

Nonfarm Assets, Liabilities & Net Worth (Average of 25 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	$ 7,446	$ 5,517	Nonfarm Liabilities	$ 8,450	$ 7,359
Cash value life insurance	24,293	28,730			
Nonfarm real estate	12,600	12,970			
Auto (personal share)	6,840	6,020			
Stocks & bonds	45,061	48,756			
Household furnishings	6,820	6,820			
All other nonfarm assets	7,641	9,382			
Total Nonfarm Assets	$ 110,702	$ 118,194	NONFARM NET WORTH	$ 102,252	$ 110,835

Farm & Nonfarm Assets, Liabilities, and Net Worth[12]	Jan. 1	Dec. 31
Total Assets	$ 4,278,720	$ 4,477,383
Total Liabilities	2,060,683	2,157,083
TOTAL FARM & NONFARM NET WORTH	$ 2,218,037	$ 2,320,300

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

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
55 Large Herd Dairy Farms, 2003

Item		Average 55 Farms		Average Top 20% Farms
Financial Ratios - Farm:				
Percent equity		51%		56%
Debt/asset ratio: total		0.49		0.44
long-term		0.49		0.33
intermediate/current		0.50		0.52
Leverage Ratio		0.97		0.80
Current Ratio		1.24		1.23
Working Capital: $115,048	as % of Total Expenses:	5%	$111,663	5%
Farm Debt Analysis:				
Accounts payable as % of total debt		4%		1%
Long-term liabilities as a % of total debt		38%		28%
Current & intermediate liabilities as a % of total debt		62%		72%
Cost of term debt (weighted average)		3.9%		3.5%

	Average 55 Farms		Average Top 20% Farms	
Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$ 3,093	$ 3,625	$ 2,970	$ 2,932
Long-term debt	1,165	1,265	844	833
Long-term & intermediate	2,393	2,805	2,265	2,236
Intermediate & current debt	1,928	2,260	2,126	2,099

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
55 Large Herd Dairy Farms, 2003

Item	Average of 55 Farms			
		Real Estate		Machinery & Equipment
Value beginning of year		$ 1,604,090		$ 670,596
Purchases	$ 99,502 [13]		$ 93,536	
Gift/inheritance	+ 0		+ 0	
Lost capital	- 26,866			
Sales	- 3,472		- 5,853	
Depreciation	- 90,458		- 97,065	
Net investment		= -21,294		= -9,383
Appreciation		+ 76,810		+ 20,689
Value end of year		$ 1,659,606		$ 681,902

[13] $22,193 land and $77,309 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)
55 Large Herd Dairy Farms, 2003

Item	Average 55 Farms		Average Top 20% Farms	
Beginning of year farm net worth		$ 2,115,785		$2,353,066
Net farm income w/o appreciation	$ 75,574		$ 270,125	
+ Nonfarm cash income	+ 5,291		+ 8,013	
- Personal withdrawals & family expenditures excluding nonfarm borrowings	- 88,357		- $ 108,031	
Retained Earnings		+$ -7,492		+ $ 170,107
Nonfarm noncash transfers to farm	$ 0		$ 0	
+ Cash used in business from nonfarm capital	+ 13,581		+ 12,888	
- Note/mortgage from farm real estate sold (nonfarm)	- 0		- 0	
Contributed/Withdrawn Capital	=	+$ 13,581		+ $ 12,888
Appreciation	$ 114,838		$ 86,191	
- Lost capital	- 26,866		- 38,192	
Change in Valuation Equity		+$ 87,972		+ $ 47,999
Imbalance/Error		- 381		- 4,307
End of year farm net worth[14]		=$ 2,209,465		= $2,579,753
Change in net worth w/apprec.		$ 93,680		$ 226,687
Change in Net Worth				
Without appreciation		$ -21,158		$ 140,496
With appreciation		$ 93,680		$ 226,687

[14]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
55 Large Herd Dairy Farms, 2003

Item		Average 55 Farms	
Cash Flow from Operating Activities			
Cash farm receipts	$ 2,304,710		
- Cash farm expenses	2,078,082		
- Extraordinary expense	270		
= Net cash farm income		$ 226,358	
Personal withdrawals/family expenses including nonfarm debt payments	$ 88,488		
- Nonfarm income	5,291		
- Net cash withdrawals from the farm		$ 83,197	
= Net Provided by Operating Activities			$ 143,161
Cash Flow From Investing Activities			
Sale of Assets: Machinery	$ 5,853		
+ real estate	3,472		
+ other stock/cert.	2,286		
= Total asset sales		$ 11,611	
Capital purchases: expansion livestock	$ 30,365		
+ machinery	93,536		
+ real estate	99,501		
+ other stock/cert.	18,516		
- Total invested in farm assets		$ 241,918	
= Net Provided by Investment Activities			$ -230,307
Cash Flow From Financing Activities			
Money borrowed (inter. & long term)	$ 331,784		
+ Money borrowed (short-term)	11,318		
+ Increase in operating debt	35,013		
+ Cash from nonfarm cap. used in business	13,581		
+ Money borrowed - nonfarm	132		
= Cash inflow from financing		$ 391,828	
Principal payments (inter. & long-term)	$ 242,987		
+ Principal payments (short-term)	2,209		
+ Decrease in operating debt	51,193		
- Cash outflow for financing		$ 296,389	
= Net Provided by Financing Activities			$ 95,439
Cash Flow From Business			
Beginning farm cash, checking & savings		$ 23,709	
- Ending farm cash, checking & savings		31,621	
= Net Provided from Reserves			$ -7,912
Imbalance (error)			$ 381

ANNUAL CASH FLOW STATEMENT

11 Top 20% Large Herd Dairy Farms, 2003

Item		Average Top 20% Farms	
Cash Flow from Operating Activities			
Cash farm receipts	$2,361,153		
- Cash farm expenses	2,039,225		
- Extraordinary expense	1,352		
= Net cash farm income		$ 320,576	
Personal withdrawals/family expenses including nonfarm debt payments	$ 108,031		
- Nonfarm income	8,013		
- Net cash withdrawals from the farm		$ 100,018	
= Net Provided by Operating Activities			$ 220,558
Cash Flow From Investing Activities			
Sale of Assets: Machinery	$ 2,934		
+ real estate	9,490		
+ other stock/cert.	546		
= Total asset sales		$ 12,970	
Capital purchases: expansion livestock	$ 44,146		
+ machinery	143,785		
+ real estate	133,332		
+ other stock/cert.	35,006		
- Total invested in farm assets		$ 356,269	
= Net Provided by Investment Activities			$ -343,299
Cash Flow From Financing Activities			
Money borrowed (inter. & long term)	$ 290,597		
+ Money borrowed (short-term)	18,575		
+ Increase in operating debt	43,470		
+ Cash from nonfarm cap. used in business	12,888		
+ Money borrowed - nonfarm	0		
= Cash inflow from financing		$ 365,530	
Principal payments (inter. & long-term)	$ 196,315		
+ Principal payments (short-term)	1,380		
+ Decrease in operating debt	49,440		
- Cash outflow for financing		$ 247,135	
= Net Provided by Financing Activities			$ 118,395
Cash Flow From Business			
Beginning farm cash, checking & savings		$ 32,362	
- Ending farm cash, checking & savings		23,709	
= Net Provided from Reserves			$ 8,653
Imbalance (error)			$ 4,307

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 2003. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2004 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Large Herd Dairy Farms, 2002 & 2003

	Same 51 Dairy Farms			Same 11 Top 20% Farms		
	2003 Payments		Planned	2003 Payments		Planned
Debt Payments	Planned	Made	2004	Planned	Made	2004
Long-term	$ 87,247	$ 104,337	$ 102,231	$ 54,829	$ 71,929	$ 65,326
Intermediate-term	195,393	220,098	205,013	242,066	205,308	266,887
Short-term	4,061	2,545	9,109	14,467	1,388	16,309
Operating (net reduction)	22,159	55,208	10,409	37,225	49,440	0
Accounts payable (net reduction)	7,521	6,295	1,092	0	20,879	0
Total	$ 316,381	$ 388,483	$ 327,854	$ 348,587	$ 348,944	$ 348,522
Per cow	$ 491	$ 602		$ 502	$ 503	
Per cwt. 2003 milk	$ 2.12	$ 2.61		$ 2.17	$ 2.17	
Percent of total 2003 receipts	14%	17%		14%	14%	
Percent of 2003 milk receipts	16%	20%		16%	16%	

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 2003 (as of December 31, 2002) that could have been made with the amount available for debt service in 2003. Farmers who did not participate in DFBS in 2002 have their 2003 cash flow coverage ratio based on planned debt payments for 2004.

