

Dairy Business Analysis Project: 2003 Financial Summary¹

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Introduction

The Dairy Business Analysis Project (DBAP) was initiated in 1996 by the University of Florida in an effort to measure and document the financial performance of Florida dairy businesses using standardized accounting measures. The University of Georgia has been a formal collaborator since 1998. A committee of dairymen appointed by Southeast Milk, Inc. oversees the project and helps direct its course. The DBAP website is <http://dairy.ifas.ufl.edu/programs/dbap.shtml>

Financial data for the year 2003 were collected from participating dairies and screened for completeness and validity. Each dairy then received a report detailing its financial results compared to the average results for the other participants and the six dairies with the highest net farm income from operations per cwt.

This publication is a summary of the financial performance in the year 2003. It is intended for general use by dairy farmers, the allied industry, and government, and educational professionals.

Data Collection and Accounting Methods

Dairy businesses in Florida, Georgia, and Alabama were asked to participate in DBAP. Participants were not a random sample of all dairies in the three states. The financial performance results in this publication are therefore not necessarily representative of the results of all dairies in Florida, Georgia, and Alabama.

Most of the data were collected by extension agents when visiting farms using a standardized data collection spreadsheet. Occasionally, data were sent in by the dairy farms. The financial data were either entered into the spreadsheet on the farm or mailed in on paper copies of the spreadsheet.

The accounting methods follow the recommendations made by the Farm Financial Standards Council Farm Financial Standards Council. 1997. Financial Guidelines for Agricultural Producers.. All revenues and expenses were accrual adjusted. Cash receipts and expenses were therefore adjusted for changes in inventory, prepaid expenses, depreciation, accounts payable, and receivable.

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Depreciation data were taken from tax records. Asset valuation was based on market values, but the changes from January 1 to December 31 were kept small. Unpaid management was valued at \$50,000 per farm. Gain/loss on sale of capital livestock resulted when livestock depreciation did not completely account for the gain or loss in the value of the purchased livestock during 2003. Appreciation resulted when machinery and building depreciation did not completely account for the gain or loss in the value of these capital assets during 2003.

The bottom line of each dairy business is its net farm income. Net farm income is the return to the owner and unpaid family members for their labor, management, and equity in the business. It is the total income available for owners salary, new investments, taxes, and paying off principal.

All submitted data were carefully scrutinized and checked for completeness. The cash flow statement reconciles the net cash flow resulting from the reported operating, investing, and financing activities with the reported available cash on the January 1 and December 31 balance sheets. The equity statement reconciles the changes in equity through reported retained capital and valuation with the calculated equity on the balance sheets. The reconciliation attempts typically result in unresolved imbalances. Both cash flow imbalance and equity imbalance had to be less than 10% for the business to be included in the summary results reported here.

Results

Twenty-seven dairies submitted financial data. Twenty-six dairies were included in the summary results. Of these, 17 were located in Florida and 9 in Georgia. The average herd size of the participating dairies was 1,316 cows and 619 heifers with 17,971 lbs. milk sold per cow. The average culling rate was 40%. The milk price received by DBAP participants averaged \$15.89, 1% less than in 2002. Average total revenues were \$17.66 per cwt. sold, unchanged from 2002. Total expenses averaged \$18.27 per cwt., an increase of \$0.37 compared to 2002. The largest items were purchased feed (\$7.16) and personnel costs (\$3.22). Net farm income from operations averaged a

loss of \$0.61 per cwt., a decrease of \$0.38 compared to 2002. Net farm income per cwt. was a loss of \$0.51.

Summary results are presented in Figures 1 through 5 and Tables 1.1 through 4.4. Some definitions and calculation rules are as follows:

- Asset turnover ratio = total revenues / average assets
- Assets = value of assets on the balance sheet
- Average assets = average of value of assets on January 1 and December 31
- Average equity = average of value of equity on January 1 and December 31
- Capital replacement and term debt repayment margin = NFIFO + depreciation + interest on term debt – net social security and income taxes – owner withdrawals – annual scheduled payments on term debt and capital leases.
- Cash flow coverage ratio = (cash revenues – cash expenses) / current liabilities
- Current assets = short-term assets that can be utilized within one year
- Current liabilities = liabilities due within one year
- Current ratio = current assets / current liabilities
- Debt to asset ratio = liabilities / assets
- Debt to equity ratio = liabilities / equity
- Depreciation expense ratio = depreciation / total revenue
- Equity = assets – liabilities
- Equity to asset ratio = equity / assets
- FTE = full time equivalent worker, on average 54 hours per week
- Interest expense ratio = interest paid / total revenue

