

Dairy Business Analysis Project: 2001 Financial Summary ¹

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://www.animal.ufl.edu/dbap>.

Financial data for the year 2001 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 2001. 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.

-
1. This document is AN136, one of a series of the Animal Science Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date December 2002. Reviewed January 2008, and March 2011. Visit the EDIS website at <http://edis.ifas.ufl.edu>.
 2. A. de Vries, Assistant Professor, Department of Animal Sciences, University of Florida; R. Giesy, Extension Agent III, Sumter County; L. Ely, Professor, Department of Animal and Dairy Science, University of Georgia; A. de Araujo, Graduate Student, University of Florida; A. Andreasen, Extension Agent IV, Washington County; B. Broaddus, Extension Agent I, Hillsborough County; S. Eubanks, Extension Agent III, Holmes County; D. Mayo, Extension Agent II, Jackson County; P. Miller, Extension Agent IV, Okeechobee County; T. Seawright, Extension Agent IV, Manatee County; C. Vann, Extension Agent II, Lafayette County, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.
 3. Farm Financial Standards Council. 1997. Financial Guidelines for Agricultural Producers.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. U.S. Department of Agriculture, Cooperative Extension Service, University of Florida, IFAS, Florida A. & M. University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Millie Ferrer-Chancy, Interim Dean

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 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 on purchased livestock sales resulted when livestock depreciation did not completely account for the gain or loss in the value of the purchased livestock during 2001. Appreciation resulted when machinery and building depreciation did not completely account for the gain or loss in the value of these capital assets during 2001.

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 the owner's and family members' 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

Forty-one dairies submitted financial data. Thirty-nine dairies were included in the summary results. Of these, 27 were located in Florida, 11 in Georgia, and one in Alabama. The average herd size of the participating dairies was 977 cows and 477 heifers with 17,170 lbs. milk sold per cow. The average culling rate was 36%. The milk price received

by DBAP participants averaged \$18.24, 9% more than in 2000. Average total revenues were \$20.00 per cwt. sold, an increase of \$1.84 per cwt compared to 2000.

Total expenses averaged \$17.75 per cwt., an increase of \$0.67 compared to 2000. The largest items were purchased feed (\$7.32) and personnel costs (\$2.69). Net farm income from operations averaged \$2.25 per cwt, an increase of \$1.18 compared to 2000. Net farm income per cwt. was \$2.39.

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 + appreciation
- 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

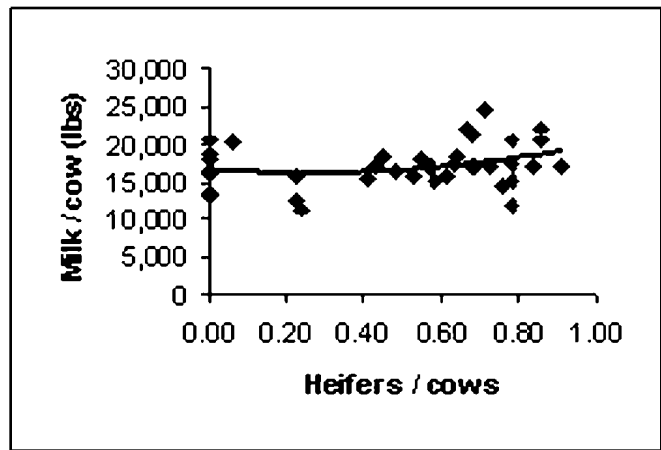


Figure 1. DBAP 2001 Summary - Milk per cow (lbs/year) by heifers per cow.

