



THE UNIVERSITY OF GEORGIA

COOPERATIVE EXTENSION

Colleges of Agricultural and Environmental Sciences & Family and Consumer Sciences



Dairy Business Analysis Project: 2005 Summary for Florida and Georgia Dairies

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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 farms 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/dbap>.

Financial data for the year 2005 were collected from participating dairy farms and screened for completeness and validity. Each dairy farm then received a benchmark report detailing its financial results compared to the average results for the other participants and the six dairy farms with the highest net farm income per cwt. This benchmark report is discussed with the dairy farms to identify challenges and opportunities for improvement.

This publication is a summary of the financial performance of the dairy farms that participated in 2005. It is intended for general use by dairy farmers, the allied industry, government, and educational professionals.

Results

Summary results are presented in Tables 1.1 to 4.4 and Figures 1 to 5. Revenues and expenses may not add up due to rounding. In brief, 21 dairy farms were included in the summary results. Of these, 15 were located in Florida and 6 in Georgia. The average herd size of the participating dairies was 1,045 cows and 538 heifers with 18,322 pounds of milk sold per cow. The average culling rate was 36 percent. The average milk price was \$18.24. Average total revenues were \$20.73 per cwt. milk sold. Total expenses averaged \$20.20 per cwt. sold. The largest items were purchased feed, \$7.22, and personnel costs, \$3.50. Net farm income from operations averaged \$0.53 per cwt. sold. Net farm income per cwt. was \$0.07.

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The herds were divided into three equal groups based on size, <446, 446 to 670 and >670 cows. The average number of cows and heifers by group was 261 cows and 50 heifers, 562 cows and 348 heifers, and 2,312 cows and 1,218 heifers. Milk sold per cow was 15,777, 19,225 and 19,963 pounds by group. Culling rates were highest (42 percent) for the smallest herd size and lowest (31 percent) for the largest herd size. Milk revenue increased with herd size (\$17.95, \$18.14 and \$18.63 per cwt.) but total revenue was highest (\$21.57 per cwt.) for the smallest herd size. Total expenses decreased with increasing herd size (\$22.22, \$20.75 and \$17.65 per cwt.). This resulted in the highest net farm income from operations (\$2.79 per cwt.) and net farm income (\$2.79 per cwt.) for the largest herd size. The largest expense item was purchased feed for each group but it decreased with increasing herd size. Labor costs were highest for the smallest herd size and decreased with herd size.

The herds were divided into three equal groups on pounds of milk sold, <17,300, 17,300 to 19,500 and >19,500. The average pounds of milk sold, cow and heifer numbers for each group, was 14,950 pounds of milk, 1,117 cows and 363 heifers; 18,420 pounds of milk, 447 cows and 215 heifers and 21,594 pounds of milk, 1,571 cows and 1,038 heifers. Culling rates were highest for the lowest production group (44 percent) and lowest for the highest production group (29 percent). Milk revenue was nearly equal for each group (\$18.32, \$18.08, and \$18.32 per cwt.) but total revenue was highest for the lowest yield group and lowest for the highest yield group. Total expenses decreased with increasing milk sold (\$21.78, \$19.86 and \$18.98 per cwt.). This resulted in the highest net farm income from operations (\$1.31 per cwt.) and net farm income (\$1.19 per cwt.) for the highest production group.

Data Collection and Accounting Methods

Dairy farms in Florida and Georgia were asked to participate in DBAP. Participants were not a random sampling of all dairy farms in the two states. The financial performance results in this publication are therefore not necessarily representative of the results of all dairy farms in Florida and Georgia.

Most of the data were collected by extension agents when visiting dairy 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 followed the recommendations made by the Farm Financial Standards Council². All revenues and expenses were accrual adjusted. Cash receipts and expenses were therefore adjusted for changes in inventory, prepaid expenses, accounts payable, and accounts receivable. Depreciation data were often taken from tax records. Asset valuation was based on market values if available, but the changes from January 1 to December 31 were kept small. Unpaid management was valued at \$50,000 per farm. Gain or loss on sale of purchased livestock resulted when depreciation did not completely account for the gain or loss in the value of the purchased livestock during 2005. Appreciation resulted when machinery and building depreciation did not completely account for the gain or loss in the value of these capital assets during 2005. The bottom line of each dairy farm 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 dairy farm. It is the total income available for owner 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 resulted in unresolved imbalances. Both cash flow and equity imbalances had to be less than 10 percent to be included in the summary results reported here.

