

Dairy Business Analysis Project: 2002 Financial Summary¹

A. de Vries, R. Giesy, L. Ely, A. de Araujo, A. Andreasen, B. Broaddus, S. Eubanks, D. Mayo, P. Miller, T. Seawright, C. Vann²

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 dairy farmers appointed by Southeast Milk, Inc. oversees the project and helps direct its course. The DBAP website is <http://dairy.ifas.ufl.edu/dbap/index.shtml>.

Financial data for the year 2002 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 2002. 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 therefore not a random sample of all dairies in the three states.

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 Council³. All revenues and expenses were accrual adjusted. Cash receipts and expenses were therefore adjusted for changes in inventory, prepaid expenses, depreciation, accounts payable, and

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 2. A. de Vries, Assistant Professor, Department of Animal Sciences; R. Giesy, Extension Agent III; L. Ely, Professor, Department of Animal and Dairy Science, University of Georgia; A. de Araujo, Graduate Student; A. Andreasen, Extension Agent IV; B. Broaddus, Extension Agent I; S. Eubanks, Extension Agent III; D. Mayo, Extension Agent II; P. Miller, Extension Agent IV; T. Seawright, Extension Agent IV; C. Vann, Extension Agent II; Cooperative Extension Service, UF/IFAS, Gainesville, 32611.

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receivable. 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 2002. Appreciation resulted when machinery and building depreciation did not completely account for the gain or loss in the value of these capital assets during 2002.

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 owner's 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-nine dairies submitted financial data. Twenty-seven dairies were included in the summary results. Of these, 18 were located in Florida, 8 in Georgia, and one in Alabama. The average herd size of the participating dairies was 1,168 cows and 583 heifers with 16,810 lbs. milk sold per cow. The average culling rate was 34%. The milk price received by DBAP participants averaged \$16.05, 12% less than in 2001. Average total revenues were \$17.67 per cwt. sold, a decrease of \$2.33 per cwt. compared to 2001.

Total expenses averaged \$17.88 per cwt., an increase of \$0.13 compared to 2001. The largest items were purchased feed (\$7.00) and personnel costs (\$2.88). Net farm income from operations averaged

\$-0.21 per cwt., a decrease of \$2.46 compared to 2001. Net farm income per cwt. was \$-0.10.

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 = net farm income from operations (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

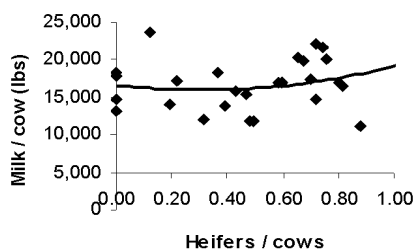


Figure 1. DBAP 2002 Summary - Milk per cow (lbs/year) by heifers per cows.

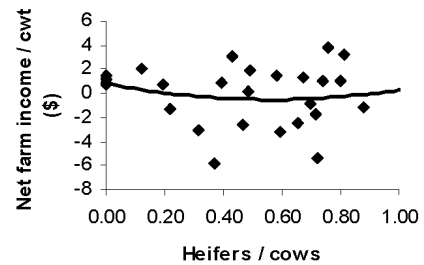


Figure 2. DBAP 2002 Summary - Net farm income per cwt (\$) by heifers per cows.

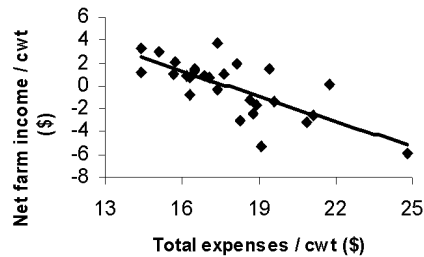


Figure 3. DBAP 2002 Summary - Net farm income per cwt (\$) by total expenses per cwt (\$).

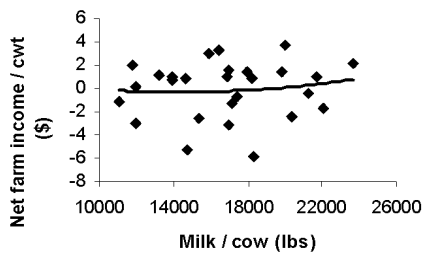


Figure 4. DBAP 2002 Summary - Net farm income per cwt (\$) by milk per cow (lbs/year).