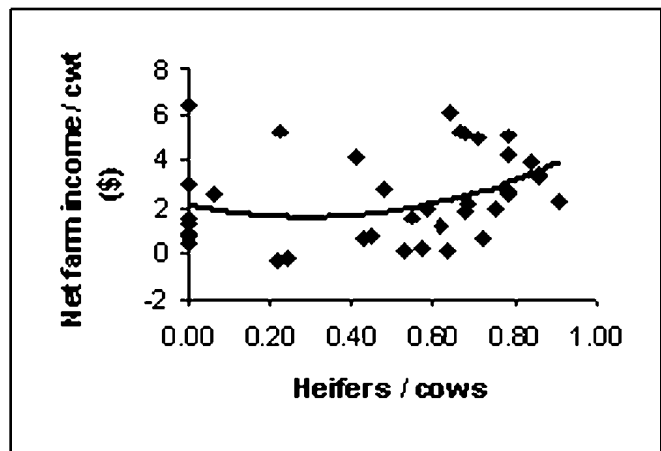


Figure 2. DBAP 2001 Summary - Net farm income per cwt (\$) by heifers per cow.

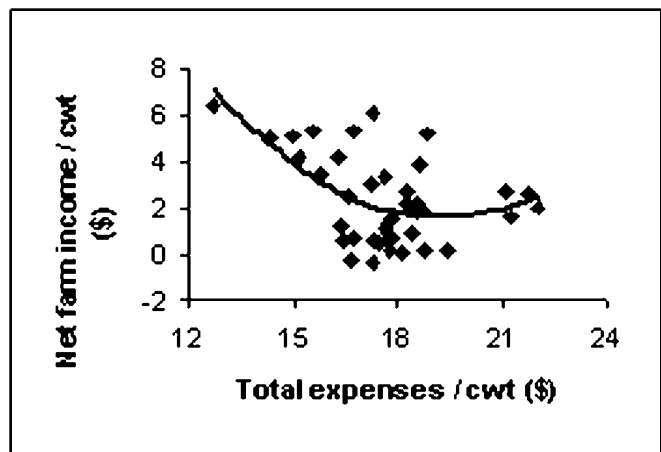


Figure 3. DBAP 2001 Summary - Net farm income per cwt (\$) by total expenses per cwt (\$).

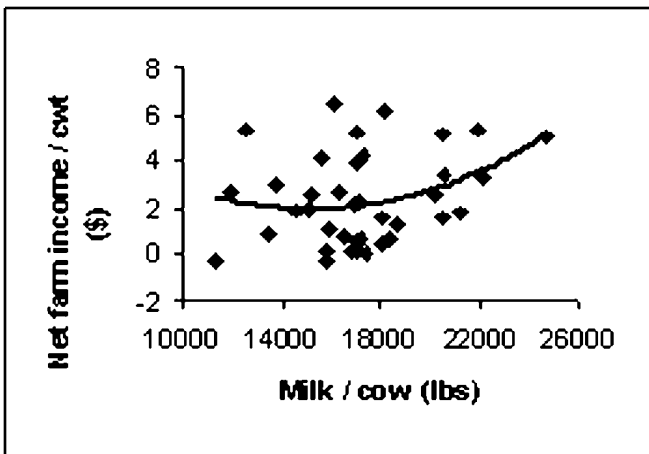


Figure 4. DBAP 2001 Summary - Net farm income per cwt (\$) by milk per cow (lbs/year).

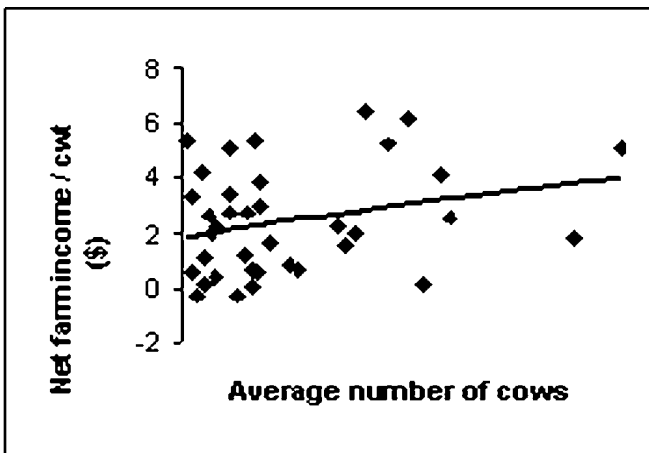


Figure 5. DBAP 2001 Summary - Net farm income per cwt (\$) by average number of cows.