COVERAGE RATIOS
Same 51 Large Herd Dairy Farms, 2002 & 2003

Item	Average	Item	Average
Cash Flow Coverage Ratio		Debt Coverage Ratio	
Cash farm receipts	$ 2,169,968	Net farm income (w/o apprec.)	$ 78,022
- Cash farm expenses	1,935,853	+ Depreciation	187,397
+ Interest paid (cash)	84,231	+ Interest paid (accrual)	83,971
- Net personal withdrawals from farm[15]	86,495	- Net personal withdrawals from farm[15]	86,495
(A) = Amount Available for Debt Service	$ 231,851	(A') = Repayment Capacity	$ 262,895
(B) = Debt Payments Planned for 2003 (as of December 31, 2002)	$ 316,381	(B) = Debt Payments Planned for 2003 (as of December 31, 2002)	$ 316,381
(A/ B)= Cash Flow Coverage Ratio for 2003	0.73	(A'/B)= Debt Coverage Ratio for 2003	0.83

Same 11 Top 20% Dairy Farms, 2002 & 2003

(A) = Amount Available for Debt Service	$ 302,983	(A') = Repayment Capacity	$ 433,683
(B) = Debt Payments Planned for 2003	348,587	(B) = Debt Payments Planned for 2003	348,587
(A/ B)= Cash Flow Coverage Ratio for 2003	0.87	(A'/B)= Debt Coverage Ratio for 2003	1.24

[15]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

55 Large Herd Dairy Farms, 2003

Item	Average 55 Farms Per Cow	Average 55 Farms Per Cwt.	Total
Number cows and cwt. Milk	684	158,927	
Accrual Operating Receipts			
Milk	$ 3,091	$ 13.30	$ 2,113,922
Dairy cattle	207	0.89	141,596
Dairy calves	49	0.21	33,278
Other livestock	5	0.02	3,615
Crops	82	0.35	56,381
Misc. receipts	94	0.40	64,100
Total	$ 3,528	$ 15.18	$ 2,412,892
Accrual Operating Expenses			
Hired labor	$ 626	$ 2.69	$ 428,058
Dairy grain & concentrate	914	3.93	625,211
Dairy roughage	79	0.34	53,819
Nondairy feed	0	0.00	36
Professional nutritional services	6	0.02	3,843
Mach. Hire/rent/lease	63	0.27	43,426
Mach. Repair & farm vehicle expense	130	0.56	89,113
Fuel, oil & grease	70	0.30	47,916
Replacement livestock	30	0.13	20,610
Breeding	42	0.18	28,728
Vet & medicine	130	0.56	88,782
Milk marketing	146	0.63	99,626
Bedding	62	0.27	42,553
Milking supplies	67	0.29	45,851
Cattle lease	4	0.02	2,414
Custom boarding	98	0.42	66,712
bST expense	67	0.29	45,657
Livestock professional fees	5	0.02	3,275
Other livestock expense	24	0.10	16,098
Fertilizer & lime	53	0.23	36,313
Seeds & plants	48	0.20	32,548
Spray/other crop expenses	38	0.16	25,839
Crop professional fees	6	0.03	4,282
Land, building, fence repair	34	0.15	23,228
Taxes	39	0.17	26,498
Real estate rent/lease	55	0.24	37,394
Insurance	30	0.13	20,634
Utilities	72	0.31	48,988
Other professional fees	19	0.08	12,940
Miscellaneous	18	0.08	12,550
Total Less Interest Paid	$ 2,972	$ 12.79	$ 2,032,942
Net Accrual Operating Income (without interest paid)	$ 555	$ 2.39	$ 379,950
- Change in livestock/crop inventory[16]	128	0.55	87,629
- Change in accounts receivable	30	0.13	20,553
- Change in feed/supply inventory[17]	-17	-0.07	-11,905
+ Change in accounts payable[18]	43	0.19	29,475
NET CASH FLOW	$ 458	$ 1.97	$ 313,148
- Net personal withdrawals from farm (see footnote on p. 22)	$ 121	$ 0.52	$ 83,066
Available for Farm Debt Payments & Investments	$ 336	$ 1.45	$ 230,082
- Farm debt payments	564	2.43	385,881
Available for Farm Investment	$ -228	$ -0.98	$ -155,799
- Capital purchases: cattle, machinery & improvements	$ 354	$ 1.52	$ 241,919

[16]Includes change in advance government receipts.
[17]Includes change in prepaid expenses.
[18]Excludes change in interest account payable.

ANNUAL CASH FLOW WORKSHEET

11 Top 20% Large Herd Dairy Farms, 2003

Item	Average Top 20% Farms Per Cow	Per Cwt.	Total
No. cows or cwt. milk	694	160,527	
Accrual Operating Receipts			
Milk	$ 3,124	$ 13.51	$ 2,168,101
Dairy cattle	212	0.91	146,875
Dairy calves	72	0.31	49,889
Other livestock	4	0.02	3,122
Crops	133	0.58	92,633
Misc. receipts	102	0.44	70,924
Total	$ 3,647	$ 15.77	$ 2,531,544
Accrual Operating Expenses			
Hired labor	$ 578	$ 2.50	$ 401,083
Dairy grain & concentrate	862	3.73	598,414
Dairy roughage	49	0.21	33,972
Nondairy feed	0	0.00	22
Professional nutritional services	21	0.09	14,373
Mach. hire/rent/lease	69	0.30	47,596
Mach. repair & farm vehicle expense	130	0.56	90,328
Fuel, oil & grease	64	0.28	44,381
Replacement livestock	18	0.08	12,779
Breeding	37	0.16	25,415
Vet & medicine	118	0.51	81,847
Milk marketing	161	0.69	111,437
Bedding	45	0.19	31,024
Milking supplies	68	0.29	47,105
Cattle lease	3	0.01	1,955
Custom boarding	67	0.29	46,363
bST expense	80	0.35	55,801
Livestock professional fees	4	0.02	3,057
Other livestock expense	25	0.11	17,690
Fertilizer & lime	75	0.32	51,966
Seeds & plants	41	0.18	28,616
Spray/other crop expenses	35	0.15	24,321
Crop professional fees	9	0.04	6,461
Land, building, fence repair	35	0.15	24,354
Taxes	41	0.18	28,674
Real estate rent/lease	44	0.19	30,579
Insurance	39	0.17	26,813
Utilities	63	0.27	43,902
Other professional fees	15	0.06	10,247
Miscellaneous	17	0.07	11,770
Total Less Interest Paid	$ 2,813	$ 12.16	$ 1,952,345
Net Accrual Operating Income (without interest paid)	$ 835	$ 3.61	$ 579,199
- Change in livestock/crop inventory[19]	211	0.91	146,460
- Change in accounts receivable	34	0.15	23,931
- Change in feed/supply inventory[20]	-22	-0.09	-14,990
+ Change in accounts payable[21]	-30	-0.13	-20,797
NET CASH FLOW	$ 582	$ 2.51	$ 403,001
- Net personal withdrawals from farm(see footnote p.22)	$ 144	$ 0.62	$ 100,019
Available for Farm Debt Payments & Investments	$ 438	$ 1.89	$ 302,982
- Farm debt payments	503	2.17	348,944
Available for Farm Investment	$ -65	$ -0.28	$ -45,962
- Capital purchases: cattle, machinery & improvements	$ 513	$ 2.22	$ 356,269

[19]Includes change in advance government receipts.
[20]Includes change in prepaid expenses.
[21]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
55 Large Herd Dairy Farms, 2003

Item	Average 55 Farms			Average Top 20% Farms		
Land	Owned	Rented	Total	Owned	Rented	Total
Tillable	593	644	1,237	703	817	1,520
Nontillable	37	17	54	19	18	37
Other nontillable	202	9	211	221	28	249
Total	832	670	1,502	943	863	1,806
Crop Yields	Farms	Acres[22]	Prod/Acre	Farms	Acres	Prod/Acre
Hay crop	51	599	3.52 tn DM	11	660	3.30 tn DM
Corn silage	50	580	17.63 tn	11	571	16.56 tn
Other forage	4	92	3.68 tn DM	0	0	0.00 tn DM
Total forage	51	1,175	4.54 tn DM	11	1,235	4.41 tn DM
Corn grain	21	182	118 bu	6	196	100 bu
Oats	3	49	56 bu	2	62	40 bu
Wheat	8	106	50 bu	4	116	50 bu
Other crops	9	167		2	60	
Tillable pasture	6	143		3	148	
Idle tillable	17	81		6	124	
Total Tillable Acres	54	1,260		11	1,520	

[22]This column represents the average acreage for the farms producing that crop. Average acreages including those farms not producing were corn grain 69, oats 3, wheat 15, tillable pasture 16 and idle 24.

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
55 Large Herd Dairy Farms, 2003

Item	Average 55 Farms	Average Top 20% Farms
Total tillable acres per cow	1.81	2.19
Total forage acres per cow	1.59	1.78
Harvested forage dry matter, tons per cow	7.41	7.78

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 two farms.