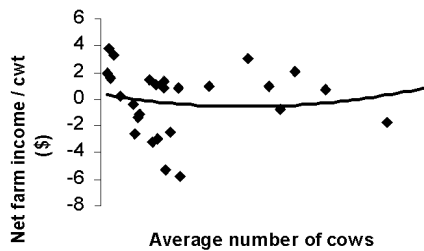


Figure 5. DBAP 2002 Summary - Net farm income per cwt (\$) by average number of cows.

Additional Notes:

3. Farm Financial Standards Council. 1997. Financial Guidelines for Agricultural Producers.

Table 1.1. DBAP 2002 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	27	27	27	18	8
Business size					
Average number of cows	1,168	800	1,130	940	1,297
Average number of heifers	583	366	814	339	724
Milk sold (million lbs)	21.23	11.71	24.03	18.66	23.04
FTE workers	20	12	22	15	23
Acres of pasture + cultivated land	606	358	584	400	717
Production efficiency					
Milk sold/cow (lbs)	16,810	16,940	3,418	16,118	18,812
Cows/FTE worker	61	59	24	54	63
Milk sold/FTE worker (million lbs)	1.01	0.90	0.43	1.04	1.00
Cull rate	0.34	.35	0.11	0.35	0.34

¹Standard deviation.**Table 1.2.** DBAP 2002 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	27	27	27	18	8
Revenues (per cwt)					
Milk sold (\$)	16.05	16.07	1.01	16.12	16.15
Raised, leased cow sales (\$)	0.65	0.60	0.74	0.87	0.59
Heifer sales (\$)	0.13	0.13	0.65	0.02	0.17
Gain on purchased livestock sales (\$)	(0.32)	0.00	1.44	(0.47)	(0.28)
Other revenues (\$)	1.16	0.71	1.71	1.18	1.13
Total revenues (\$)	17.67	17.68	1.94	17.72	17.77
Expenses (per cwt)					
Personnel (\$)	2.88	2.91	0.91	2.20	3.26
Purchased feed (\$)	7.00	6.36	1.89	5.41	7.84
Crops (\$)	0.34	0.21	0.43	0.62	0.22
Machinery (\$)	0.81	0.78	0.44	0.79	0.83
Livestock (\$)	1.84	1.73	0.91	2.10	1.76
Milk marketing (\$)	1.08	0.93	0.40	1.56	0.90
Buildings and land (\$)	0.69	0.45	0.72	1.06	0.56
Interest (\$)	0.51	0.39	0.43	0.34	0.54
Depreciation:					
Livestock (\$)	1.04	0.84	0.98	0.78	1.02
Machinery (\$)	0.55	0.44	0.46	0.75	0.49
Buildings (\$)	0.30	0.22	0.33	0.36	0.29
Other expenses (\$)	0.84	0.81	0.38	0.60	0.94
Total expenses (\$)	17.88	17.39	2.38	16.57	18.66
Net farm income from operations (\$)	(0.21)	0.17	2.39	1.15	(0.89)
Gain on sale of capital assets (\$)	0.12	0.00	0.75	0.54	(0.06)

Table 1.2. DBAP 2002 Summary - Revenues and expenses by state and overall average, median, and standard deviation.