- Liabilities = value of liabilities on the balance sheet
- Net farm income = NFIFO + gain on sale of capital assets
- NFIFO = net farm income from operations
- NFIFO ratio = NFIFO / total revenue
- Operating expense ratio = (total operating expenses – depreciation) / total revenue
- Operating profit margin ratio = (NFIFO + interest paid – unpaid management) / total revenues
- Rate of return on dairy assets = (NFIFO + interest paid – unpaid management) / average assets
- Rate of return on equity = (NFIFO – unpaid management) / average equity
- Term debt and capital lease coverage ratio = (NFIFO + non dairy income + depreciation + interest paid on term debt – net social security and income taxes – owner withdrawals) / (annual scheduled payments on term debt and capital leases).
- Working capital = current assets / current liabilities

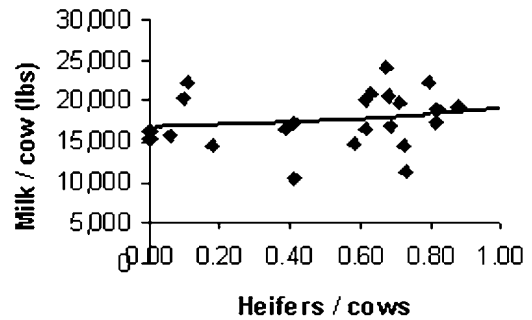


Figure 1. DBAP 2003 Summary - Milk per cow (lbs / year) by heifers per cows.

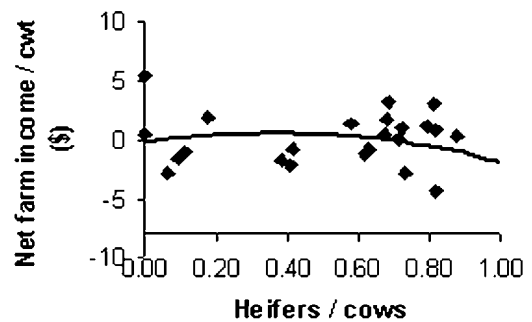


Figure 2. DBAP 2003 Summary - Net farm income per cwt (\$) by heifers per cows.

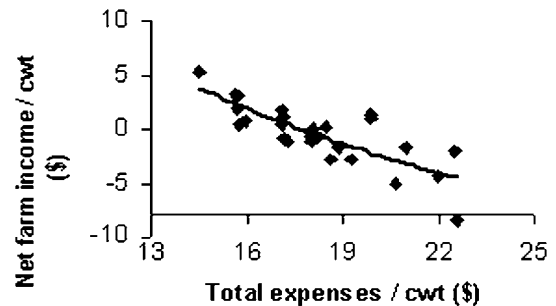


Figure 3. DBAP 2003 Summary - Net farm income per cwt (\$) by total expenses per cwt (\$).

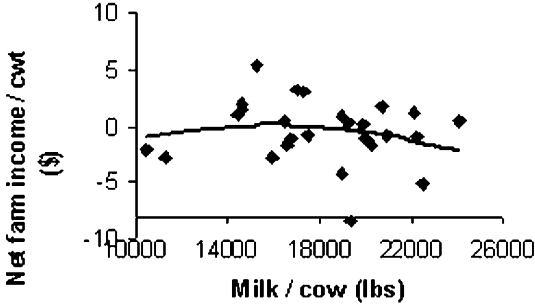


Figure 4. DBAP 2003 Summary - Net farm income per cwt (\$) by milk per cow (lbs / year).

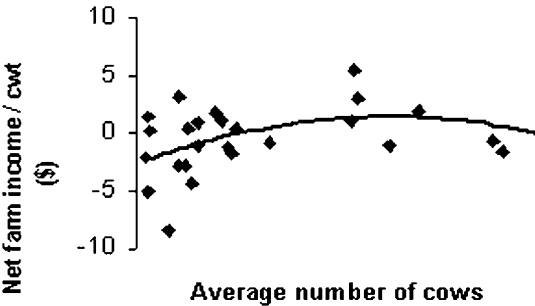


Figure 5. DBAP 2003 Summary - Net farm income per cwt (\$) by average number of cows.