All results in this publication are the simple averages of the statistics of the dairy farms with valid data. Every dairy farm has equal weight. The simple average milk yield per cow is $(17,000 + 19,000) / 2 = 18,000$ lbs. / cow.

² Farm Financial Standards Council. 1997. Financial Guidelines for Agricultural Producers.

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

Std = standard deviation

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

Table 1.1. DBAP 2005 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	21	21	21	15	6
Business Size:					
Average number of cows	1,045	575	1,157	1,155	770
Average number of heifers	538	290	720	543	527
Milk sold (million lb)	20.21	10.99	22.96	21.53	16.94
FTE ² workers	19	12	17	20	16
Acres of pasture + cultivated land	569	320	732	633	410
Production Efficiency:					
Milk sold (lb / cow / year)	18,322	18,168	3,237	17,659	19,979
Cows / FTE worker	51	52	25	55	40
Milk sold / FTE worker (million lb)	0.93	0.94	0.44	0.97	0.82
Cull rate	36%	32%	21%	31%	47%

¹ Standard deviation
² Full-time equivalent

Table 1.2. DBAP 2005 Summary - Revenues and expenses by state and overall average, median, and standard deviation (\$/cwt.).

Category	Overall			State Averages	
	Average	Median	Std ¹	Florida	Georgia
Number of farms	21	21	21	15	6
Revenues:					
Milk sold	18.24	18.28	0.62	18.38	17.89
Raised, leased cow sales	0.89	0.33	1.41	0.60	1.62
Heifer sales	0.45	0.36	0.44	0.50	0.33
Gain on purchased livestock sales	(0.13)	(0.06)	0.83	(0.37)	0.48
Other revenues	1.28	0.78	1.45	1.30	1.23
Total Revenues	20.73	20.24	2.21	20.41	21.55
Expenses:					
Personnel	3.50	3.08	1.42	3.43	3.69
Purchased feed	7.22	6.81	2.33	7.96	5.36
Crops	0.41	0.13	0.59	0.34	0.58
Machinery	1.11	1.00	0.75	1.18	0.94
Livestock	2.01	1.92	0.90	1.99	2.06
Milk marketing	1.22	1.30	0.24	1.19	1.32
Buildings and land	0.74	0.44	1.01	0.52	1.30
Interest	0.67	0.56	0.61	0.69	0.61
Depreciation:					
Livestock	1.11	0.97	1.07	1.11	1.12
Machinery	0.81	0.40	0.85	0.76	0.95
Buildings	0.39	0.25	0.42	0.37	0.44
Other expenses	1.01	1.03	0.38	1.06	0.89
Total Expenses	20.20	18.73	3.80	20.59	19.25
Net farm income from operations	0.53	0.84	3.20	(0.18)	2.30
Gain on sale of capital assets	(0.46)	0.00	1.37	(0.03)	(1.56)
Net Farm Income	0.07	0.84	3.54	(0.20)	0.74

¹ Standard deviation

Table 1.3. DBAP 2005 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	21	21	21	15	6
Liquidity:					
Current ratio	5.78	0.61	17.47	1.53	16.42
Working capital (\$)	123,069	21,375	673,678	(23,839)	490,338
Solvency:					
Debt to asset ratio	0.39	0.34	0.26	0.40	0.38
Equity to asset ratio	0.61	0.66	0.26	0.60	0.62
Debt to Equity Ratio ²	2.47	0.52	5.88	1.75	4.26
Profitability:					
Rate of return on assets	0.04	0.04	0.10	0.03	0.09
Rate of return on equity	0.02	0.02	0.35	(0.06)	0.24
Operating Profit Margin Ratio	0.02	0.03	0.17	(0.01)	0.08
Financial efficiency:					
Asset turnover rate	0.78	0.81	0.37	0.80	0.71
Operating expense ratio	0.83	0.84	0.15	0.86	0.75
Depreciation expense ratio	0.11	0.10	0.06	0.11	0.11
Interest expense ratio	0.03	0.03	0.03	0.03	0.03
NFIFO Ratio ³	0.03	0.04	0.15	(0.01)	0.10
Repayment capacity:					
Cash flow coverage ratio	5.96	0.58	19.28	0.71	19.08
Term debt coverage ratio ⁴	2.90	0.42	7.30	3.77	0.72
Capital Replacement Margin ⁵ (\$)	321,516	69,895	971,525	193,709	641,032