CROP RELATED ACCRUAL EXPENSES
Large Herd Dairy Farms Reporting, 2003

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	55	14			14	
Ave. number of acres	1,237	497			519	
Fertilizer/lime	$ 29.36	$ 34.82	$ 6.31	$ 0.45	$ 20.38	$ 6.53
Seed/plants	26.31	36.02	6.48	0.36	15.00	4.68
Spray/other crop exp.	20.89	39.61	7.32	0.37	17.07	4.99
TOTAL	$ 76.56	$ 110.45	$ 20.11	$ 1.18	$ 52.45	$ 16.20
Average Top 20% Farms:						
No. of farms reporting	11					
Ave. number of acres	1,520					
Fertilizer/lime	$ 34.19					
Seeds/plants	18.83					
Spray/other crop exp.	20.25					
TOTAL	$ 73.27					

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
55 Large Herd Dairy Farms, 2003

Machinery Expense Item	Average 55 Farms Total Expenses	Average 55 Farms Per Till. Acre	Average Top 20% Farms Total Expenses	Average Top 20% Farms Per Till. Acre
Fuel, oil & grease	$ 47,916	$ 38.74	$ 44,381	$ 29.20
Mach. repairs & farm veh. exp.	89,113	72.04	90,328	59.43
Machine hire, rent & lease	43,426	35.11	47,596	31.31
Interest (5%)	34,570	27.95	38,305	25.20
Depreciation	97,065	78.47	99,067	65.18
Total	$ 312,090	$ 252.31	$ 319,677	$ 210.32

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
55 Large Herd Dairy Farms, 2003

	Dairy Cows		Heifers					
			Bred		Open		Calves	
Item	No.	Value	No.	Value	No.	Value	No.	Value
Average 55 Farms:								
Beginning year (owned)	653	$ 780,079	206	$ 240,841	186	$131,724	132	$ 55,095
+ Change w/o apprec.		36,527		-1,200		3,068		8,607
+ Appreciation		4,558		-1,440		2,597		1,178
End year (owned)	684	$ 821,164	208	$ 238,201	191	$137,389	150	$ 64,880
End including leased	695							
Average number	684		538 (all age groups)					
Average Top 20% Farms:								
Beginning year (owned)	676	$ 824,943	189	$ 216,306	183	$129,169	142	$ 57,368
+ Change w/o apprec.		38,134		24,578		-8,182		18,405
+ Appreciation		7,700		2,727		1,818		1,273
End of year (owned)	706	$ 870,777	210	$ 243,611	165	$122,805	180	$ 77,046
End including leased	713							
Average number	694		538 (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
55 Large Herd Dairy Farms, 2003

Item	Average 55 Farms	Average Top 20% Farms
Total milk sold, lbs.	15,892,733	16,052,663
Milk sold per cow, lbs.	23,228	23,134

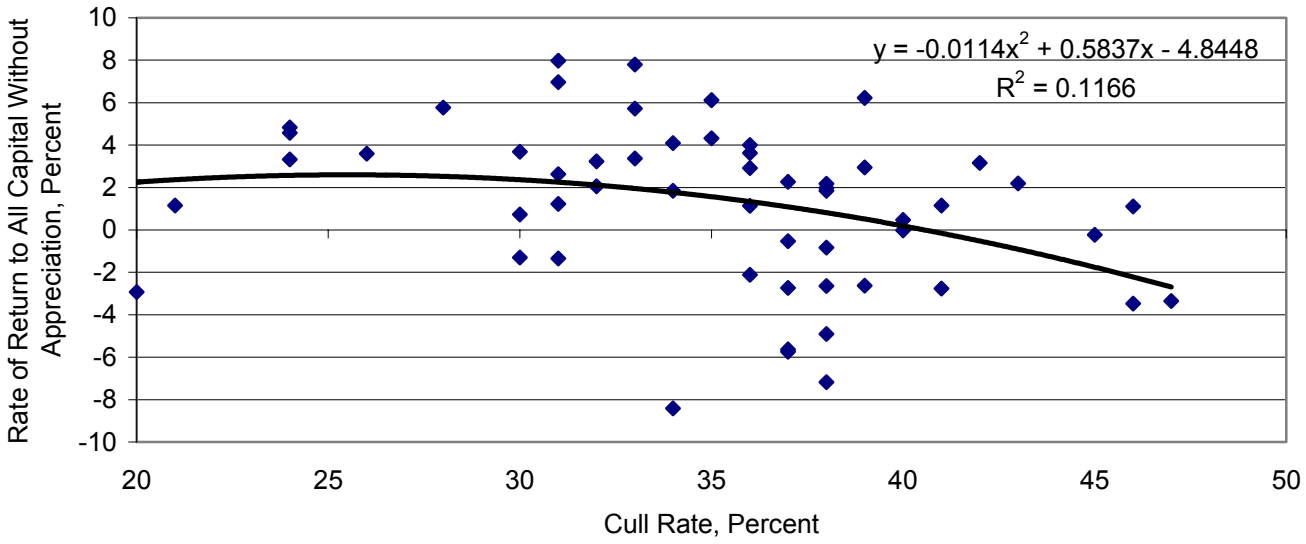
ANIMALS LEAVING THE HERD
55 Large Herd Dairy Farms, 2003

	Average 55 Farms		Average Top 20% Farms	
	Number	Percent[23]	Number	Percent[23]
Cows sold for beef	197	28.8	182	26.2
Cows sold for dairy	3	0.4	6	0.9
Cows died	41	6.0	39	5.6
Culling rate[24]	---	34.8	---	31.8

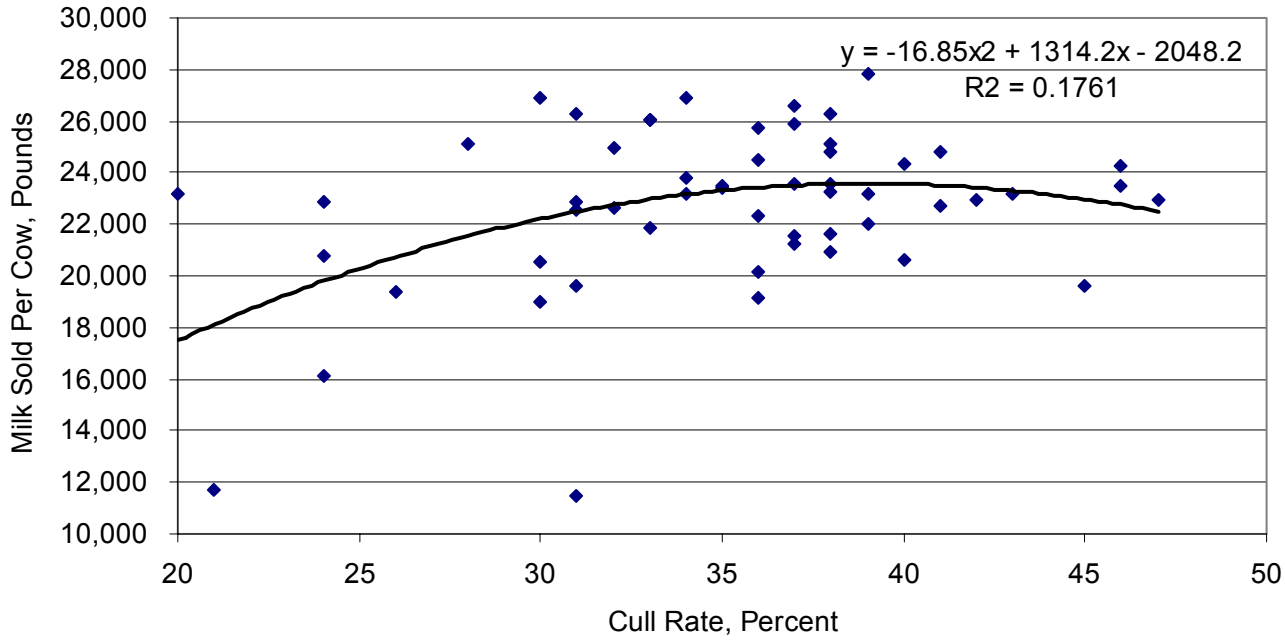
[23]Percent of average number of cows in the herd.
[24]Cows sold for beef plus cows died.

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, milk production and profit levels. While there is no significant relationship between cull rate and these two measures, it is interesting to note that the relationship is curvilinear.