Table 1.1. DBAP 2003 Summary - Business size and production efficiency by state and overall average, median, and standard deviation.

Category	Overall			State Averages	
	Average	Median	Std ¹	Florida	Georgia
Number of farms	26	26	26	17	9
Business Size					
Average number of cows	1,316	823	1,276	1,363	1,228
Average number of heifers	619	376	790	739	394
Milk sold (million lbs)	24.69	14.04	25.66	24.19	25.64
FTE workers	24	15	24	25	24
Acres of pasture + cultivated land	732	421	632	796	610
Production Efficiency					
Milk sold / cow (lbs)	17,971	18,214	3,355	16,770	20,238
Cows / FTE worker	55	56	22	59	46
Milk sold / FTE worker (million lbs)	0.96	0.93	0.38	0.99	0.92
Cull rate	0.40	0.36	0.16	0.39	0.44

¹Standard deviation.**Table 1.2.** DBAP 2003 Summary - Revenues and expenses by state and overall average, median, and standard deviation.

Category	Overall			State Averages	
	Average	Median	Std ¹	Florida	Georgia
Number of farms	26	26	26	17	9
Revenues (per cwt)					
Milk sold (\$)	15.89	15.91	0.70	16.05	15.60
Raised, leased cow sales (\$)	0.36	0.32	0.91	0.41	0.26
Heifer sales (\$)	0.25	0.14	0.69	0.24	0.29
Gain on purchased livestock sales (\$)	0.19	0.01	0.94	0.21	0.16
Other revenues (\$)	0.97	0.59	1.27	0.62	1.63
Total revenues (\$)	17.66	17.44	1.58	17.52	17.94
Expenses (per cwt)					
Personnel (\$)	3.22	2.94	1.46	3.43	2.83
Purchased feed (\$)	7.16	7.06	1.27	7.43	6.64
Crops (\$)	0.43	0.27	0.56	0.25	0.79
Machinery (\$)	0.82	0.76	0.46	0.87	0.70
Livestock (\$)	1.95	1.82	0.80	1.87	2.10
Milk marketing (\$)	1.11	1.00	0.35	0.93	1.45
Buildings and land (\$)	0.52	0.37	0.76	0.42	0.72
Interest (\$)	0.49	0.36	0.55	0.56	0.36
Depreciation:					
• Livestock (\$)	0.92	0.61	0.94	0.97	0.81
• Machinery (\$)	0.49	0.45	0.34	0.42	0.62
• Buildings (\$)	0.21	0.14	0.22	0.16	0.31
Other expenses (\$)	0.94	0.89	0.44	0.96	0.90
Total expenses (\$)	18.27	18.04	2.20	18.28	18.24
Net farm income from operations (\$)	(0.61)	(0.76)	2.69	(0.77)	(0.30)

Table 1.2. DBAP 2003 Summary - Revenues and expenses by state and overall average, median, and standard deviation.

Gain on sale of capital assets (\$)	0.09	0.00	0.51	0.14	0.01
Net farm income (\$)	(0.51)	(0.33)	2.82	(0.63)	(0.29)

¹Standard deviation.

Table 1.3. DBAP 2003 Summary - Financial performance by state and overall average, median, and standard deviation.

Category	Overall			State Averages	
	Average	Median	Std ¹	Florida	Georgia
Number of farms	26	26	26	17	9
Liquidity					
Current ratio	2.01	0.63	4.04	1.48	3.00
Working capital	(161,312)	(41,242)	778,878	(172,449)	(140,275)
Solvency					
Debt to asset ratio	0.41	0.39	0.26	0.40	0.43
Equity to asset ratio	0.59	0.61	0.26	0.60	0.57
Debt to equity ratio ²	(173.91)	0.62	895.28	0.88	(504.07)
Profitability					
Rate of return on assets	(0.01)	(0.03)	0.09	(0.01)	(0.01)
Rate of return on equity	(0.18)	(0.06)	0.60	(0.03)	(0.48)
Operating profit margin ratio	(0.06)	(0.05)	0.18	(0.06)	(0.05)
Financial efficiency					
Asset turnover rate	0.70	0.69	0.41	0.66	0.78
Operating expense ratio	0.92	0.90	0.17	0.93	0.90
Depreciation expense ratio	0.09	0.08	0.06	0.09	0.10
Interest expense ratio	0.03	0.02	0.03	0.03	0.02
Net farm income ratio	(0.04)	(0.04)	0.16	(0.06)	(0.02)
Repayment capacity					
Cash flow coverage ratio	0.27	0.13	4.87	(0.67)	2.04
Term debt coverage ratio ³	0.32	0.00	2.71	0.35	0.26
Capital replacement margin ⁴	(143,812)	(55,854)	892,392	(142,134)	(146,981)

¹Standard deviation.