Net farm income (\$)	(0.10)	0.81	2.44	1.69	(0.96)
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Table 1.3. DBAP 2002 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	27	27	27	18	8
Liquidity					
Current ratio	29.30	0.67	145.39	97.05	0.76
Working capital	(57,611)	(17,764)	917,514	459,761	(291,918)
Solvency					
Debt to asset ratio	0.40	0.37	0.24	0.34	0.41
Equity to asset ratio	0.60	0.63	0.24	0.66	0.59
Debt to equity ratio	1.10	0.58	1.39	1.22	1.00
Profitability					
Rate of return on assets	(0.02)	(0.00)	0.08	0.02	(0.04)
Rate of return on equity	(0.08)	(0.05)	0.19	(0.03)	(0.11)
Operating profit margin ratio	(0.03)	(0.01)	0.13	0.02	(0.06)
Financial efficiency					
Asset turnover rate	0.69	0.63	0.38	0.92	0.61
Operating expense ratio	0.88	0.86	0.15	0.82	0.92
Depreciation expense ratio	0.11	0.10	0.06	0.11	0.10
Interest expense ratio	0.03	0.02	0.03	0.02	0.03
Net farm income ratio	(0.02)	0.01	0.14	0.05	(0.05)
Repayment capacity					
Cash flow coverage ratio	28.45	0.39	141.58	94.01	0.76
Term debt coverage ratio ¹	1.24	0.77	2.40	0.73	1.25
Capital replacement margin ²	(63,901)	(36,006)	833,244	174,824	(181,959)

¹Term debt and capital lease coverage ratio.²Capital replacement and term debt repayment margin.**Table 1.4.** DBAP 2002 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	27	27	27	18	8
Balance sheet (January 1)					
Current assets/cow (\$)	526	303	503	915	367
Total assets/cow (\$)	5,262	4,312	2,963	4,893	5,430
Current liabilities/cow (\$)	442	309	368	445	438
Total liabilities/cow (\$)	1,705	1,235	1,189	1,355	1,762
Equity/cow (\$)	3,562	2,375	2,866	3,538	3,676
Balance sheet (December 31)					
Current assets/cow (\$)	486	287	440	783	367
Total assets/cow (\$)	5,449	4,191	3,004	5,014	5,671

Table 1.4. DBAP 2002 Summary - Balance sheet by state and overall average, median, and standard deviation.

Current liabilities/cow (\$)	517	466	514	276	640
Total liabilities/cow (\$)	1,962	1,791	1,143	1,530	2,082
Equity/cow (\$)	3,487	2,316	2,899	3,484	3,589

Table 2.1. DBAP 2002 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	500-990	> 990	< 15,000	15,000-18,000	> 18,000
Number of farms	9	9	9	9	9	9
Business Size						
Average number of cows	279	774	2,452	897	967	1,641
Average number of heifers	183	259	1,308	277	553	920
Milk sold (million lbs)	4.38	12.85	46.46	12.20	16.27	35.22
FTE workers	6	13	40	13	16	30
Acres of pasture + cultivated land	262	352	1,204	672	454	691
Production Efficiency						
Milk sold/cow (lbs)	15,778	16,444	18,208	13,030	16,784	20,615
Cows/FTE worker	45	62	75	65	63	53
Milk sold/FTE worker (million lbs)	0.69	1.00	1.33	0.87	1.06	1.10
Cull rate	0.36	0.31	0.36	0.36	0.37	0.30

Table 2.2. DBAP 2002 Summary - Revenues and expenses by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs / year)		
	< 500	500-990	> 990	< 15,000	15,000-18,000	> 18,000
Number of farms	9	9	9	9	9	9
Revenues (per cwt)						
Milk sold (\$)	15.81	15.91	16.44	15.94	16.40	15.82
Raised, leased cow sales (\$)	0.89	0.40	0.67	0.82	0.53	0.61
Heifer sales (\$)	0.38	0.03	(0.03)	(0.13)	0.33	0.19
Gain on purchased livestock sales (\$)	(0.10)	(0.38)	(0.49)	(0.64)	(0.46)	0.13
Other revenues (\$)	2.25	0.61	0.62	1.56	0.87	1.05
Total revenues (\$)	19.24	16.56	17.21	17.55	17.67	17.80
Expenses (per cwt)						
Personnel (\$)	2.97	2.76	2.91	2.94	2.71	2.99
Purchased feed (\$)	6.50	7.40	7.09	7.20	6.88	6.92
Crops (\$)	0.51	0.21	0.29	0.28	0.30	0.42
Machinery (\$)	0.97	0.59	0.86	0.72	0.87	0.84
Livestock (\$)	1.95	1.79	1.79	1.43	1.60	2.50
Milk marketing (\$)	1.07	1.16	1.01	0.92	1.17	1.15
Buildings and land (\$)	0.81	0.68	0.58	0.45	0.96	0.67
Interest (\$)	0.69	0.46	0.38	0.63	0.57	0.34

Table 2.2. DBAP 2002 Summary - Revenues and expenses by average number of cows and milk per cow.