RETURN TO ALL CAPITAL WITHOUT APPRECIATION VERSUS CULL RATE
55 Large Herd Dairy Farms, 2003



MILK SOLD PER COW VERSUS CULL RATE
55 Large Herd Dairy Farms, 2003



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

55 Large Herd Dairy Farms, 2003

	Average 55 Farms			Average Top 20% Farms		
Item	Total	Per Cow	Per Cwt.	Total	Per Cow	Per Cwt.
Accrual Costs of Producing Milk						
Operating costs	$ 1,850,555	$ 2,705	$11.64	$ 1,714,090	$ 2,470	$ 10.68
Purchased inputs costs	$ 2,038,078	$ 2,980	$12.82	$ 1,896,625	$ 2,733	$ 11.81
Total Costs	$ 2,237,958	$ 3,272	$14.08	$ 2,104,962	$ 3,033	$ 13.11
Accrual Receipts From Milk	$ 2,113,922	$ 3,091	$13.30	$ 2,168,101	$ 3,124	$ 13.51
Net Milk Receipts	$ 2,014,296	$ 2,945	$12.67	$ 2,056,665	$ 2,963	$ 12.81
Net Farm Income w/o appreciation	$ 75,574	$ 110	$0.48	$ 270,125	$ 389	$ 1.68
Net Farm Income with appreciation	$ 190,412	$ 278	$1.20	$ 356,316	$ 513	$ 2.22

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

55 Large Herd Dairy Farms, 2003

	Average 55 Farms		Average Top 20% Farms	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	$ 914	$3.93	$ 862	$ 3.73
Purchased dairy roughage	79	0.34	49	0.21
Total Purchased Dairy Feed	$ 993	$4.27	$ 911	$ 3.94
Purchased grain & concentrate as % of milk receipts	30%		28 %	
Purchased feed & crop expense	$ 1,138	$4.89	$ 1,071	$ 4.63
Purchased feed & crop expense as % of milk receipts	37%		34 %	
Breeding	$ 42	$0.18	$ 37	$ 0.16
Veterinary & medicine	130	0.56	118	0.51
Milk marketing	146	0.63	161	0.69
Bedding	62	0.27	45	0.19
Milking supplies	67	0.29	68	0.29
Cattle lease	4	0.02	3	0.01
Custom boarding	98	0.42	67	0.29
bST expense	67	0.29	80	0.35
Livestock professional fees	5	0.02	4	0.02
Other livestock expenses	2431	0.10	25	0.11

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

55 Large Herd Dairy Farms, 2003

Item	Average 55 Farms		Average Top 20% Farms	
Total Accrual Operating Expenses	$ 2,119,160		$ 2,033,387	
Expansion Livestock, Accrual	+ 30,365		+ 44,146	
1. Total Accrual Operating Expenses, Including Expansion Livestock		$ 2,149,525		$ 2,077,533
Total Accrual Receipts	$ 2,412,892		$ 2,531,544	
Milk Sales, Accrual	- 2,113,922		- 2,168,101	
2. Total Accrual Nonmilk Receipts		- 298,970		- 363,443
3. Operating Costs of Producing Milk		$ 1,850,555		$ 1,714,090
Cwt. of Milk Sold	÷ 158,927		÷ 160,527	
Operating Costs/Cwt.	= $11.64		= $10.68	
Machinery Depreciation		+ 97,065		+ 99,067
Building Depreciation		+ 90,458		+ 83,468
4. Purchased Inputs Cost of Producing Milk		$ 2,038,078		$ 1,896,625
Cwt. of Milk Sold	÷ 158,927		÷ 160,527	
Purchased Inputs Cost/Cwt.	= $12.82		= $11.81	
Family Labor Unpaid ($2,200/month)		+ 2,504		+ 3,380
Real Interest on Equity Cap.		+ 108,131		+ 123,321
Value of Operators' Labor & Management		+ 89,245		+ 81,636
5. Total Costs of Producing Milk		$ 2,237,958		$ 2,104,962
Cwt. Milk Sold	÷ 158,927		÷ 160,527	
Total Costs/Cwt.	= $14.08		= $13.11	

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
55 Large Herd Dairy Farms, 2003

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
Average 55 Farms:				
Farm capital	$ 289,450	$ 6,233	$ 3,447	$ 7,190
Real estate		2,386		2,752
Machinery & equipment	46,938	1,011	559	
Ratios				
Asset turnover ratio	Operating Expense	Interest Expense	Depreciation Expense	
0.59	0.85	0.04	0.08	
Average Top 20% Farms:				
Farm capital	$ 306,733	$ 6,488	$ 2,962	$ 6,405
Real estate		1,714		1,692
Machinery & equipment	52,186	1,104	504	
Ratios				
Asset turnover ratio	Operating Expense	Interest Expense	Depreciation Expense	
0.58	0.79	0.03	0.07	

LABOR FORCE INVENTORY AND ANALYSIS
55 Large Herd Dairy Farms, 2003

Labor Force	Months	Age	Years of Education	Value of Labor & Mgmt.
Operator number 1	13.8	49	14	$ 51,756
Operator number 2	7.9	44	14	28,071
Operator number 3	2.3	47	14	8,109
Operator number 4	0.4	31	14	1,309
Family paid	8.6			
Family unpaid	1.1			
Hired	142.6			
Total	176.7 / 12 = 14.73 Worker Equivalent			
	2.05 Operator/Manager Equivalent			
Average Top 20% Farms:				
Total	176.2 / 12 = 14.68 Worker Equivalent			
Operator's	1.81 Operator/Manager Equivalent			

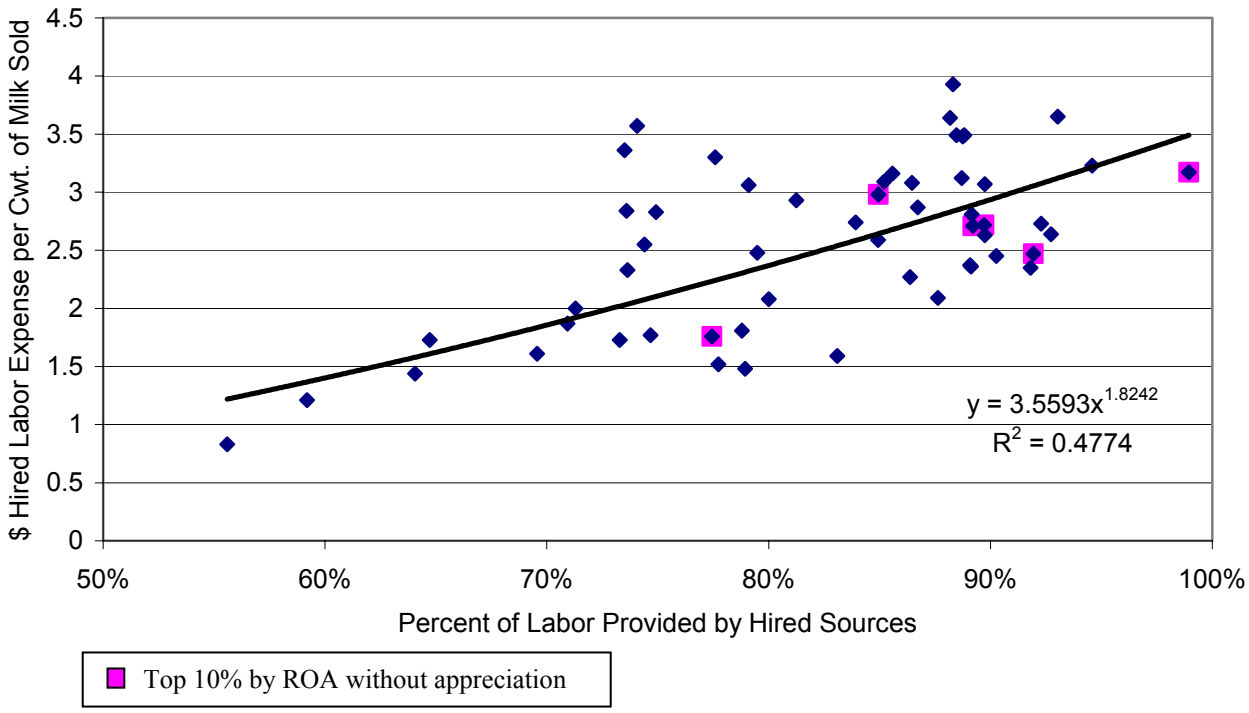
Labor Efficiency	Average 55 Farms Total	Average 55 Farms Per Worker	Average Top 20% Farms Total	Average Top 20% Farms Per Worker
Cows, average number	684	46	694	47
Milk sold, pounds	15,892,733	1,079,303	16,052,663	1,093,506
Tillable acres	1,237	84	1,520	104

Labor Costs	Average 55 Farms Total	Average 55 Farms Per Cow	Average 55 Farms Per Cwt.	Average Top 20% Farms Total	Average Top 20% Farms Per Cow	Average Top 20% Farms Per Cwt.
Value of operator(s) labor ($2,200/mo.)	$ 53,680	$ 78	$0.34	$ 47,300	$ 68	$ 0.29
Family unpaid ($2,200/mo.)	2,504	4	0.02	3,380	5	0.02
Hired	428,058	626	2.69	401,083	578	2.50
Total Labor	$ 484,242	$ 708	$3.05	$ 451,763	$ 651	$ 2.81
Machinery Cost	312,090	456	1.96	319,677	461	1.99
Total Labor & Machinery	$ 796,332	$ 1,164	$5.01	$ 771,440	$ 1,112	$ 4.80
Hired labor expense per hired worker equiv.	$ 33,973			$ 30,191		
Hired labor expense as % of milk sales	20.2%			18.5%		

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
55 Large Herd Dairy Farms, 2003



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 14 of your farm's Dairy Farm Business Summary report.