²One dairy with a very small negative equity had a very large negative debt to equity ratio.

³Term debt and capital lease coverage ratio.

⁴Capital replacement and term debt repayment margin.

Table 1.4. DBAP 2003 Summary - Balance sheet by state and overall average, median, and standard deviation.

Category	Overall			State Averages	
	Average	Median	Std ¹	Florida	Georgia
Number of farms	26	26	26	17	9
Balance sheet (January 1)					
Current assets / cow (\$)	491	281	455	358	742
Total assets / cow (\$)	5,902	4,470	3,737	5,450	6,757
Current liabilities / cow (\$)	654	412	670	677	610
Total liabilities / cow (\$)	1,905	1,665	1,365	1,940	1,840

Table 1.4. DBAP 2003 Summary - Balance sheet by state and overall average, median, and standard deviation.

Equity / cow (\$)	3,997	2,274	4,119	3,510	4,917
Balance sheet (December 31)					
Current assets / cow (\$)	447	337	367	358	615
Total assets / cow (\$)	6,294	4,329	5,174	5,391	8,000
Current liabilities / cow (\$)	544	338	562	572	491
Total liabilities / cow (\$)	2,023	1,939	1,297	1,826	2,394
Equity / cow (\$)	4,271	2,319	5,535	3,565	5,606

¹Standard deviation.

Table 2.1. DBAP 2003 Summary - Business size and production efficiency by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs / year)		
	< 500	500-1150	> 1150	< 16,600	16,600-19,500	> 19,500
Number of farms	9	8	9	9	8	9
Business Size						
Average number of cows	287	788	2,814	996	781	2,112
Average number of heifers	205	428	1,203	219	577	1,058
Milk sold (million lbs)	5.01	13.99	53.89	14.94	13.83	44.10
FTE workers	6	17	49	15	17	41
Acres of pasture + cultivated land	299	434	1,429	695	604	881
Production Efficiency						
Milk sold / cow (lbs)	17,161	17,852	18,886	14,402	18,131	21,396
Cows / FTE worker	44	54	66	61	55	48
Milk sold / FTE worker (million lbs)	0.73	0.94	1.22	0.89	0.97	1.03
Cull rate	0.48	0.35	0.37	0.35	0.46	0.40

Table 2.2. DBAP 2003 Summary - Revenues and expenses by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs / year)		
	< 500	500-1150	> 1150	< 16,600	16,600-19,500	> 19,500
Number of farms	9	8	9	9	8	9
Revenues (per cwt)						
Milk sold (\$)	15.45	15.95	16.28	16.00	16.15	15.56
Raised, leased cow sales (\$)	0.22	0.35	0.50	0.54	0.27	0.25
Heifer sales (\$)	0.11	0.24	0.41	0.12	0.52	0.15
Gain on purchased livestock sales (\$)	(0.11)	0.40	0.31	0.49	(0.19)	0.24
Other revenues (\$)	1.94	0.48	0.43	1.25	0.64	0.98
Total revenues (\$)	17.60	17.42	17.94	18.39	17.39	17.18
Expenses (per cwt)						
Personnel (\$)	3.65	3.32	2.72	2.81	3.68	3.23
Purchased feed (\$)	6.87	7.71	6.95	7.43	6.87	7.14
Crops (\$)	0.57	0.46	0.27	0.41	0.52	0.39

Table 2.2. DBAP 2003 Summary - Revenues and expenses by average number of cows and milk per cow.