¹ Standard deviation

² One dairy farm had negative equity.

³ Net farm income from operations ratio.

⁴ Term debt and capital lease coverage ratio.

⁵ Capital replacement and term debt repayment margin.

Table 1.4. DBAP 2005 Summary - Balance sheet by state and overall average, median, and standard deviation (\$/cow).

Category	Overall			State Averages	
	Average	Median	Std¹	Florida	Georgia
Number of farms	21	21	21	15	6
Balance Sheet (January 1):					
Current assets	428	306	268	316	709
Total Assets	6,800	4,176	5,763	5,502	10,044
Current liabilities	507	408	379	581	324
Total Liabilities	1,810	1,825	1,163	1,668	2,164
Equity	4,990	2,415	6,108	3,834	7,880
Balance Sheet (December 31):					
Current assets	487	368	317	425	641
Total Assets	6,668	4,733	5,315	5,365	9,925
Current liabilities	386	344	414	521	49
Total Liabilities	1,896	1,914	1,159	1,854	2,001
Equity	4,772	2,657	5,724	3,511	7,924

¹ Standard deviation

Table 2.1. DBAP 2005 Summary - Business size and production efficiency by average number of cows and milk per cow.

Category	Average number of cows			Milk yield (lbs / cow / year)		
	< 446	446-670	> 670	< 17,300	17,300-19,500	> 19,500
Number of farms	7	7	7	7	7	7
Business Size:						
Average number of cows	261	562	2,312	1,117	447	1,571
Average number of heifers	50	348	1,218	363	215	1,038
Milk sold (million lb)	4.24	10.86	45.54	17.84	8.29	34.51
FTE workers	7	14	36	15	9	33
Acres of pasture + cultivated land	142	397	1,169	613	298	798
Production Efficiency:						
Milk sold (lb / cow / year)	15,777	19,225	19,963	14,950	18,420	21,594
Cows / FTE worker	37	49	66	58	47	47
Milk sold / FTE worker (million lb)	0.59	0.93	1.26	0.89	0.88	1.02
Cull rate	42%	34%	31%	44%	34%	29%

Table 2.2. DBAP 2005 Summary - Revenues and expenses by average number of cows and milk per cow (\$/cwt.)

Category	Average number of cows			Milk yield (lbs / cow / year)		
	< 446	446-670	> 670	< 17,300	17,300-19,500	> 19,500
Number of farms	7	7	7	7	7	7
Revenues:						
Milk sold	17.95	18.14	18.63	18.32	18.08	18.32
Raised, leased cow sales	1.08	0.96	0.63	1.47	0.37	0.84
Heifer sales	0.38	0.34	0.64	0.37	0.36	0.63
Gain on purchased livestock sales	0.14	(0.46)	(0.07)	0.07	(0.43)	(0.03)
Other revenues	2.01	1.22	0.61	2.23	1.08	0.52
Total Revenues	21.57	20.20	20.44	22.46	19.46	20.29
Expenses:						
Personnel	4.04	3.63	2.85	3.31	3.96	3.24
Purchased feed	7.31	7.36	6.99	7.92	7.28	6.46
Crops	0.29	0.72	0.22	0.37	0.32	0.54
Machinery	0.95	1.53	0.85	0.93	1.04	1.35
Livestock	2.16	1.92	1.96	2.23	1.91	1.89
Milk marketing	1.34	1.06	1.27	1.29	1.17	1.22
Buildings and land	1.37	0.57	0.29	1.00	0.96	0.27
Interest	0.93	0.52	0.55	0.93	0.45	0.61
Depreciation:						
Livestock	1.67	0.67	0.99	1.70	0.92	0.71
Machinery	0.88	1.14	0.42	0.63	0.75	1.05
Buildings	0.23	0.53	0.41	0.41	0.09	0.66
Other expenses	1.05	1.12	0.86	1.05	1.00	0.98
Total Expenses	22.22	20.75	17.65	21.78	19.86	18.98
Net farm income from operations	(0.65)	(0.55)	2.79	0.68	(0.40)	1.31
Gain on sale of capital assets	(1.23)	(0.17)	0.00	(0.50)	(0.77)	(0.12)
Net Farm Income	(1.88)	(0.72)	2.79	0.18	(1.17)	1.19