Depreciation:						
Livestock (\$)	1.12	0.86	1.15	1.33	1.30	0.50
Machinery (\$)	0.61	0.57	0.46	0.49	0.58	0.58
Buildings (\$)	0.38	0.22	0.30	0.35	0.21	0.34
Other expenses (\$)	1.07	0.72	0.73	1.10	0.73	0.70
Total expenses (\$)	18.65	17.44	17.56	17.83	17.88	17.94
Net farm income from operations (\$)	0.59	(0.88)	(0.35)	(0.28)	(0.21)	(0.14)
Gain on sale of capital assets (\$)	(0.01)	(0.04)	0.40	(0.14)	0.48	0.00
Net farm income (\$)	0.57	(0.92)	0.06	(0.42)	0.27	(0.14)

Table 2.3. DBAP 2002 Summary - Financial performance by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs/year)		
	< 500	500-990	> 990	< 15,000	15,000-18,000	> 18,000
Number of farms	9	9	9	9	9	9
Liquidity						
Current ratio	84.50	1.90	1.51	0.77	84.99	2.14
Working capital	(36,066)	(175,900)	39,132	(67,006)	109,981	(215,808)
Solvency						
Debt to asset ratio	0.45	0.35	0.40	0.42	0.44	0.34
Equity to asset ratio	0.55	0.65	0.60	0.58	0.56	0.66
Debt to equity ratio	1.74	0.76	0.80	0.89	1.67	0.74
Profitability						
Rate of return on assets	(0.01)	(0.03)	(0.00)	(0.02)	(0.02)	(0.01)
Rate of return on equity	(0.14)	(0.09)	(0.02)	(0.05)	(0.15)	(0.05)
Operating profit margin ratio	(0.03)	(0.05)	(0.01)	(0.05)	(0.03)	(0.02)
Financial efficiency						
Asset turnover rate	0.53	0.80	0.75	0.44	0.74	0.90
Operating expense ratio	0.83	0.92	0.89	0.86	0.87	0.91
Depreciation expense ratio	0.11	0.10	0.11	0.12	0.12	0.08
Interest expense ratio	0.04	0.03	0.02	0.04	0.03	0.02
Net farm income ratio	0.03	(0.06)	(0.03)	(0.02)	(0.02)	(0.01)
Repayment capacity						
Cash flow coverage ratio	82.28	1.49	1.58	1.32	82.94	1.08
Term debt coverage ratio ¹	1.60	0.47	1.65	1.90	1.76	0.06
Capital replacement margin ²	(5,789)	(64,520)	(121,394)	41,017	54,750	(287,470)

¹Term debt and capital lease coverage ratio.²Capital replacement and term debt repayment margin.

Table 2.4. DBAP 2002 Summary - Balance sheet by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs/year)		
	< 500	500-990	> 990	< 15,000	15,000-18,000	> 18,000
Number of farms	9	9	9	9	9	9
Balance sheet (January 1)						
Current assets/cow (\$)	541	342	696	186	569	824
Total assets/cow (\$)	6,968	4,801	4,016	6,514	4,004	5,267
Current liabilities/cow (\$)	441	387	498	397	398	530
Total liabilities/cow (\$)	2,402	1,438	1,274	2,202	1,486	1,426
Equity/cow (\$)	4,566	3,375	2,745	4,312	2,533	3,841
Balance sheet (December 31)						
Current assets/cow (\$)	475	313	672	222	481	756
Total assets/cow (\$)	6,890	5,061	4,395	6,747	4,342	5,257
Current liabilities/cow (\$)	408	534	609	359	489	703
Total liabilities/cow (\$)	2,422	1,713	1,751	2,362	1,841	1,683
Equity/cow (\$)	4,468	3,348	2,645	4,385	2,501	3,574