Table 1.1. DBAP 2001 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	39	39	39	27	11
Business size					
Average number of cows	977	667	980	1,078	794
Average number of heifers	477	195	693	556	308
Milk sold (million lbs)	17.55	11.20	19.45	18.98	15.29
FTE workers	19	12	19	21	13
Acres of pasture + cultivated land	437	260	474	469	355
Production efficiency					
Milk sold / cow (lbs)	17,170	16,989	2,837	16,355	19,342
Cows / FTE worker	51.53	47.94	18.84	52.19	51.76
Milk sold / FTE worker (million lbs)	0.88	0.87	0.35	0.85	1.00
Cull rate	0.36	0.36	0.13	0.34	0.40

¹Standard deviation.

Table 1.2. DBAP 2001 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	39	39	39	27	11
Revenues (per cwt)					
Milk sold (\$)	18.24	18.43	1.22	18.33	17.92
Raised, leased cow sales (\$)	0.56	0.49	0.78	0.51	0.66
Heifer sales (\$)	0.29	0.18	0.53	0.38	0.10
Gain on purchased livestock sales (\$)	(0.08)	0.00	0.99	(0.28)	0.43
Other revenues (\$)	0.99	0.32	1.05	0.83	1.05
Total revenues (\$)	20.00	19.42	2.26	19.77	20.16
Expenses (per cwt)					
Personnel (\$)	2.69	2.87	1.04	2.87	2.22
Purchased feed (\$)	7.32	7.43	1.61	7.51	6.96
Crops (\$)	0.48	0.11	0.89	0.25	0.74
Machinery (\$)	1.01	0.93	0.52	0.99	0.93
Livestock (\$)	1.64	1.50	0.88	1.66	1.63
Milk marketing (\$)	1.05	0.99	0.37	1.02	1.16
Buildings and land (\$)	0.64	0.55	0.49	0.54	0.76
Interest (\$)	0.61	0.52	0.53	0.75	0.30
Depreciation:					
• Livestock (\$)	0.67	0.42	0.69	0.69	0.70
• Machinery (\$)	0.50	0.46	0.42	0.41	0.62
• Buildings (\$)	0.24	0.14	0.33	0.23	0.26
Other expenses (\$)	0.90	1.73	0.47	0.99	0.72
Total expenses (\$)	17.75	17.65	2.01	17.91	17.00
Net farm income from operations (\$)	2.25	2.00	1.85	1.86	3.17
Appreciation (\$)	0.15	0.00	0.43	0.13	0.19
Net farm income (\$)	2.39	2.19	1.92	1.99	3.36

Table 1.3. DBAP 2001 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	39	39	39	27	11
Liquidity					
Current ratio	2.34	1.05	3.43	1.26	3.46
Working capital (\$)	185,321	29,662	536,348	158,153	247,237
Solvency					
Debt to asset ratio	0.32	0.34	0.21	0.35	0.25
Equity to asset ratio	0.68	0.66	0.21	0.65	0.75
Debt to equity ratio	0.72	0.52	1.18	0.86	0.45
Profitability					
Rate of return on assets	0.09	0.07	0.09	0.07	0.14
Rate of return on equity	0.11	0.08	0.19	0.07	0.21
Operating profit margin ratio	0.09	0.08	0.10	0.08	0.13
Financial efficiency					
Asset turnover rate	0.90	0.80	0.42	0.83	1.10
Operating expense ratio	0.79	0.82	0.10	0.80	0.75
Depreciation expense ratio	0.07	0.06	0.04	0.07	0.08
Interest expense ratio	0.03	0.02	0.03	0.04	0.01
Net farm income ratio	0.11	0.10	0.09	0.09	0.15
Repayment capacity					
Cash flow coverage ratio	3.08	1.01	6.73	2.45	3.41
Term debt coverage ratio ¹	10.66	2.40	33.57	10.82	3.75
Capital replacement margin ² (\$)	386,201	158,744	635,232	395,310	394,745
¹ Term debt and capital lease coverage ratio.					
² Capital replacement and term debt repayment margin.					