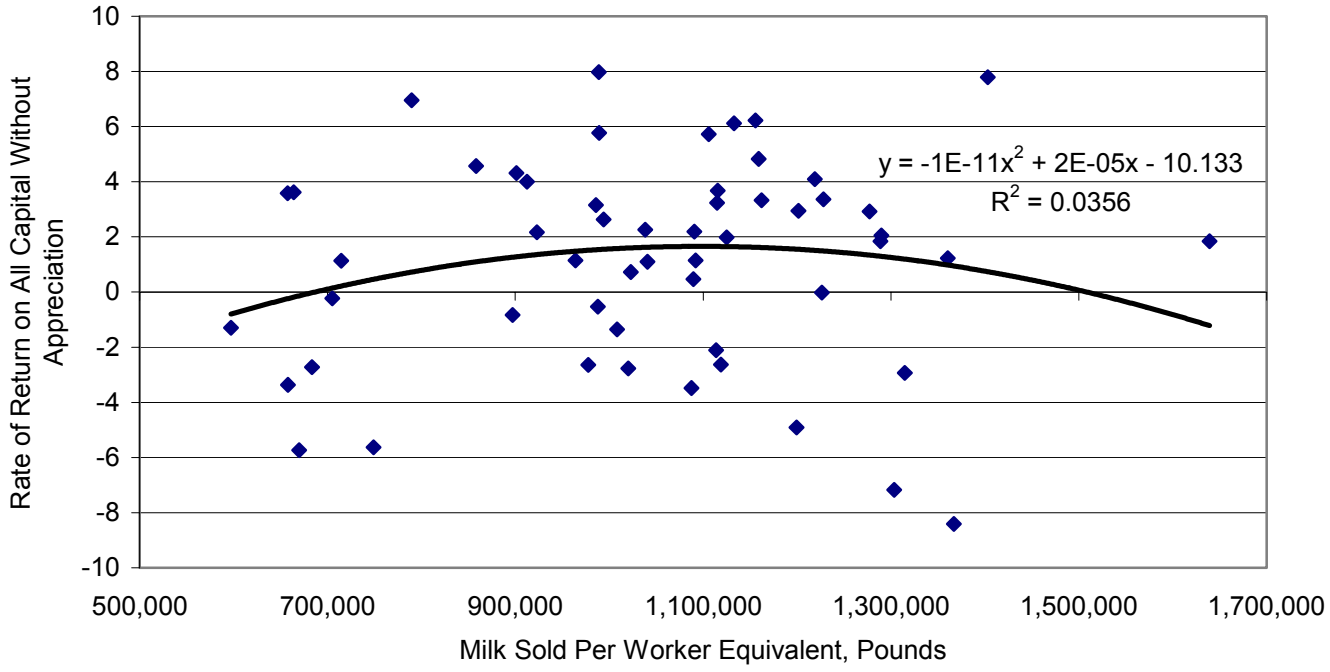
Months of hired labor		_____	
Months of family paid labor	+	_____	
Total hired labor	=		_____
Total Labor Months	÷		_____
Percent of labor from hired sources	x 100 =		_____%

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
55 Large Herd Dairy Farms, 2003

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	$ 1.30	9%	$ 20,483	$ 7.42
	1.68	12	23,816	8.63
	1.91	14	26,306	9.53
	2.28	17	28,367	10.28
	2.46	18	30,309	10.98
	2.67	19	31,334	11.35
	2.84	21	32,994	11.95
	3.07	22	35,072	12.71
	3.28	24	36,897	13.37
Average of Highest Decile	3.63	27	42,815	15.51

RATE OF RETURN ON ALL CAPITAL WITHOUT APPRECIATION VERSUS MILK SOLD PER WORKER EQUIVALENT
55 Large Herd Dairy Farms, 2003



CONDENSED SUMMARY & SELECTED BUSINESS FACTORS

CONDENSED FARM BUSINESS SUMMARY FOR THREE LARGE HERD GROUPS

55 Large Herd Dairy Farms, 2003

Item	18 Farms with 300-400 Cows		17 Farms with 401-599 Cows		20 Farms with ≥600 Cows	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.	Per Cow	Per Cwt.
ACCRUAL EXPENSES						
Hired labor	$558	$2.50	$521	$2.39	$669	$2.77
Dairy grain & concentrate	925	4.18	776	3.62	984	4.08
Dairy roughage	91	0.48	95	0.41	73	0.31
Nondairy feed	0	0.00	0	0.00	1	0.00
Professional nutritional services	0	0.00	19	0.08	2	0.01
Machine hire, rent & lease	63	0.29	76	0.37	62	0.25
Machine repairs & farm vehicle expense	146	0.65	135	0.63	130	0.53
Fuel, oil & grease	82	0.37	70	0.32	69	0.28
Replacement livestock	34	0.15	49	0.25	33	0.14
Breeding	46	0.21	34	0.16	47	0.19
Veterinary & medicine	122	0.54	110	0.50	139	0.57
Milk marketing	163	0.77	149	0.69	148	0.61
Bedding	45	0.20	47	0.21	71	0.30
Milking supplies	58	0.27	51	0.23	75	0.31
Cattle lease & rent	10	0.06	2	0.01	1	0.01
Custom boarding	49	0.21	76	0.32	81	0.35
bST expense	54	0.23	47	0.20	76	0.31
Livestock professional fees	8	0.04	6	0.03	4	0.02
Other livestock expense	24	0.11	26	0.12	25	0.10
Fertilizer & lime	43	0.19	60	0.30	58	0.24
Seeds & plants	38	0.17	41	0.19	48	0.20
Spray & other crop expense	40	0.18	37	0.16	42	0.17
Crop professional fees	3	0.01	7	0.03	7	0.03
Land, building & fence repair	40	0.19	30	0.14	35	0.14
Taxes & rent	88	0.40	100	0.48	101	0.42
Utilities	83	0.37	68	0.31	72	0.30
Interest paid	128	0.60	150	0.72	117	0.49
Other professional fees	11	0.05	10	0.05	18	0.08
Misc. (including insurance)	47	0.22	41	0.20	56	0.23
Total Operating Expenses	$2,999	$13.64	$2,833	$13.12	$3,244	$13.44
Expansion livestock	17	0.11	21	0.09	64	0.28
Extraordinary expense	0	0.00	2	0.01	0	0.00
Machinery depreciation	155	0.71	133	0.62	150	0.63
Building depreciation	125	0.57	126	0.61	133	0.56
Total Accrual Expenses	$3,296	$15.03	$3,115	$14.45	$3,591	$14.91
ACCRUAL RECEIPTS						
Milk sales	$2,913	$13.24	$2,905	$13.47	$3,206	$13.29
Dairy cattle	151	0.71	159	0.72	251	1.05
Dairy calves	29	0.13	67	0.37	46	0.20
Other livestock	8	0.03	13	0.06	3	0.01
Crops	52	0.23	94	0.44	94	0.39
Miscellaneous receipts	148	0.69	97	0.48	80	0.33
Total Accrual Receipts	$3,301	$15.03	$3,335	$15.54	$3,680	$15.27
PROFITABILITY ANALYSIS (Total)						
Net farm income (without appreciation)		$1,668		$110,631		$112,271
Net farm income (with appreciation)		$54,137		187,152		$315,812
Labor & management income		$-63,249		39,020		$-72,686
Number of operators		1.69		2.08		2.36
Labor & management income/operator		$-37,425		$18,760		$-30,799
Rates of return on: Equity capital w/o apprec.		-5.0%		2.4%		-0.4%
Equity capital w/ apprec.		-0.9%		8.0%		5.2%
All capital w/o apprec.		-0.9%		3.6%		1.6%
All capital w/ apprec.		1.4%		6.2%		4.5%