Table 2.3. DBAP 2005 Summary - Financial performance by average number of cows and milk per cow.

Category	Average number of cows			Milk yield (lbs / cow / year)		
	< 446	446-670	> 670	< 17,300	17,300-19,500	> 19,500
Number of farms	7	7	7	7	7	7
Liquidity:						
Current ratio	0.46	12.66	4.22	1.77	0.41	15.16
Working capital (\$)	24,649	7,679	336,879	207,250	(32,694)	194,650
Solvency:						
Debt to asset ratio	0.48	0.30	0.40	0.38	0.43	0.36
Equity to asset ratio	0.52	0.70	0.60	0.62	0.57	0.64
Debt to Equity Ratio ¹	5.99	0.65	0.77	0.79	5.92	0.70
Profitability:						
Rate of return on assets	(0.01)	(0.01)	0.15	0.04	(0.00)	0.09
Rate of return on equity	(0.08)	(0.05)	0.20	0.02	(0.07)	0.12
Operating Profit Margin Ratio	(0.08)	(0.02)	0.15	0.01	(0.04)	0.08
Financial efficiency:						
Asset turnover rate	0.74	0.67	0.93	0.77	0.83	0.73
Operating expense ratio	0.86	0.89	0.75	0.81	0.90	0.79
Depreciation expense ratio	0.13	0.11	0.09	0.12	0.09	0.12
Interest expense ratio	0.04	0.03	0.03	0.04	0.02	0.03
NFIFO Ratio ²	(0.03)	(0.02)	0.13	0.03	(0.02)	0.06
Repayment capacity:						
Cash flow coverage ratio	0.15	13.03	4.68	0.57	0.74	16.56
Term debt coverage ratio ³	0.53	1.49	6.67	5.11	1.30	2.28
Capital Replacement Margin ⁴ (\$)	(1,170)	69,793	895,924	342,885	35,085	586,576

¹ One dairy farm had negative equity.

² Net farm income from operations ratio.

³ Term debt and capital lease coverage ratio.

⁴ Capital replacement and term debt repayment margin.

Table 2.4. DBAP 2005 Summary - Balance sheet by average number of cows and milk per cow (\$/cow).

Category	Average number of cows			Milk yield (lbs / cow / year)		
	< 446	446-670	> 670	< 17,300	17,300-19,500	> 19,500
Number of farms	7	7	7	7	7	7
Balance Sheet (January 1):						
Current assets	336	350	599	334	291	660
Total Assets	8,343	7,651	4,405	5,512	6,846	8,042
Current liabilities	471	453	599	491	547	484
Total Liabilities	1,877	1,604	1,949	1,858	1,374	2,197
Equity	6,466	6,047	2,457	3,654	5,471	5,844
Balance Sheet (December 31):						
Current assets	374	311	775	541	242	676
Total Assets	8,526	6,726	4,751	5,715	7,017	7,271
Current liabilities	223	304	631	410	259	490
Total Liabilities	2,061	1,623	2,004	2,015	1,504	2,169
Equity	6,465	5,102	2,747	3,700	5,513	5,102