Table 1.4. DBAP 2001 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	39	39	39	27	11
Balance sheet (January 1)					
Current assets/cow (\$)	451	399	376	347	680
Total assets/cow (\$)	4,535	4,068	2,267	4,443	4,484
Current liabilities/cow (\$)	376	311	339	390	367
Total liabilities/cow (\$)	1,305	1,143	833	1,466	1,008
Equity/cow (\$)	3,281	2,364	2,336	3,016	3,561
Balance sheet (December 31)					
Current assets/cow (\$)	541	441	421	395	852
Total assets/cow (\$)	4,725	4,138	2,298	4,573	4,821
Current liabilities/cow (\$)	394	322	285	446	295
Total liabilities/cow (\$)	1,301	1,187	869	1,478	973
Equity/cow (\$)	3,478	2,755	2,385	3,138	3,931

Table 2.1. DBAP 2001 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)		
	< 400	400-900	> 900	< 16,000	16,000-18,000	> 18,000
Number of farms	13	13	13	13	13	13
Business size						
Average number of cows	201	621	2,108	625	920	1,385
Average number of heifers	118	309	1,002	271	451	708
Milk sold (million lbs)	3.26	11.04	38.35	9.17	15.47	28.01
FTE workers	5	13	37	12	16	27
Acres of pasture+cultivated land	180	304	827	372	507	433
Production efficiency						
Milk sold/cow (lbs)	16,144	17,840	17,525	14,358	16,897	20,254
Cows/FTE worker	41.29	50.81	62.48	46.13	54.67	53.79
Milk sold/FTE worker (million lbs)	0.66	0.90	1.09	0.65	0.92	1.07
Cull rate	0.41	0.32	0.34	0.34	0.41	0.33

Table 2.2. DBAP 2001 Summary - Revenues and expenses by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs/year)		
	< 400	400-900	> 900	< 16,000	16,000-18,000	> 18,000
Number of farms	13	13	13	13	13	13
Revenues (per cwt)						
Milk sold (\$)	17.71	18.15	18.87	18.18	18.19	18.35
Raised, leased cow sales (\$)	0.50	0.83	0.36	0.38	0.78	0.53
Heifer sales (\$)	0.24	0.22	0.41	0.48	0.18	0.21
Gain on purchased livestock sales (\$)	0.23	(0.28)	(0.17)	(0.09)	(0.10)	(0.04)
Other revenues (\$)	1.66	0.74	0.54	1.59	0.64	0.71
Total revenues (\$)	20.34	19.66	20.01	20.54	19.69	19.76
Expenses (per cwt)						
Personnel (\$)	2.39	2.87	2.82	2.63	2.81	2.64
Purchased feed (\$)	7.31	7.47	7.19	7.58	7.22	7.17
Crops (\$)	0.90	0.32	0.21	0.86	0.25	0.32
Machinery (\$)	1.27	0.80	0.94	1.22	0.97	0.83
Livestock (\$)	1.48	1.69	1.75	1.53	1.80	1.59
Milk marketing (\$)	1.06	1.07	1.01	0.92	1.15	1.07
Buildings and land (\$)	0.59	0.71	0.60	0.62	0.72	0.56
Interest (\$)	0.81	0.56	0.45	0.81	0.54	0.47
Depreciation:						
• Livestock (\$)	0.66	0.54	0.82	0.68	0.73	0.61
• Machinery (\$)	0.64	0.45	0.41	0.58	0.39	0.54
• Buildings (\$)	0.33	0.19	0.19	0.29	0.13	0.30
Other expenses (\$)	1.03	0.87	0.86	1.08	0.79	0.86
Total expenses (\$)	18.47	17.54	17.25	18.80	17.50	16.96
Net farm income from operations (\$)	1.86	2.11	2.76	1.74	2.20	2.80
Appreciation (\$)	0.02	0.19	0.23	0.25	0.05	0.14
Net farm income (\$)	1.88	2.31	2.99	1.98	2.25	2.94