SELECTED BUSINESS FACTORS FOR THREE LARGE HERD GROUPS

55 Large Herd Dairy Farms, 2003

Item	18 Farms with 300-400 Cows	17 Farms with 401-599 Cows	20 Farms with ≥ 600 Cows
Cropping Program Analysis			
Total Tillable acres	633	949	2,025
Tillable acres rented[25]	268	589	1,029
Hay crop acres[25]	285	413	920
Corn silage acres[25]	232	358	937
Hay crop, tons DM/acre	3.1	3.2	3.4
Corn silage, tons/acre	16.4	15.2	16.9
Forage DM per cow, tons	6.9	6.8	8.0
Tillable acres/cow	1.8	1.9	1.9
Fertilizer & lime expense/tillable acre	$21.22	$35.32	$28.91
Machinery cost/tillable acre	$249	$215	$234
Dairy Analysis			
Number of cows	346	507	1,139
Number of heifers	269	378	916
Milk sold, lbs.	7,637,000	11,011,350	27,472,070
Milk sold/cow, lbs.	22,072	21,719	24,119
Operating cost of prod. milk/cwt.	$11.92	$11.14	$11.72
Total cost of prod. milk/cwt.	$14.92	$13.79	$14.12
Price/cwt. milk sold	$13.24	$13.47	$13.29
Purchased dairy feed/cow	$1,016	$871	$1,057
Purchased dairy feed/cwt. milk	$4.65	$4.04	$4.39
Purchased grain & concentrate as % of milk receipts	32%	27%	31%
Purchased feed & crop expense/cwt. milk	$5.20	$4.72	$5.03
Capital Efficiency			
Farm capital/worker	$283,816	$265,168	$306,766
Farm capital/cow	$6,606	$5,884	$6,262
Real estate/cow	$2,537	$2,133	$2,376
Machinery investment/cow	$1,323	$1,073	$994
Asset turnover ratio	0.56	0.61	0.61
Labor Efficiency			
Worker equivalent	8.55	11.25	23.25
Operator/manager equivalent	1.69	2.08	2.36
Milk sold/worker, lbs.	893,216	978,787	1,181,594
Cows/worker	40	45	49
Labor cost/cow	$691	$637	$740
Financial Measures			
Percent equity	54%	55%	50%
Debt/asset ratio - long term	0.37	0.55	0.50
Debt/asset ratio - intermediate & current	0.51	0.55	0.50
Change in net worth with appreciation	$15,418	$91,597	$165,884
Total farm debt per cow	$3,017	$3,184	$3,051
Debt payments made per cow	$474	$526	$579
Debt payments as % of milk sales	17%	19%	16%
Amount available for debt service	$94,283	$190,051	$386,336
Debt coverage ratio for 2003	0.61	0.98	1.28

[25]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

18 Large Herd Dairy Farms with 300 – 400 Cows, 2003

	QUINTILE				
Item	1	2	3	4	5
Accrual Operating Receipts					
Milk	$3,375	$3,018	$2,893	$2,753	$2,345
Dairy cattle	236	188	159	110	22
Dairy calves	72	40	22	17	-21
Other livestock	37	3	0	0	-5
Crops	273	77	19	-2	-178
Misc. receipts	241	151	136	108	73
Total Operating Receipts	$3,811	$3,513	$3,303	$3,136	$2,495
Accrual Operating Expenses					
Hired labor	$251	$373	$540	$666	$835
Dairy grain & concentrate	622	776	938	999	1,176
Dairy roughage	0	6	21	71	314
Nondairy feed	0	0	0	0	1
Professional nutritional services	0	0	0	0	0
Mach. Hire/rent/lease	3	12	30	68	175
Mach. Repair & farm veh. Exp.	56	101	128	173	237
Fuel, oil & grease	43	67	75	92	120
Replacement livestock	0	0	0	10	143
Breeding	10	29	42	53	81
Vet & medicine	50	86	118	145	186
Milk marketing	117	135	150	165	230
Bedding	11	26	40	53	81
Milking supplies	31	43	51	66	90
Cattle lease	0	0	0	0	45
Custom boarding	0	0	0	12	208
bST expense	0	6	56	84	101
Livestock professional fees	0	0	0	12	25
Other livestock expense	0	5	16	31	59
Fertilizer & lime	3	20	42	58	79
Seeds & plants	2	20	38	50	67
Spray/other crop expenses	0	14	37	57	76
Crop professional fees	0	0	0	1	11
Land, building, fence repair	11	18	35	48	78
Taxes	12	30	45	62	76
Real estate rent/lease	2	13	24	41	108
Insurance	16	24	28	35	62
Utilities	54	74	78	88	112
Interest	49	83	104	150	221
Other professional fess	1	5	7	14	19
Miscellaneous	3	5	8	14	29
Total Operating Expenses	$2,220	$2,811	$3,008	$3,121	$3,593
Expansion Livestock	0	0	0	0	75
Extraordinary Expense	0	0	0	0	0
Machinery Depreciation	39	105	134	197	259
Building Depreciation	34	79	109	159	212
Net Farm Income w/o Apprec.	$370	$98	$-8	$-179	$-407

RECEIPTS AND EXPENSES PER CWT. OF MILK SOLD
18 Large Herd Dairy Farms With 300 – 400 Cows, 2003

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$14.25	$13.26	$13.02	$12.88	$12.52
Dairy cattle	1.23	0.89	.67	.47	.08
Dairy calves	.32	.18	.11	.07	-.10
Other livestock	.16	.01	.00	.00	-.03
Crops	1.19	.34	.10	-.01	-.79
Misc. receipts	1.21	.72	.58	.46	.31
Total Operating Receipts	$17.02	$15.35	$14.69	$14.26	$13.14
Accrual Operating Expenses					
Hired labor	$1.34	$1.82	$2.28	$3.01	$3.59
Dairy grain & concentrate	3.29	3.80	4.16	4.49	4.83
Dairy roughage	.00	.02	.10	.30	1.73
Nondairy feed	.00	.00	.00	.00	.01
Professional nutritional services	.00	.00	.00	.00	.00
Mach. Hire/rent/lease	.01	.06	.13	.32	.82
Mach. Repair & farm veh. Exp.	.31	.45	.56	.78	1.03
Fuel, oil & grease	.23	.26	.35	.41	.53
Replacement livestock	.00	.00	.00	.04	.65
Breeding	.05	.15	.20	.23	.36
Vet & medicine	.27	.37	.53	.65	.78
Milk marketing	.54	.58	.66	.72	1.23
Bedding	.05	.12	.17	.22	.36
Milking supplies	.14	.20	.24	.30	.40
Cattle lease	.00	.00	.00	.00	.25
Custom boarding	.00	.00	.00	.06	.88
bST expense	.00	.03	.25	.34	.42
Livestock professional fees	.00	.00	.00	.05	.11
Other livestock expense	.00	.02	.08	.14	.27
Fertilizer & lime	.01	.10	.18	.25	.36
Seeds & plants	.01	.10	.16	.22	.30
Spray/other crop expenses	.00	.06	.16	.24	.36
Crop professional fees	.00	.00	.00	.01	.04
Land, building, fence repair	.05	.09	.14	.24	.35
Taxes	.05	.14	.20	.28	.36
Real estate rent/lease	.01	.06	.10	.17	.51
Insurance	.07	.11	.13	.16	.29
Utilities	.27	.33	.36	.39	.47
Interest	.21	.36	.47	.74	1.07
Other professional fees	.00	.02	.03	.06	.08
Miscellaneous	.01	.02	.04	.07	.12
Total Operating Expenses	$11.71	$12.93	$13.53	$14.30	$14.89
Expansion Livestock	.00	.00	.00	.00	.48
Extraordinary expense	.00	.00	.00	.00	.00
Machinery Depreciation	.23	.45	.58	.90	1.19
Building Depreciation	.17	.38	.53	.68	.95
Net Farm Income w/o Apprec.	$1.70	$.47	$-.05	$-.79	$-1.77

RECEIPTS AND EXPENSES PER COW
17 Large Herd Dairy Farms With 401 – 599 Cows, 2003

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$3,464	$3,071	$2,863	$2,665	$2,220
Dairy cattle	281	174	131	109	54
Dairy calves	164	73	41	24	-2
Other livestock	58	1	0	-1	-6
Crops	232	120	63	26	-24
Misc. receipts	153	105	89	75	40
Total Operating Receipts	$3,939	$3,458	$3,297	$3,120	$2,615
Accrual Operating Expenses					
Hired labor	$262	$405	$522	$629	$693
Dairy grain & concentrate	422	727	772	833	1,023
Dairy roughage	0	1	6	27	372
Nondairy feed	0	0	0	0	0
Professional nutritional services	0	0	0	1	78
Mach. hire/rent/lease	7	20	49	93	176
Mach. repair & farm veh. exp.	63	85	113	150	226
Fuel, oil & grease	32	53	68	82	99
Replacement livestock	0	0	0	10	197
Breeding	11	19	31	40	59
Vet & medicine	56	80	101	125	163
Milk marketing	92	116	131	147	233
Bedding	7	20	33	57	97
Milking supplies	24	40	43	54	82
Cattle lease	0	0	0	0	11
Custom boarding	0	0	0	53	269
bST expense	0	2	22	72	109
Livestock professional fees	0	0	0	7	19
Other livestock expense	1	8	23	33	55
Fertilizer & lime	8	30	47	73	117
Seeds & plants	13	27	34	46	72
Spray/other crop expenses	1	12	31	50	74
Crop professional fees	0	0	5	10	18
Land, building, fence repair	3	11	18	27	78
Taxes	4	23	31	41	64
Real estate rent/lease	16	28	43	87	124
Insurance	12	15	21	25	43
Utilities	39	53	63	76	95
Interest	90	106	133	163	229
Other professional fees	1	5	8	12	23
Miscellaneous	5	9	12	15	37
Total Operating Expenses	$2,002	$2,630	$2,908	$3,046	$3,334
Expansion Livestock	0	0	0	0	89
Extraordinary expense	0	0	0	0	8
Machinery Depreciation	41	73	106	160	239
Building Depreciation	34	92	100	127	241
Net Farm Income w/o Apprec.	$418	$335	$202	$105	$-62