Machinery (\$)	0.83	1.00	0.63	0.62	1.14	0.72
Livestock (\$)	1.85	2.38	1.66	2.12	1.84	1.87
Milk marketing (\$)	1.15	1.09	1.09	1.14	1.04	1.14
Buildings and land (\$)	0.80	0.40	0.35	0.73	0.43	0.40
Interest (\$)	0.79	0.27	0.39	0.71	0.35	0.40
Depreciation:						
• Livestock (\$)	0.75	0.44	1.51	0.91	1.01	0.85
• Machinery (\$)	0.59	0.37	0.50	0.49	0.35	0.62
• Buildings (\$)	0.18	0.16	0.29	0.19	0.15	0.30
Other expenses (\$)	1.22	0.66	0.91	0.92	0.95	0.95
Total expenses (\$)	19.26	18.27	17.28	18.47	18.32	18.02
Net farm income from operations (\$)	(1.66)	(0.85)	0.66	(0.09)	(0.93)	(0.84)
Gain on sale of capital assets (\$)	(0.13)	0.29	0.15	0.14	(0.00)	0.13
Net farm income (\$)	(1.79)	(0.56)	0.81	0.06	(0.93)	(0.71)

Table 2.3. DBAP 2003 Summary - Financial performance by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs / year)		
	< 500	500-1150	> 1150	< 16,600	16,600-19,500	> 19,500
Number of farms	9	8	9	9	8	9
Liquidity						
Current ratio	1.00	1.70	3.29	0.67	2.26	3.12
Working capital	(15,265)	(142,326)	(324,236)	56,470	(146,443)	(392,311)
Solvency						
Debt to asset ratio	0.46	0.24	0.52	0.46	0.34	0.44
Equity to asset ratio	0.54	0.76	0.48	0.54	0.66	0.56
Debt to equity ratio ¹	3.35	0.41	(506.11)	3.27	0.85	(506.43)
Profitability						
Rate of return on assets	(0.05)	(0.02)	0.04	(0.01)	0.00	(0.02)
Rate of return on equity	(0.29)	(0.04)	(0.21)	(0.22)	(0.01)	(0.30)
Operating profit margin ratio	(0.16)	(0.05)	0.05	(0.04)	(0.09)	(0.05)
Financial efficiency						
Asset turnover rate	0.46	0.82	0.84	0.74	0.61	0.73
Operating expense ratio	0.98	0.98	0.82	0.89	0.96	0.92
Depreciation expense ratio	0.09	0.06	0.13	0.09	0.09	0.10
Interest expense ratio	0.04	0.02	0.02	0.04	0.02	0.02
Net farm income ratio	(0.11)	(0.05)	0.03	(0.01)	(0.07)	(0.05)
Repayment capacity						
Cash flow coverage ratio	0.56	(2.37)	2.31	0.63	(2.02)	1.93
Term debt coverage ratio ²	(0.00)	(0.64)	1.50	(0.11)	0.73	0.39
Capital replacement margin ³	(163,538)	(2,965)	(249,283)	236,269	(158,648)	(510,706)

¹One dairy with a very small negative equity had a very large negative debt to equity ratio.²Term debt and capital lease coverage ratio.³Capital replacement and term debt repayment margin.

Table 2.4. DBAP 2003 Summary - Balance sheet by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs / year)		
	< 500	500-1150	> 1150	< 16,600	16,600-19,500	> 19,500
Number of farms	9	8	9	9	8	9
Balance sheet (January 1)						
Current assets / cow (\$)	389	291	770	286	364	809
Total assets / cow (\$)	7,943	5,529	4,194	4,802	6,903	6,112
Current liabilities / cow (\$)	734	390	808	603	660	698
Total liabilities / cow (\$)	2,317	1,018	2,282	2,181	1,769	1,751
Equity / cow (\$)	5,625	4,511	1,911	2,622	5,134	4,361
Balance sheet (December 31)						
Current assets / cow (\$)	364	270	687	214	412	710
Total assets / cow (\$)	8,999	5,825	4,007	4,573	6,982	7,404
Current liabilities / cow (\$)	343	431	845	297	514	816
Total liabilities / cow (\$)	2,723	1,057	2,181	2,051	1,778	2,212
Equity / cow (\$)	6,275	4,768	1,826	2,522	5,204	5,192

Table 3.1. DBAP 2003 Summary - Business size and production efficiency by net farm income per cwt and rate of return on assets.