Table 2.3. DBAP 2001 Summary - Financial performance by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs/year)		
	< 400	400-900	> 900	< 16,000	16,000-18,000	> 18,000
Number of farms	13	13	13	13	13	13
Liquidity						
Current ratio	2.70	2.19	1.59	2.33	1.65	2.50
Working capital (\$)	31,707	55,775	468,480	(99,858)	204,959	450,862
Solvency						
Debt to asset ratio	0.32	0.34	0.29	0.32	0.28	0.34
Equity to asset ratio	0.68	0.66	0.71	0.68	0.72	0.66
Debt to equity ratio	0.67	1.00	0.49	0.63	0.90	0.64
Profitability						
Rate of return on assets	0.03	0.10	0.15	0.04	0.09	0.14
Rate of return on equity	0.00	0.10	0.22	0.01	0.11	0.20
Operating profit margin ratio	0.02	0.11	0.15	0.05	0.09	0.14
Financial efficiency						
Asset turnover rate	0.67	0.95	1.06	0.68	0.97	1.05
Operating expense ratio	0.79	0.81	0.77	0.80	0.80	0.77
Depreciation expense ratio	0.08	0.06	0.07	0.07	0.06	0.07
Interest expense ratio	0.04	0.03	0.02	0.04	0.03	0.02
Net farm income ratio	0.09	0.10	0.13	0.08	0.11	0.14
Repayment capacity						
Cash flow coverage ratio	1.72	5.36	1.46	1.77	1.50	5.27
Term debt coverage ratio ¹	2.46	5.19	18.60	16.97	1.96	7.31
Capital replacement margin ² (\$)	20,007	216,808	921,788	172,893	449,668	536,042

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

Table 2.4. DBAP 2001 Summary - Balance sheet by average number of cows and milk per cow.

Category	Average number of cows			Milk per cow (lbs/year)		
	< 400	400-900	> 900	< 16,000	16,000-18,000	> 18,000
Number of farms	13	13	13	13	13	13
Balance sheet (January 1)						
Current assets/cow (\$)	456	401	497	291	382	681
Total assets/cow (\$)	5,904	4,152	3,548	5,113	4,178	4,313
Current liabilities/cow (\$)	406	280	443	338	247	545
Total liabilities/cow (\$)	1,552	1,170	1,193	1,400	1,130	1,384
Equity/cow (\$)	4,437	3,031	2,375	3,731	3,111	3,002
Balance sheet (December 31)						
Current assets/cow (\$)	539	445	637	368	460	794
Total assets/cow (\$)	6,198	4,264	3,715	5,169	4,527	4,480
Current liabilities/cow (\$)	378	330	475	403	308	472
Total liabilities/cow (\$)	1,570	1,216	1,117	1,347	1,220	1,336
Equity/cow (\$)	4,721	3,092	2,619	3,849	3,369	3,215

Table 3.1. DBAP 2001 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 (%)		
	< \$1.20	\$1.20-\$2.80	> \$2.80	< 0.045	0.045-0.11	> 0.11
Number of farms	13	13	13	13	13	13
Business size						
Average number of cows	622	1,105	1,203	406	901	1,622
Average number of heifers	222	525	683	213	408	809
Milk sold (million lbs)	10.24	20.54	21.87	6.77	14.59	31.29
FTE workers	12	24	19	9	17	29
Acres of pasture + cultivated land	344	476	492	335	347	630
Production efficiency						
Milk sold / cow (lbs)	16,212	17,035	18,263	16,201	16,502	18,807
Cows / FTE worker	51.02	47.84	55.73	42.28	52.11	60.20
Milk sold / FTE worker (million lbs)	0.82	0.83	1.00	0.68	0.86	1.11
Cull rate	0.39	0.35	0.33	0.39	0.34	0.35