Table 3.1. DBAP 2005 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 (%)		
	< \$(1.13)	\$(1.13) - \$2.30	> \$2.30	< (3)%	(3)% - 9.5%	>9.5%
Number of farms	7	7	7	8	6	7
Business Size:						
Average number of cows	591	523	2,022	580	435	2,100
Average number of heifers	373	198	1,044	329	161	1,101
Milk sold (million lb)	11.63	9.70	39.32	11.31	8.02	40.85
FTE workers	15	10	32	14	9	33
Acres of pasture + cultivated land	653	273	782	572	304	795
Production Efficiency:						
Milk sold (lb / cow / year)	17,549	18,283	19,133	17,603	17,734	19,646
Cows / FTE worker	37	55	61	39	47	67
Milk sold / FTE worker (million lb)	0.65	1.00	1.13	0.70	0.83	1.27
Cull rate	33%	32%	43%	34%	45%	31%

Table 3.2. DBAP 2005 Summary - Revenues and expenses by net farm income per cwt. and rate of return on assets (\$/cwt.).

Category	Net farm income (\$ / cwt.)			Rate of return on assets (%)		
	<\$(1.13)	\$(1.13)- \$2.30	> \$2.30	<3%	(3)% - 9.5%	>9.5%
Revenues:						
Milk sold	18.14	18.17	18.42	18.08	17.97	18.66
Raised, leased cow sales	0.95	0.25	1.47	0.83	1.13	0.76
Heifer sales	0.44	0.33	0.58	0.48	0.26	0.58
Gain on purchased livestock sales	(0.48)	(0.22)	0.30	(0.62)	0.46	(0.07)
Other revenues	2.27	0.84	0.72	2.03	1.00	0.66
Total Revenues	21.33	19.38	21.49	20.80	20.81	20.59
Expenses:						
Personnel	4.60	3.11	2.80	4.48	3.13	2.70
Purchased feed	8.38	7.24	6.04	8.29	6.25	6.83
Crops	0.51	0.27	0.45	0.44	0.51	0.28
Machinery	1.56	0.84	0.94	1.43	0.95	0.88
Livestock	1.97	2.02	2.05	1.96	2.01	2.07
Milk marketing	1.27	1.11	1.30	1.19	1.26	1.23
Buildings and land	1.14	0.67	0.42	1.00	0.93	0.29
Interest	0.91	0.60	0.49	0.89	0.67	0.40
Depreciation:						
Livestock	1.05	0.90	1.39	1.11	1.40	0.87
Machinery	1.15	0.78	0.52	1.03	1.04	0.37
Buildings	0.54	0.21	0.42	0.47	0.34	0.33
Other expenses	1.22	1.04	0.77	1.22	0.87	0.89
Total Expenses	24.27	18.77	17.57	23.51	19.37	17.14
Net farm income from operations	(2.94)	0.60	3.92	(2.71)	1.44	3.45
Gain on sale of capital assets	(0.94)	0.00	(0.46)	(0.82)	(0.53)	0.00
Net Farm Income	(3.87)	0.61	3.47	(3.53)	0.91	3.45

Table 3.3. DBAP 2005 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 (%)		
	< \$(1.13)	\$(1.13) - \$2.30	> \$2.30	< (3)%	(3)% - 9.5%	>9.5%
Number of farms	7	7	7	8	6	7
Liquidity:						
Current ratio	1.02	12.16	4.17	0.99	13.96	4.25
Working capital (\$)	(307,705)	24,654	652,257	(275,332)	74,306	620,181
Solvency:						
Debt to asset ratio	0.39	0.45	0.34	0.41	0.44	0.33
Equity to asset ratio	0.61	0.55	0.66	0.59	0.56	0.67
Debt to Equity Ratio ¹	2.90	3.94	0.57	2.70	4.38	0.57
Profitability:						
Rate of return on assets	(0.06)	0.03	0.16	(0.06)	0.03	0.17
Rate of return on equity	(0.27)	0.10	0.24	(0.25)	0.13	0.25
Operating Profit Margin Ratio	(0.17)	0.03	0.18	(0.15)	0.05	0.18
Financial efficiency:						
Asset turnover rate	0.55	0.90	0.89	0.57	0.82	0.98
Operating expense ratio	0.97	0.84	0.69	0.96	0.78	0.74
Depreciation expense ratio	0.13	0.10	0.10	0.13	0.13	0.08
Interest expense ratio	0.04	0.03	0.02	0.04	0.03	0.02
NFIFO Ratio ²	(0.14)	0.03	0.18	(0.13)	0.06	0.17
Repayment capacity:						
Cash flow coverage ratio	0.08	13.12	4.67	0.23	14.84	4.89
Term Debt Coverage Ratio ³	1.26	0.82	6.61	1.21	0.48	6.90
Capital Replacement Margin ⁴ (\$)	(324,083)	60,030	1,228,600	(291,751)	74,639	1,234,001

¹ One dairy farm had negative equity.