Category	Net farm income / cwt (\$)			Rate of return on assets (%)		
	< \$(1.15)	\$(1.15) - \$0.50	> \$0.50	< (4.45)%	(4.45)% - 0.5%	> 0.5%
Number of farms	9	8	9	9	8	9
Business Size						
Average number of cows	839	1,802	1,362	440	2,183	1,422
Average number of heifers	309	906	675	278	985	636
Milk sold (million lbs)	15.71	36.19	23.46	7.56	43.54	25.07
FTE workers	19	34	22	12	40	23
Acres of pasture + cultivated land	485	808	910	317	1,072	843
Production Efficiency						
Milk sold / cow (lbs)	17,252	19,622	17,220	16,626	18,901	18,487
Cows / FTE worker	42	58	65	41	61	63
Milk sold / FTE worker (million lbs)	0.70	1.10	1.11	0.66	1.12	1.14
Cull rate	0.46	0.38	0.37	0.49	0.38	0.34

Table 3.2. DBAP 2003 Summary - Revenues and expenses by net farm income per cwt and rate of return on assets.

Category	Net farm income / cwt (\$)			Rate of return on assets (%)		
	< \$(1.15)	\$(1.15) - \$0.50	> \$0.50	< (4.45)%	(4.45)% - 0.5%	> 0.5%
Number of farms	9	8	9	9	8	9
Revenues (per cwt)						
Milk sold (\$)	15.68	15.72	16.26	15.62	16.12	15.97

Table 3.2. DBAP 2003 Summary - Revenues and expenses by net farm income per cwt and rate of return on assets.

Raised, leased cow sales (\$)	(0.03)	0.82	0.33	0.04	0.55	0.51
Heifer sales (\$)	0.05	0.32	0.40	0.04	0.36	0.37
Gain on purchased livestock sales (\$)	(0.03)	(0.16)	0.73	(0.19)	0.30	0.48
Other revenues (\$)	1.45	0.40	0.99	1.82	0.45	0.57
Total revenues (\$)	17.12	17.09	18.71	17.33	17.77	17.89
Expenses (per cwt)						
Personnel (\$)	4.28	3.00	2.37	4.01	2.93	2.70
Purchased feed (\$)	7.79	7.48	6.23	7.50	7.67	6.36
Crops (\$)	0.27	0.44	0.60	0.42	0.45	0.43
Machinery (\$)	0.98	0.80	0.66	0.94	0.83	0.68
Livestock (\$)	2.20	1.95	1.69	2.42	1.89	1.52
Milk marketing (\$)	0.97	1.18	1.19	0.99	1.22	1.13
Buildings and land (\$)	0.42	0.31	0.81	0.85	0.29	0.40
Interest (\$)	0.72	0.32	0.42	0.67	0.43	0.37
Depreciation:						
• Livestock (\$)	0.91	0.63	1.18	0.67	1.19	0.92
• Machinery (\$)	0.36	0.52	0.60	0.41	0.40	0.66
• Buildings (\$)	0.20	0.20	0.24	0.14	0.39	0.14
Other expenses (\$)	1.21	0.76	0.83	1.16	0.91	0.76
Total expenses (\$)	20.29	17.60	16.84	20.17	18.60	16.07
Net farm income from operations (\$)	(3.17)	(0.51)	1.87	(2.84)	(0.82)	1.82
Gain on sale of capital assets (\$)	(0.17)	0.18	0.29	(0.17)	0.32	0.17
Net farm income (\$)	(3.34)	(0.33)	2.16	(3.01)	(0.51)	1.99

Table 3.3. DBAP 2003 Summary - Financial performance by net farm income per cwt and rate of return on assets.

Category	Net farm income / cwt (\$)			Rate of return on assets (%)		
	< \$(1.15)	\$(1.15) - \$0.50	> \$0.50	< (4.45)%	(4.45)% - 0.5%	> 0.5%
Number of farms	9	8	9	9	8	9
Liquidity						
Current ratio	1.57	1.01	3.33	1.58	0.51	3.76
Working capital	(285,656)	(617,762)	368,764	(93,853)	(867,383)	398,847
Solvency						
Debt to asset ratio	0.40	0.35	0.49	0.39	0.50	0.36
Equity to asset ratio	0.60	0.65	0.51	0.61	0.50	0.64
Debt to equity ratio ¹	(506.48)	0.72	3.44	3.11	(569.61)	0.81
Profitability						
Rate of return on assets	(0.08)	(0.02)	0.07	(0.08)	(0.03)	0.08
Rate of return on equity	(0.42)	(0.06)	(0.06)	(0.36)	(0.36)	0.15
Operating profit margin ratio	(0.22)	(0.04)	0.09	(0.22)	(0.05)	0.10
Financial efficiency						
Asset turnover rate	0.48	0.83	0.80	0.49	0.71	0.90
Operating expense ratio	1.07	0.93	0.77	1.07	0.91	0.79
Depreciation expense ratio	0.09	0.08	0.11	0.07	0.11	0.09
Interest expense ratio	0.04	0.02	0.02	0.04	0.02	0.02

Table 3.3. DBAP 2003 Summary - Financial performance by net farm income per cwt and rate of return on assets.