Table 3.2. DBAP 2001 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 (%)		
	< \$1.20	\$1.20-\$2.80	> \$2.80	< 0.045	0.045-0.11	> 0.11
Number of farms	13	13	13	13	13	13
Revenues (per cwt)						
Milk sold (\$)	17.98	18.90	17.85	17.93	18.55	18.24
Raised, leased cow sales (\$)	0.15	0.87	0.67	0.32	0.56	0.81
Heifer sales (\$)	0.13	0.34	0.40	0.14	0.26	0.47
Gain on purchased livestock sales (\$)	(0.77)	0.08	0.46	(0.45)	(0.15)	0.38
Other revenues (\$)	0.59	1.17	1.18	1.55	0.55	0.83
Total revenues (\$)	18.08	21.36	20.56	19.49	19.77	20.73
Expenses (per cwt)						
Personnel (\$)	2.98	2.95	2.15	2.97	2.65	2.46
Purchased feed (\$)	7.57	7.91	6.49	6.96	8.05	6.96
Crops (\$)	0.13	0.76	0.53	0.90	0.21	0.32
Machinery (\$)	0.87	1.05	1.10	1.23	0.88	0.91
Livestock (\$)	1.58	1.95	1.38	1.39	1.83	1.70
Milk marketing (\$)	1.05	1.01	1.08	1.00	1.01	1.13
Buildings and land (\$)	0.42	0.95	0.54	0.53	0.69	0.68
Interest (\$)	0.77	0.49	0.57	0.86	0.47	0.50
Depreciation:						
• Livestock (\$)	0.62	0.57	0.83	0.45	0.77	0.80
• Machinery (\$)	0.40	0.59	0.51	0.67	0.37	0.46
• Buildings (\$)	0.18	0.16	0.37	0.36	0.12	0.23
Other expenses (\$)	1.12	0.92	0.70	0.96	1.05	0.73
Total expenses (\$)	17.69	19.31	16.25	18.28	18.10	16.88
Net farm income from operations (\$)	0.39	2.04	4.30	1.21	1.67	3.85
Appreciation (\$)	(0.02)	0.10	0.36	0.01	0.35	0.08
Net farm income (\$)	0.37	2.14	4.67	1.22	2.02	3.94

Table 3.3. DBAP 2001 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 (%)		
	< \$1.20	\$1.20-\$2.80	> \$2.80	< 0.045	0.045-0.11	> 0.11
Number of farms	13	13	13	13	13	13
Liquidity						
Current ratio	1.13	3.14	2.21	2.59	1.37	2.52
Working capital (\$)	35,014	240,011	280,937	88,491	(84,223)	551,694
Solvency						
Debt to asset ratio	0.33	0.33	0.29	0.27	0.35	0.32
Equity to asset ratio	0.67	0.67	0.71	0.73	0.65	0.68
Debt to equity ratio	1.05	0.62	0.49	0.55	1.05	0.56
Profitability						
Rate of return on assets	0.02	0.10	0.16	0.01	0.08	0.19
Rate of return on equity	(0.02)	0.12	0.22	(0.04)	0.08	0.28
Operating profit margin ratio	0.00	0.09	0.18	0.00	0.08	0.19
Financial efficiency						
Asset turnover rate	0.82	1.04	0.82	0.54	1.12	1.02
Operating expense ratio	0.87	0.82	0.68	0.83	0.83	0.72
Depreciation expense ratio	0.06	0.06	0.08	0.07	0.06	0.07
Interest expense ratio	0.04	0.02	0.03	0.05	0.02	0.02
Net farm income ratio	0.02	0.09	0.21	0.06	0.08	0.19
Repayment capacity						
Cash flow coverage ratio	3.76	1.76	3.02	2.13	3.54	2.87
Term debt coverage ratio ¹	2.75	5.40	18.10	2.00	17.70	6.55
Capital replacement margin ² (\$)	76,801	271,157	810,645	31,756	264,861	861,985
¹ Term debt and capital lease coverage ratio.						
² Capital replacement and term debt repayment margin.						