Table 3.1. DBAP 2002 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 (%)		
	< \$(1.00)	\$(1.00)-\$1.10	> \$1.10	< (3.1)%	(3.1)%-3.0%	> 3.0%
Number of farms	9	9	9	9	9	9
Business size						
Average number of cows	1,010	1,730	765	1,165	678	1,662
Average number of heifers	609	922	219	731	202	817
Milk sold (million lbs)	18.70	30.38	14.61	21.72	10.19	31.79
FTE workers	21	28	10	23	12	24
Acres of pasture + cultivated land	462	939	415	441	542	834
Production efficiency						
Milk sold/cow (lbs)	16,451	16,661	17,318	16,560	16,104	17,766
Cows/FTE worker	58	63	60	57	52	73
Milk sold/FTE worker (million lbs)	0.94	1.03	1.06	0.93	0.82	1.28
Cull rate	0.31	0.39	0.33	0.35	0.33	0.35

Table 3.2. DBAP 2002 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 (%)		
	< \$(1.00)	\$(1.00)-\$1.10	> \$1.10	< (3.1)%	(3.1)%-3.0%	> 3.0%
Number of farms	9	9	9	9	9	9
Revenues (per cwt)						
Milk sold (\$)	16.20	15.89	16.07	16.34	15.93	15.90

Table 3.2. DBAP 2002 Summary - Revenues and expenses by net farm income per cwt and rate of return on assets.

Raised, leased cow sales (\$)	0.48	0.95	0.54	0.81	0.80	0.35
Heifer sales (\$)	0.15	0.04	0.19	(0.00)	0.15	0.24
Gain on purchased livestock sales (\$)	(0.32)	(0.87)	0.22	(1.11)	(0.13)	0.27
Other revenues (\$)	0.76	1.31	1.41	0.89	1.86	0.73
Total revenues (\$)	17.27	17.32	18.43	16.92	18.61	17.48
Expenses (per cwt)						
Personnel (\$)	3.13	3.15	2.37	3.12	3.14	2.38
Purchased feed (\$)	8.87	6.51	5.62	8.93	6.17	5.89
Crops (\$)	0.23	0.18	0.60	0.13	0.50	0.38
Machinery (\$)	0.87	0.86	0.69	0.86	0.76	0.81
Livestock (\$)	2.12	1.71	1.69	2.04	1.71	1.78
Milk marketing (\$)	0.92	0.96	1.36	0.99	1.16	1.09
Buildings and land (\$)	0.63	0.49	0.95	0.61	0.95	0.51
Interest (\$)	0.61	0.52	0.41	0.46	0.66	0.42
Depreciation:						
Livestock (\$)	0.79	1.20	1.14	0.84	1.05	1.24
Machinery (\$)	0.55	0.44	0.65	0.43	0.74	0.46
Buildings (\$)	0.29	0.36	0.25	0.33	0.36	0.20
Other expenses (\$)	1.00	0.86	0.67	0.83	1.01	0.69
Total expenses (\$)	20.01	17.25	16.39	19.59	18.22	15.84
Net farm income from operations (\$)	(2.74)	0.07	2.04	(2.66)	0.39	1.64
Gain on sale of capital assets (\$)	(0.21)	0.41	0.14	0.12	0.23	(0.01)
Net farm income (\$)	(2.95)	0.48	2.18	(2.54)	0.62	1.63

Table 3.3. DBAP 2002 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 (%)		
	< \$(1.00)	\$(1.00)- \$1.10	> \$1.10	< (3.1)%	(3.1)%- 3.0%	> 3.0%
Number of farms	9	9	9	9	9	9
Liquidity						
Current ratio	0.40	0.96	86.54	0.46	0.68	86.76
Working capital	(328,430)	(330,082)	485,678	(276,793)	(52,919)	156,878
Solvency						
Debt to asset ratio	0.46	0.35	0.38	0.46	0.41	0.33
Equity to asset ratio	0.54	0.65	0.62	0.54	0.59	0.67
Debt to equity ratio	1.23	0.84	1.23	1.26	1.33	0.72
Profitability						
Rate of return on assets	(0.10)	0.01	0.04	(0.11)	(0.01)	0.07
Rate of return on equity	(0.25)	(0.02)	0.02	(0.26)	(0.07)	0.09
Operating profit margin ratio	(0.15)	0.00	0.06	(0.19)	(0.00)	0.09
Financial efficiency						
Asset turnover rate	0.69	0.73	0.66	0.64	0.58	0.86
Operating expense ratio	1.03	0.86	0.75	1.04	0.83	0.77
Depreciation expense ratio	0.10	0.11	0.11	0.10	0.11	0.11
Interest expense ratio	0.03	0.03	0.02	0.03	0.04	0.02
Net farm income ratio	(0.16)	(0.01)	0.11	(0.17)	0.02	0.09
Repayment capacity						
Cash flow coverage ratio	(0.05)	1.45	83.95	0.13	1.03	84.19
Term debt coverage ratio ¹	(0.35)	1.83	2.24	(0.40)	1.49	2.62
Capital replacement margin ²	(366,031)	(244,367)	418,696	(463,056)	88,335	183,019