Net farm income ratio	(0.20)	(0.03)	0.10	(0.18)	(0.05)	0.10
Repayment capacity						
Cash flow coverage ratio	(2.62)	0.88	2.60	(2.49)	0.07	3.20
Term debt coverage ratio ²	(0.97)	0.20	1.72	(1.06)	0.30	1.72
Capital replacement margin ³	(315,482)	(813,319)	622,976	(226,751)	(935,347)	642,714

¹One dairy with a very small negative equity had a very large negative debt to equity ratio.

²Term debt and capital lease coverage ratio.

³Capital replacement and term debt repayment margin.

Table 3.4. DBAP 2003 Summary - Balance sheet by net farm income per cwt and rate of return on assets.

Category	Net farm income / cwt (\$)			Rate of return on assets (%)		
	< \$(1.15)	\$(1.15) - \$0.50	> \$0.50	< (4.45)%	(4.45)% - 0.5%	> 0.5%
Number of farms	9	8	9	9	8	9
Balance sheet (January 1)						
Current assets / cow (\$)	290	751	460	238	809	460
Total assets / cow (\$)	8,064	5,569	4,036	7,915	5,502	4,244
Current liabilities / cow (\$)	561	766	647	764	894	330
Total liabilities / cow (\$)	2,177	1,354	2,124	2,049	2,183	1,515
Equity / cow (\$)	5,887	4,214	1,913	5,866	3,319	2,730
Balance sheet (December 31)						
Current assets / cow (\$)	356	638	367	297	730	344
Total assets / cow (\$)	9,100	5,787	3,939	9,026	5,257	4,485
Current liabilities / cow (\$)	525	847	293	429	1,050	208
Total liabilities / cow (\$)	2,098	2,024	1,947	2,005	2,322	1,775
Equity / cow (\$)	7,003	3,763	1,992	7,021	2,935	2,710

Table 4.1. DBAP 2003 Summary - Business size and production efficiency by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$4,000	\$4,000- \$5,200	> \$5,200	< \$1,400	\$1,400- \$2,400	> \$2,400
Number of farms	9	8	9	9	8	9
Business Size						
Average number of cows	1,438	1,979	605	1,160	1,624	1,199
Average number of heifers	711	707	450	739	738	394
Milk sold (million lbs)	25.29	38.21	12.07	22.21	29.92	22.53
FTE workers	27	33	15	27	29	18
Acres of pasture + cultivated land	838	1,021	368	615	959	647
Production Efficiency						
Milk sold / cow (lbs)	16,629	18,457	18,880	19,163	17,793	16,936
Cows / FTE worker	63	63	39	46	55	64
Milk sold / FTE worker (million lbs)	1.03	1.14	0.74	0.86	0.94	1.10

Table 4.1. DBAP 2003 Summary - Business size and production efficiency by assets per cow and liabilities per cow.

Cull rate	0.41	0.32	0.46	0.43	0.34	0.43
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Table 4.2. DBAP 2003 Summary - Revenues and expenses by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$4,000	\$4,000- \$5,200	> \$5,200	< \$1,400	\$1,400- \$2,400	> \$2,400
Number of farms	9	8	9	9	8	9
Revenues (per cwt)						
Milk sold (\$)	16.09	16.03	15.57	15.72	15.78	16.15
Raised, leased cow sales (\$)	0.67	0.20	0.19	0.30	0.29	0.48
Heifer sales (\$)	0.16	0.24	0.37	0.23	0.08	0.43
Gain on purchased livestock sales (\$)	(0.04)	0.85	(0.17)	0.13	0.34	0.11
Other revenues (\$)	0.98	0.50	1.37	0.90	0.73	1.24
Total revenues (\$)	17.85	17.83	17.32	17.29	17.23	18.42
Expenses (per cwt)						
Personnel (\$)	2.65	2.65	4.32	3.86	2.98	2.80
Purchased feed (\$)	6.97	7.07	7.41	7.50	7.06	6.90
Crops (\$)	0.33	0.44	0.53	0.35	0.56	0.41
Machinery (\$)	0.65	0.75	1.03	0.92	0.88	0.65
Livestock (\$)	1.87	1.79	2.17	2.08	1.92	1.83
Milk marketing (\$)	1.09	1.20	1.05	1.05	1.11	1.17
Buildings and land (\$)	0.87	0.31	0.36	0.43	0.42	0.70
Interest (\$)	0.38	0.49	0.61	0.19	0.41	0.87
Depreciation:						
• Livestock (\$)	0.81	1.43	0.56	0.32	0.68	1.72
• Machinery (\$)	0.60	0.47	0.40	0.37	0.67	0.45
• Buildings (\$)	0.18	0.33	0.15	0.11	0.25	0.29
Other expenses (\$)	0.96	0.93	0.94	0.79	0.88	1.15
Total expenses (\$)	17.36	17.86	19.54	17.97	17.82	18.96
Net farm income from operations (\$)	0.50	(0.03)	(2.22)	(0.68)	(0.59)	(0.54)
Gain on sale of capital assets (\$)	(0.02)	0.46	(0.12)	(0.04)	0.34	0.02
Net farm income (\$)	0.48	0.43	(2.34)	(0.73)	(0.25)	(0.52)