Table 3.4. DBAP 2001 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 (%)		
	< \$1.20	\$1.20-\$2.80	> \$2.80	< 0.045	0.045-0.11	> 0.11
Number of farms	13	13	13	13	13	13
Balance sheet (January 1)						
Current assets/cow (\$)	236	459	658	461	291	602
Total assets/cow (\$)	4,863	3,938	4,803	6,380	3,180	4,044
Current liabilities/cow (\$)	277	335	517	387	368	374
Total liabilities/cow (\$)	1,388	1,145	1,381	1,497	1,165	1,253
Equity/cow (\$)	3,534	2,849	3,460	4,981	2,066	2,796
Balance sheet (December 31)						
Current assets/cow (\$)	244	627	751	488	373	761
Total assets/cow (\$)	5,021	4,107	5,048	6,539	3,396	4,241
Current liabilities/cow (\$)	357	407	419	364	379	440
Total liabilities/cow (\$)	1,442	1,143	1,317	1,496	1,172	1,234
Equity/cow (\$)	3,643	3,019	3,770	5,147	2,274	3,012

Table 4.1. DBAP 2001 Summary - Business size and production efficiency by assets per cow and liabilities per cow..

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$3,650	\$3,650-\$4,700	> \$4,700	< \$925	\$925-\$1,600	> \$1,600
Number of farms	13	13	13	13	13	13
Business size						
Average number of cows	1,138	1,220	571	1,249	629	1,052
Average number of heifers	471	548	412	579	231	620
Milk sold (million lbs)	21.25	20.17	11.22	22.13	11.45	19.07
FTE workers	21	22	12	24	12	19
Acres of pasture + cultivated land	312	606	393	503	352	456
Production Efficiency						
Milk sold/cow (lbs)	17,632	16,426	17,451	17,348	17,463	16,699
Cows/FTE worker	59.78	54.15	40.66	57.79	46.77	50.02
Milk sold/FTE worker (million lbs)	1.06	0.89	0.71	0.99	0.83	0.83
Cull rate	0.35	0.36	0.36	0.35	0.36	0.37

Table 4.2. DBAP 2001 Summary - Revenues and expenses by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$3,650	\$3,650-\$4,700	> \$4,700	< \$925	\$925-\$1,600	> \$1,600
Number of farms	13	13	13	13	13	13
Revenues (per cwt)						
Milk sold (\$)	18.63	18.25	17.85	18.41	18.24	18.07
Raised, leased cow sales (\$)	0.53	0.71	0.45	0.48	0.69	0.53
Heifer sales (\$)	0.37	0.36	0.14	0.24	0.40	0.23
Gain on purchased livestock sales (\$)	(0.03)	(0.18)	(0.01)	(0.13)	0.05	(0.14)
Other revenues (\$)	0.59	0.71	1.63	1.09	0.60	1.24
Total revenues (\$)	20.09	19.85	20.06	20.09	19.98	19.93
Expenses (per cwt)						
Personnel (\$)	2.56	2.75	2.76	2.81	2.55	2.71
Purchased feed (\$)	8.09	7.53	6.36	7.06	7.85	7.06
Crops (\$)	0.12	0.29	1.02	0.82	0.20	0.41
Machinery (\$)	0.83	0.91	1.28	1.08	1.00	0.94
Livestock (\$)	1.80	1.68	1.44	1.63	1.84	1.45
Milk marketing (\$)	1.15	0.94	1.05	1.01	1.10	1.03
Buildings and land (\$)	0.78	0.61	0.51	0.90	0.59	0.42
Interest (\$)	0.47	0.60	0.76	0.22	0.50	1.10
Depreciation:						
• Livestock (\$)	1.03	0.60	0.39	0.61	0.77	0.65
• Machinery (\$)	0.40	0.34	0.76	0.65	0.44	0.41
• Buildings (\$)	0.14	0.20	0.37	0.24	0.20	0.27
Other expenses (\$)	0.86	0.89	0.99	0.65	0.98	1.11
Total expenses (\$)	18.23	17.34	17.69	17.68	18.02	17.56
Net farm income from operations (\$)	1.86	2.51	2.37	2.41	1.96	2.37
Appreciation (\$)	0.05	0.37	0.02	0.20	0.12	0.12
Net farm income (\$)	1.91	2.88	2.39	2.61	2.08	2.49