¹Term debt and capital lease coverage ratio.²Capital replacement and term debt repayment margin.**Table 3.4.** DBAP 2002 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 (%)		
	< \$(1.00)	\$(1.00)- \$1.10	> \$1.10	< (3.1)%	(3.1)%- 3.0%	> 3.0%
Number of farms	9	9	9	9	9	9
Balance sheet (January 1)						
Current assets/cow (\$)	289	406	884	291	487	802
Total assets/cow (\$)	4,285	5,392	6,109	5,007	6,632	4,146
Current liabilities/cow (\$)	338	486	502	321	493	512
Total liabilities/cow (\$)	1,419	1,631	2,064	1,553	2,089	1,472
Equity/cow (\$)	2,878	3,764	4,045	3,466	4,544	2,678
Balance sheet (December 31)						
Current assets/cow (\$)	255	457	747	296	430	733
Total assets/cow (\$)	4,316	5,954	6,076	5,299	6,804	4,243
Current liabilities/cow (\$)	680	586	286	666	453	431
Total liabilities/cow (\$)	1,859	2,024	2,002	2,214	2,159	1,513
Equity/cow (\$)	2,456	3,930	4,074	3,085	4,645	2,730

Table 4.1. DBAP 2002 Summary - Business size and production efficiency by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$3,900	\$3,900- \$5,000	> \$5,000	< \$1,070	\$1,070- \$2,100	> \$2,100
Number of farms	9	9	9	9	9	9
Business size						
Average number of cows	1,541	1,009	955	1,038	1,710	757
Average number of heifers	738	418	594	619	939	192
Milk sold (million lbs)	27.17	17.70	18.83	20.01	29.89	13.79
FTE workers	28	15	17	23	26	10
Acres of pasture + cultivated land	607	593	617	510	849	458
Production efficiency						
Milk sold/cow (lbs)	17,113	15,925	17,392	17,823	16,161	16,446
Cows/FTE worker	66	66	50	48	69	64
Milk sold/FTE worker (million lbs)	1.08	1.07	0.87	0.85	1.11	1.07
Cull rate	0.35	0.33	0.35	0.36	0.31	0.35