² Net farm income from operations ratio.

³ Term debt and capital lease coverage ratio.

⁴ Capital replacement and term debt repayment margin.

Table 3.4. DBAP 2005 Summary - Balance sheet by net farm income per cwt. and rate of return on assets (\$/cow).

Category	Net farm income (\$ / cwt.)			Rate of return on assets (%)		
	< \$(1.13)	\$(1.13) - \$2.30	> \$2.30	< (3)%	(3)% - 9.5%	>9.5%
Number of farms	7	7	7	8	6	7
Balance Sheet (January 1):						
Current assets	337	302	646	330	428	541
Total Assets	10,601	4,794	5,004	9,766	6,119	3,993
Current liabilities	570	506	446	535	543	446
Total Liabilities	1,930	1,828	1,671	1,950	1,982	1,502
Equity	8,672	2,966	3,332	7,816	4,137	2,491
Balance Sheet (December 31):						
Current assets	288	340	831	288	486	714
Total Assets	9,884	4,634	5,486	9,153	5,952	4,441
Current liabilities	468	294	397	457	222	446
Total Liabilities	2,078	1,791	1,819	2,106	2,017	1,553
Equity	7,806	2,843	3,666	7,048	3,935	2,888

Table 4.1. DBAP 2005 Summary - Business size and production efficiency by assets per cow and liabilities per cow.

Category	Assets (\$ / cow)			Liabilities (\$ / cow)		
	< \$4,000	\$4,000-\$5,600	> \$5,600	< \$1,340	\$1,340-\$2,500	> \$2,500
Number of farms	7	7	7	7	7	7
Business Size:						
Average number of cows	1,167	1,331	638	1,212	1,049	874
Average number of heifers	710	471	434	886	142	588
Milk sold (million lb)	22.87	24.49	13.28	24.24	17.69	18.71
FTE workers	22	18	17	27	14	17
Acres of pasture + cultivated land	426	558	725	608	424	677
Production Efficiency:						
Milk sold (lb / cow / year)	17,947	18,535	18,483	19,077	17,549	18,339
Cows / FTE worker	52	66	34	45	65	43
Milk sold / FTE worker (million lb)	0.93	1.20	0.65	0.85	1.10	0.82
Cull rate	30%	33%	45%	35%	29%	43%

Table 4.2. DBAP 2005 Summary - Revenues and expenses by assets per cow and liabilities per cow (\$/cwt.).

Category	Assets (\$ / cow)			Liabilities (\$ / cow)		
	<\$4,000	\$4,000-\$5,600	> \$5,600	< \$1,340	\$1,340-\$2,500	> \$2,500
Number of farms	7	7	7	7	7	7
Revenues:						
Milk sold	18.53	18.31	17.88	18.26	18.55	17.92
Raised, leased cow sales	0.51	0.78	1.39	0.79	0.05	1.84
Heifer sales	0.35	0.55	0.45	0.49	0.58	0.29
Gain on purchased livestock sales	(0.01)	(0.58)	0.20	0.04	(0.40)	(0.04)
Other revenues	0.80	1.30	1.73	1.03	1.02	1.78
Total Revenues	20.18	20.37	21.65	20.61	19.80	21.79
Expenses:						
Personnel	2.86	3.14	4.51	4.31	2.85	3.35
Purchased feed	7.64	7.88	6.14	6.95	6.90	7.81
Crops	0.15	0.35	0.73	0.58	0.25	0.40
Machinery	0.88	0.99	1.46	1.38	0.78	1.17
Livestock	2.30	1.37	2.37	2.60	1.67	1.76
Milk marketing	1.23	1.21	1.24	1.09	1.28	1.30
Buildings and land	0.73	0.48	1.01	0.88	0.56	0.79
Interest	0.51	0.59	0.90	0.13	0.62	1.24
Depreciation:						
Livestock	1.03	1.36	0.94	0.20	1.36	1.77
Machinery	0.60	0.54	1.30	0.97	0.66	0.81
Buildings	0.21	0.33	0.62	0.31	0.25	0.61
Other expenses	1.01	0.84	1.18	1.09	0.94	1.00
Total Expenses	19.14	19.08	22.39	20.48	18.13	22.00
Net farm income from operations	1.04	1.29	(0.73)	0.13	1.67	(0.21)
Gain on sale of capital assets	(0.01)	(0.15)	(1.22)	(0.78)	0.13	(0.74)
Net Farm Income	1.03	1.13	(1.96)	(0.65)	1.80	(0.94)