Table 4.3. DBAP 2003 Summary - Financial performance by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$4,000	\$4,000- \$5,200	> \$5,200	< \$1,400	\$1,400- \$2,400	> \$2,400
Number of farms	9	8	9	9	8	9
Liquidity						
Current ratio	1.23	0.65	3.98	2.09	1.42	2.44
Working capital	(298,290)	(384,520)	174,073	(117,986)	(147,344)	(217,054)
Solvency						
Debt to asset ratio	0.45	0.52	0.28	0.18	0.39	0.67

Table 4.3. DBAP 2003 Summary - Financial performance by assets per cow and liabilities per cow.

Equity to asset ratio	0.55	0.48	0.72	0.82	0.61	0.33
Debt to equity ratio ¹	3.36	(569.59)	0.54	0.26	0.71	(503.29)
Profitability						
Rate of return on assets	0.02	0.00	(0.04)	0.00	(0.02)	(0.01)
Rate of return on equity	(0.18)	(0.30)	(0.09)	(0.02)	(0.06)	(0.47)
Operating profit margin ratio	0.01	0.00	(0.18)	(0.06)	(0.04)	(0.07)
Financial efficiency						
Asset turnover rate	1.02	0.72	0.36	0.88	0.56	0.64
Operating expense ratio	0.87	0.86	1.04	0.98	0.92	0.86
Depreciation expense ratio	0.09	0.12	0.07	0.05	0.09	0.14
Interest expense ratio	0.02	0.03	0.03	0.01	0.02	0.05
Net farm income ratio	0.02	(0.01)	(0.14)	(0.04)	(0.04)	(0.05)
Repayment capacity						
Cash flow coverage ratio	1.53	0.34	(1.07)	(1.41)	1.51	0.84
Term debt coverage ratio ²	1.68	0.47	(1.17)	0.96	(0.25)	0.19
Capital replacement margin ³	(105,742)	(352,377)	3,509	(72,767)	(294,954)	(80,509)

¹One dairy with a very small negative equity had a very large negative debt to equity ratio.

²Term debt and capital lease coverage ratio.

³Capital replacement and term debt repayment margin.

Table 4.4. DBAP 2003 Summary - Balance sheet by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$4,000	\$4,000- \$5,200	> \$5,200	< \$1,400	\$1,400- \$2,400	> \$2,400
Number of farms	9	8	9	9	8	9
Balance sheet (January 1)						
Current assets / cow (\$)	287	816	406	336	712	449
Total assets / cow (\$)	3,229	4,523	9,802	6,186	5,929	5,594
Current liabilities / cow (\$)	863	747	361	406	469	1,066
Total liabilities / cow (\$)	1,653	2,331	1,779	664	1,588	3,428
Equity / cow (\$)	1,576	2,191	8,022	5,522	4,342	2,165
Balance sheet (December 31)						
Current assets / cow (\$)	342	624	393	358	602	398
Total assets / cow (\$)	3,298	4,238	11,118	7,547	6,157	5,164
Current liabilities / cow (\$)	646	811	205	450	535	645
Total liabilities / cow (\$)	1,662	2,189	2,236	697	2,217	3,176
Equity / cow (\$)	1,636	2,050	8,881	6,850	3,940	1,987