Table 4.2. DBAP 2002 Summary - Revenues and expenses by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$3,900	\$3,900- \$5,000	> \$5,000	< \$1,070	\$1,070- \$2,100	> \$2,100
Number of farms	9	9	9	9	9	9
Revenues (per cwt)						
Milk sold (\$)	16.14	16.20	15.82	15.68	16.45	16.03
Raised, leased cow sales (\$)	0.73	0.45	0.78	0.63	0.69	0.64
Heifer sales (\$)	(0.19)	0.38	0.19	0.06	(0.19)	0.51
Gain on purchased livestock sales (\$)	(0.67)	(0.09)	(0.22)	0.13	(1.07)	(0.03)
Other revenues (\$)	0.52	0.84	2.12	1.92	0.58	0.98
Total revenues (\$)	16.54	17.77	18.70	18.42	16.46	18.13
Expenses (per cwt)						
Personnel (\$)	2.68	2.41	3.55	2.89	2.78	2.97
Purchased feed (\$)	7.22	6.37	7.40	6.78	7.68	6.53
Crops (\$)	0.14	0.49	0.38	0.38	0.30	0.33
Machinery (\$)	0.83	0.66	0.94	0.95	0.71	0.76
Livestock (\$)	1.97	1.58	1.98	2.04	1.76	1.73
Milk marketing (\$)	1.15	1.05	1.04	1.25	0.97	1.01
Buildings and land (\$)	0.66	0.89	0.53	0.51	0.81	0.75
Interest (\$)	0.45	0.59	0.49	0.31	0.50	0.72
Depreciation:						
Livestock (\$)	0.98	1.44	0.72	0.79	1.01	1.33
Machinery (\$)	0.72	0.45	0.48	0.74	0.48	0.41
Buildings (\$)	0.26	0.25	0.39	0.37	0.30	0.23
Other expenses (\$)	0.84	0.84	0.85	0.79	0.87	0.87
Total expenses (\$)	17.89	17.02	18.74	17.81	18.19	17.65
Net farm income from operations (\$)	(1.35)	0.76	(0.04)	0.61	(1.72)	0.48
Gain on sale of capital assets (\$)	0.36	(0.03)	0.01	0.17	0.20	(0.02)

Table 4.3. DBAP 2002 Summary - Financial performance by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$3,900	\$3,900- \$5,000	> \$5,000	< \$1,070	\$1,070- \$2,100	> \$2,100
Number of farms	9	9	9	9	9	9
Liquidity						
Current ratio	0.74	85.28	1.87	86.22	0.86	0.83
Working capital	(126,185)	404,342	(450,990)	110,984	(446,171)	162,354
Solvency						
Debt to asset ratio	0.48	0.44	0.28	0.16	0.45	0.58
Equity to asset ratio	0.52	0.56	0.72	0.84	0.55	0.42
Debt to equity ratio	1.40	1.38	0.53	0.21	0.93	2.16
Profitability						
Rate of return on assets	(0.06)	0.03	(0.02)	0.00	(0.06)	0.01
Rate of return on equity	(0.19)	(0.02)	(0.04)	(0.01)	(0.14)	(0.09)
Operating profit margin ratio	(0.08)	0.03	(0.04)	0.00	(0.10)	0.00
Financial efficiency						
Asset turnover rate	0.97	0.66	0.45	0.84	0.63	0.60
Operating expense ratio	0.94	0.80	0.90	0.85	0.97	0.82
Depreciation expense ratio	0.12	0.12	0.08	0.10	0.11	0.11
Interest expense ratio	0.03	0.03	0.03	0.02	0.03	0.04
Net farm income ratio	(0.09)	0.04	(0.00)	0.03	(0.11)	0.03
Repayment capacity						
Cash flow coverage ratio	0.98	83.38	1.00	83.42	0.84	1.09
Term debt coverage ratio ¹	0.51	2.59	0.63	0.98	0.50	2.24
Capital replacement margin ²	(247,029)	441,946	(386,619)	(13,234)	(380,602)	202,133

¹Term debt and capital lease coverage ratio.²Capital replacement and term debt repayment margin.**Table 4.4.** DBAP 2002 Summary - Balance sheet by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$3,900	\$3,900- \$5,000	> \$5,000	< \$1,070	\$1,070- \$2,100	> \$2,100
Number of farms	9	9	9	9	9	9
Balance sheet (January 1)						
Current assets/cow (\$)	289	699	591	630	498	452
Total assets/cow (\$)	3,260	4,230	8,296	5,715	3,989	6,081
Current liabilities/cow (\$)	459	396	471	300	456	570
Total liabilities/cow (\$)	1,396	1,831	1,887	699	1,304	3,111
Equity/cow (\$)	1,864	2,402	6,421	5,032	2,685	2,970
Balance sheet (December 31)						
Current assets/cow (\$)	324	538	597	617	487	355
Total assets/cow (\$)	3,479	4,295	8,572	5,624	4,333	6,389
Current liabilities/cow (\$)	520	358	673	326	754	471
Total liabilities/cow (\$)	1,827	1,876	2,182	791	1,918	3,177
Equity/cow (\$)	1,652	2,419	6,390	4,833	2,415	3,213