Table 4.3. DBAP 2001 Summary - Financial performance by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$3,650	\$3,650-\$4,700	> \$4,700	< \$925	\$925-\$1,600	> \$1,600
Number of farms	13	13	13	13	13	13
Liquidity						
Current ratio	1.37	1.73	3.39	4.24	1.50	0.74
Working capital (\$)	120,419	165,594	269,949	345,687	54,417	155,858
Solvency						
Debt to asset ratio	0.43	0.30	0.22	0.13	0.32	0.49
Equity to asset ratio	0.57	0.70	0.78	0.87	0.68	0.51
Debt to equity ratio	1.28	0.50	0.39	0.18	0.55	1.44
Profitability						
Rate of return on assets	0.12	0.10	0.05	0.09	0.08	0.10
Rate of return on equity	0.18	0.12	0.03	0.10	0.10	0.12
Operating profit margin ratio	0.09	0.13	0.06	0.11	0.08	0.09
Financial efficiency						
Asset turnover rate	1.36	0.79	0.54	0.94	0.94	0.81
Operating expense ratio	0.81	0.79	0.77	0.79	0.81	0.77
Depreciation expense ratio	0.08	0.06	0.07	0.08	0.07	0.06
Interest expense ratio	0.02	0.03	0.04	0.01	0.03	0.06
Net farm income ratio	0.09	0.12	0.11	0.12	0.10	0.11
Repayment capacity						
Cash flow coverage ratio	3.50	1.59	3.44	4.46	3.36	0.72
Term debt coverage ratio ¹	6.85	15.93	3.48	21.54	3.42	1.30
Capital replacement margin ² (\$)	462,079	507,835	188,688	552,130	145,713	460,759

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

Table 4.4. DBAP 2001 Summary - Balance sheet by assets per cow and liabilities per cow.

Category	Assets per cow (\$)			Liabilities per cow (\$)		
	< \$3,650	\$3,650-\$4,700	> \$4,700	< \$925	\$925-\$1,600	> \$1,600
Number of farms	13	13	13	13	13	13
Balance sheet (January 1)						
Current assets/cow (\$)	297	479	578	386	429	538
Total assets/cow (\$)	2,536	4,154	6,914	4,561	4,316	4,727
Current liabilities/cow (\$)	365	337	427	250	292	587
Total liabilities/cow (\$)	1,118	1,357	1,440	500	1,169	2,245
Equity/cow (\$)	1,453	2,821	5,569	4,107	3,199	2,537
Balance sheet (December 31)						
Current assets/cow (\$)	426	505	691	524	526	572
Total assets/cow (\$)	2,859	4,248	7,069	4,718	4,545	4,913
Current liabilities/cow (\$)	455	360	368	199	409	575
Total liabilities/cow (\$)	1,251	1,267	1,384	506	1,228	2,168
Equity/cow (\$)	1,639	3,007	5,787	4,254	3,376	2,803