RECEIPTS AND EXPENSES PER CWT. OF MILK SOLD
17 Large Herd Dairy Farms With 401 – 599 Cows, 2003

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$14.53	$13.63	$13.34	$12.98	$12.49
Dairy cattle	1.27	.77	.60	.45	.32
Dairy calves	1.06	.31	.18	.11	-.01
Other livestock	.28	.01	.00	-.01	-.03
Crops	1.05	.57	.31	.13	-.11
Misc. receipts	.84	.54	.40	.30	.18
Total Operating Receipts	$17.40	$16.10	$14.89	$14.42	$14.13
Accrual Operating Expenses					
Hired labor	$1.49	$1.86	$2.35	$2.72	$3.19
Dairy grain & concentrate	2.22	3.42	3.62	3.95	4.50
Dairy roughage	.00	.00	.03	.16	1.58
Nondairy feed	.00	.00	.00	.00	.00
Professional nutritional services	.00	.00	.00	.00	.34
Mach. Hire/rent/lease	.03	.09	.26	.44	.86
Mach. Repair & farm veh. Exp.	.31	.44	.54	.65	1.05
Fuel, oil & grease	.18	.25	.31	.35	.46
Replacement livestock	.00	.00	.00	.04	1.04
Breeding	.06	.09	.13	.18	.28
Vet & medicine	.31	.40	.45	.56	.71
Milk marketing	.49	.55	.63	.69	.98
Bedding	.04	.09	.15	.26	.41
Milking supplies	.13	.17	.20	.26	.36
Cattle lease	.00	.00	.00	.00	.04
Custom boarding	.00	.00	.00	.23	1.13
bST expense	.00	.01	.10	.34	.43
Livestock professional fees	.00	.00	.00	.03	.08
Other livestock expense	.00	.04	.13	.16	.24
Fertilizer & lime	.04	.15	.22	.30	.69
Seeds & plants	.07	.13	.16	.20	.32
Spray/other crop expenses	.00	.05	.15	.22	.32
Crop professional fees	.00	.00	.02	.05	.09
Land, building, fence repair	.02	.05	.08	.12	.34
Taxes	.02	.10	.13	.20	.37
Real estate rent/lease	.06	.14	.22	.39	.58
Insurance	.05	.07	.11	.13	.19
Utilities	.23	.26	.29	.33	.42
Interest	.37	.51	.60	.88	1.06
Other professional fees	.00	.02	.04	.05	.10
Miscellaneous	.02	.04	.05	.09	.17
Total Operating Expenses	$11.68	$12.30	$13.13	$13.34	$14.60
Expansion Livestock	.00	.00	.00	.00	.39
Extraordinary expense	.00	.00	.00	.00	.03
Machinery Depreciation	.18	.36	.54	.74	1.08
Building Depreciation	.14	.38	.48	.67	1.17
Net Farm Income w/o Apprec.	$2.42	$1.40	$.94	$.47	$-.27

RECEIPTS AND EXPENSES PER COW

20 Large Herd Dairy Farms With 600 or More Cows, 2003

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$3,644	$3,301	$3,137	$3,056	$2,893
Dairy cattle	493	272	210	178	103
Dairy calves	84	53	47	30	17
Other livestock	19	1	0	-1	-4
Crops	190	153	95	41	-10
Misc. receipts	146	104	71	51	30
Total Operating Receipts	$4,155	$3,838	$3,648	$3,481	$3,278
Accrual Operating Expenses					
Hired labor	$442	$603	$680	$745	$878
Dairy grain & concentrate	779	902	986	1,086	1,169
Dairy roughage	0	6	23	59	276
Nondairy feed	0	0	0	0	0
Professional nutritional services	0	0	0	0	9
Mach. Hire/rent/lease	5	11	36	104	153
Mach. Repair & farm veh. Exp.	79	104	119	146	203
Fuel, oil & grease	49	56	58	76	107
Replacement livestock	0	0	3	23	140
Breeding	21	31	45	58	79
Vet & medicine	91	113	135	161	194
Milk marketing	84	131	138	145	242
Bedding	32	55	64	88	118
Milking supplies	39	57	69	88	123
Cattle lease	0	0	0	0	5
Custom boarding	0	3	34	93	273
bST expense	21	74	86	91	105
Livestock professional fees	0	0	0	1	20
Other livestock expense	2	13	18	24	70
Fertilizer & lime	11	39	57	73	109
Seeds & plants	26	40	48	53	74
Spray/other crop expenses	0	20	40	57	91
Crop professional fees	0	0	6	10	19
Land, building, fence repair	6	16	31	46	75
Taxes	9	29	37	45	54
Real estate rent/lease	18	34	54	76	148
Insurance	17	22	28	37	56
Utilities	41	57	66	81	114
Interest	50	99	122	139	173
Other professional fees	3	6	8	19	56
Miscellaneous	6	11	19	29	54
Total Operating Expenses	$2,724	$3,065	$3,170	$3,456	$3,787
Expansion Livestock	0	0	0	11	309
Extraordinary expense	0	0	0	0	0
Machinery Depreciation	54	96	142	190	266
Building Depreciation	30	88	117	173	256
Net Farm Income w/o Apprec.	$400	$203	$126	$-37	$-224

RECEIPTS AND EXPENSES PER CWT. OF MILK SOLD
20 Large Herd Dairy Farms With 600 or More Cows, 2003

Item	QUINTILE 1	2	3	4	5
Accrual Operating Receipts					
Milk	$14.06	$13.55	$13.15	$12.91	$12.77
Dairy cattle	2.14	1.05	.91	.72	.43
Dairy calves	.38	.23	.19	.12	.07
Other livestock	.07	.00	.00	.00	-.02
Crops	.81	.65	.39	.16	-.04
Misc. receipts	.62	.41	.31	.20	.13
Total Operating Receipts	$16.87	$15.61	$15.04	$14.60	$14.24
Accrual Operating Expenses					
Hired labor	$1.89	$2.54	$2.85	$3.10	$3.46
Dairy grain & concentrate	3.33	3.85	3.98	4.30	4.95
Dairy roughage	.00	.03	.10	.24	1.18
Nondairy feed	.00	.00	.00	.00	.00
Professional nutritional services	.00	.00	.00	.00	.04
Mach. Hire/rent/lease	.02	.05	.15	.43	.62
Mach. Repair & farm veh. Exp.	.34	.44	.51	.60	.78
Fuel, oil & grease	.21	.24	.25	.30	.43
Replacement livestock	.00	.00	.01	.10	.60
Breeding	.09	.13	.19	.25	.31
Vet & medicine	.36	.51	.58	.65	.77
Milk marketing	.36	.53	.58	.62	.94
Bedding	.14	.23	.28	.36	.48
Milking supplies	.16	.24	.30	.35	.50
Cattle lease	.00	.00	.00	.00	.02
Custom boarding	.00	.01	.14	.40	1.18
bST expense	.10	.30	.35	.37	.44
Livestock professional fees	.00	.00	.00	.01	.08
Other livestock expense	.01	.05	.07	.10	.28
Fertilizer & lime	.05	.15	.25	.32	.44
Seeds & plants	.10	.17	.20	.22	.32
Spray/other crop expenses	.00	.08	.17	.23	.37
Crop professional fees	.00	.00	.02	.05	.08
Land, building, fence repair	.03	.07	.13	.19	.30
Taxes	.04	.12	.15	.18	.23
Real estate rent/lease	.07	.15	.22	.33	.62
Insurance	.08	.10	.11	.16	.23
Utilities	.18	.24	.27	.35	.45
Interest	.20	.40	.51	.59	.73
Other professional fees	.01	.03	.03	.08	.24
Miscellaneous	.02	.05	.08	.11	.22
Total Operating Expenses	$11.91	$12.66	$13.43	$14.09	$15.01
Expansion Livestock	.00	.00	.00	.04	1.37
Extraordinary expense	.00	.00	.00	.00	.00
Machinery Depreciation	.22	.37	.60	.82	1.14
Building Depreciation	.12	.37	.49	.71	1.09
Net Farm Income w/o Apprec.	$1.66	$.81	$.54	$-.17	$-.93

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

55 Large Herd Dairy Farms, 2003

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
(14)[26]	(12)	(12)	(12)	(11)	(11)	(14)	(14)
34.5	1,843	44,327,740	26,793	5.1	23	74	1,398,024
22.1	998	24,386,110	25,667	4.5	20	55	1,254,903
17.1	740	17,889,810	24,622	4.2	19	52	1,168,484
13.9	604	14,140,450	23,549	4.0	19	49	1,115,716
12.2	521	11,900,430	23,159	3.6	18	46	1,073,105
11.1	471	9,720,770	22,800	3.3	17	43	1,007,054
9.8	393	8,581,322	22,081	3.1	17	41	980,864
8.6	371	8,059,419	21,023	2.9	16	37	898,484
7.3	335	7,456,185	19,863	2.7	15	35	728,349
5.5	308	5,828,920	15,485	2.3	13	29	649,362

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
(12)	(12)	(14)	(14)	(12)	(12)
$476	19%	$229	$665	$743	$3.65
695	26	348	916	876	4.34
769	27	389	1,002	973	4.48
823	28	425	1,080	1,044	4.60
866	29	450	1,131	1,091	4.74
924	30	489	1,197	1,123	4.90
974	31	527	1,259	1,178	5.13
1,028	33	562	1,322	1,254	5.29
1,108	35	602	1,407	1,310	5.55
1,195	38	679	1,556	1,534	6.71

[26] ( ) = 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
(14)	(14)	(14)	(15)	(15)	(15)
$1.30	$20,483	9%	$0.37	$0.27	$0.00
1.68	23,816	12	0.52	0.34	0.01
1.91	26,306	14	0.55	0.40	0.02
2.28	28,367	17	0.57	0.45	0.05
2.46	30,309	18	0.59	0.50	0.07
2.67	31,334	19	0.63	0.56	0.09
2.84	32,994	21	0.66	0.60	0.12
3.07	35,072	22	0.70	0.66	0.16
3.28	36,898	24	0.78	0.73	0.20
3.63	42,815	27	1.34	0.80	0.33

Machinery & Crop Expense		Cost of Producing Milk			
		Operating Cost		Total Cost	
Per Tillable Acre	Per Ton Dry Matter	Per Cow	Per Cwt.	Per Cow	Per Cwt.
(CALC)	(CALC)	(12)	(12)	(12)	(12)
$180	$50	$1,662	$9.58	$2,266	$12.63
249	66	2,224	10.28	2,873	13.02
276	71	2,393	10.51	2,939	13.40
299	73	2,467	10.99	3,103	13.62
326	79	2,567	11.34	3,173	13.90
341	83	2,649	11.65	3,279	14.20
357	88	2,770	12.15	3,371	14.51
375	96	2,871	12.46	3,501	15.02
418	108	3,119	12.80	3,619	15.40
798	227	3,349	13.42	3,906	16.30

bST Expense Per Cow	bST Expense Per Cwt.	Percent Herd On bST	Culling Rate	Expense Ratios		
				Operating	Depreciation	Interest
(12)	(12)	(CALC)	(12)	(14)	(14)	(14)
$ 0	$0.00	0%	23%	71%	2%	1%
1	0.00	1	29	77	4	2
7	0.03	5	31	79	5	3
36	0.17	26	33	83	6	3
56	0.26	41	34	84	7	3
77	0.32	56	36	86	8	3
86	0.35	63	37	87	9	4
91	0.38	66	38	89	10	5
99	0.41	73	40	92	12	6
112	0.45	82	45	98	14	7

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
(12)	(12)	(12)	(12)	(12)
$14.78	$13.68	$3,656	$449	$143
13.89	13.08	3,385	261	79
13.53	12.92	3,200	218	58
13.40	12.77	3,109	195	50
13.20	12.58	3,035	178	41
13.06	12.44	2,964	162	31
12.96	12.37	2,896	137	23
12.86	12.29	2,794	118	18
12.72	12.17	2,661	80	15
12.48	11.82	2,210	31	-16

Debt Management				
Farm Debt Per Cow		Cost of	Planned Debt Payments	
Total	Intermediate & Long Term	Borrowed Capital	Per Cow	Per Cwt.
(7)	(7)	(7)	(10)	(10)
$1,494	$970	2.8%	$27	$0.00
2,108	1,407	3.0	227	0.20
2,461	1,754	3.0	411	1.00
2,636	1,918	3.0	462	1.40
2,847	2,201	3.0	504	2.00
3,025	2,349	4.0	523	2.00
3,271	2,607	4.0	547	2.00
3,488	2,798	4.0	589	2.00
3,971	3,233	5.0	632	2.00
4,867	3,855	6.7	758	3.33

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
(16)	(16)	(CALC)	(CALC)	(10)
$782	$3.89	$323	$1.58	3.24
635	3.01	218	1.01	1.16
578	2.48	186	0.78	0.97
523	2.36	155	0.69	0.84
482	2.19	131	0.57	0.71
454	1.96	115	0.50	0.64
400	1.70	103	0.45	0.51
297	1.35	88	0.39	0.37
231	0.93	58	0.28	0.19
75	0.32	32	0.13	-0.06

Capital Efficiency				
Farm Capital Per Cow	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Labor Cost Per Worker Equivalent	Asset Turnover Ratio
(14)	(14)	(14)	(CALC)	(14)
$3,700	$608	$333	$22,554	0.89
4,784	1,504	601	24,975	0.72
5,333	1,841	774	27,113	0.66
5,905	2,007	880	28,860	0.60
6,139	2,166	1,018	30,114	0.58
6,364	2,295	1,132	31,638	0.55
6,621	2,473	1,247	33,023	0.53
6,941	2,821	1,400	34,569	0.51
7,736	3,229	1,657	36,045	0.45
8,604	3,985	1,881	42,097	0.40

Solvency

Percent Equity	Leverage Ratio	Debt to Asset Ratios		
		Total	Current/Intermediate	Long Term
(7)	(7)	(7)	(7)	(7)
77%	0.28	0.22	0.18	0.00
68	0.40	0.30	0.28	0.11
59	0.57	0.38	0.32	0.21
54	0.73	0.43	0.38	0.31
50	0.87	0.47	0.44	0.38
46	1.01	0.51	0.52	0.43
42	1.19	0.55	0.62	0.57
38	1.48	0.60	0.66	0.65
33	1.76	0.65	0.72	0.80
17	2.87	0.81	0.91	1.07

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
(4)	(4)	(4)	(4)	(4)
$121,525	9.2%	17.7%	6.8%	10.9%
52,512	5.6	11.1	4.6	7.8
27,933	3.1	8.2	3.5	6.1
4,874	1.4	6.3	2.7	5.1
-14,615	0.1	3.7	1.9	3.9
-27,209	-2.0	2.4	1.1	3.1
-43,636	-5.1	0.7	-0.2	1.8
-66,059	-9.4	-1.9	-2.0	1.1
-148,088	-13.5	-6.3	-3.1	-1.3
-277,344	-24.4	-19.6	-6.4	-4.6

Profitability, Continued

Net Farm Income Without Appreciation		Net Farm Income From Operations Ratio	Net Income Efficiency Ratio
Per Cow	Per Cwt.		
(12)	(12)	(4)	(CALC)
$481	$2.46	15%	16%
353	1.51	10	10
266	1.14	8	8
180	0.85	6	7
124	0.55	4	5
72	0.30	2	3
-9	-0.04	0	2
-64	-0.28	-2	1
-190	-0.84	-6	-2
-355	-1.51	-11	-6

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 42-45 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 20).

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 22).

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 10 & 11 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 22).

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

Debt to Asset Ratios - (defined on page 18).

Deferred Taxes - (defined on page 17).

Depreciation Expense Ratio - The percentage of Total Accrual Receipts that is charged to depreciation expense. Machinery Depreciation (DFBS p. 3) plus Building Depreciation (p. 3) 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 22.

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 (DFBS p. 2) by number of hired plus family paid worker equivalents (p. 14).

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 (DFBS 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 (DFBS p. 3) 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 (DFBS p. 2) and total machinery expenses (p. 11), then divide by number of tillable acres, owned & rented (p. 11).

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 (DFBS p. 2) and total machinery expenses (p. 11), then divide by total forage, production, tons DM (p. 11).

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 (DFBS p. 4) 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 (DFBS p. 4) by number of cwt. of milk sold, which is total milk sold (p. 12) 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 (DFBS p. 4) by average number of cows for the year (p. 12).

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 (DFBS p. 4), plus Accrual Interest Paid (p. 3), divided by number of operators (p. 4), 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. (DFBS p. 12) minus accrual milk marketing expense per cwt. (p. 12).

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 29).

Operating Expense Ratio - The percentage of Total Accrual Receipts that is used for operating expenses, excluding interest & depreciation. Total Accrual Expenses (DFBS p. 3) minus Machinery Depreciation (p. 3), minus Building Depreciation (p. 3), minus Accrual Interest Expense (p. 3), 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 (DFBS p. 9) divided by pounds milk sold (p. 12) 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 (DFBS p. 9) divided by average number of cows (p. 12).

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 one 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 29).

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 29).

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. 14) divided by number of worker equivalents (p. 14).

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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