Table 4.3. DBAP 2005 Summary - Financial performance by assets per cow and liabilities per cow.

Category	Assets (\$ / cow)			Liabilities (\$ / cow)		
	< \$4,000	\$4,000-\$5,600	> \$5,600	< \$1,340	\$1,340-\$2,500	> \$2,500
Number of farms	7	7	7	7	7	7
Liquidity:						
Current ratio	1.82	2.58	12.94	2.27	1.37	13.70
Working capital (\$)	234,881	240,634	(106,309)	224,631	172,138	(27,563)
Solvency:						
Debt to asset ratio	0.50	0.43	0.25	0.14	0.53	0.51
Equity to asset ratio	0.50	0.57	0.75	0.86	0.47	0.49
Debt to Equity Ratio ¹	6.02	0.92	0.47	0.19	4.11	3.11
Profitability:						
Rate of return on assets	0.06	0.06	0.00	0.04	0.08	0.01
Rate of return on equity	0.02	0.08	(0.03)	0.05	0.18	(0.16)
Operating Profit Margin Ratio	0.05	0.07	(0.07)	(0.02)	0.09	(0.02)
Financial efficiency:						
Asset turnover rate	1.13	0.81	0.39	0.77	0.96	0.61
Operating expense ratio	0.83	0.80	0.87	0.91	0.77	0.81
Depreciation expense ratio	0.09	0.11	0.13	0.07	0.12	0.14
Interest expense ratio	0.03	0.03	0.04	0.01	0.03	0.06
NFIFO Ratio ²	0.05	0.06	(0.04)	0.01	0.08	(0.01)
Repayment capacity:						
Cash flow coverage ratio	1.10	3.89	12.88	0.92	1.11	15.83
Term Debt Coverage Ratio ³	1.57	6.04	1.08	1.80	6.08	0.81
Capital Replacement Margin ⁴ (\$)	458,418	684,602	(178,473)	499,638	349,460	115,449

¹ One dairy farm had negative equity.

² Net farm income from operations ratio.

³ Term debt and capital lease coverage ratio.

⁴ Capital replacement and term debt repayment margin.

Table 4.4. DBAP 2005 Summary - Balance sheet by assets per cow and liabilities per cow (\$/cow).

Category	Assets (\$ / cow)			Liabilities (\$ / cow)		
	< \$4,000	\$4,000- \$5,600	> \$5,600	< \$1,340	\$1,340- \$2,500	> \$2,500
Number of farms	7	7	7	7	7	7
Balance Sheet (January 1):						
Current assets	264	392	629	377	407	501
Total Assets	3,194	4,380	12,825	9,048	3,622	7,730
Current liabilities	539	629	354	350	505	667
Total Liabilities	1,442	1,830	2,157	571	1,783	3,075
Equity	1,752	2,550	10,668	8,477	1,838	4,655
Balance Sheet (December 31):						
Current assets	349	544	566	338	643	478
Total Assets	3,397	4,636	11,970	8,657	3,986	7,360
Current liabilities	275	541	342	249	509	400
Total Liabilities	1,614	1,972	2,103	621	1,921	3,147
Equity	1,784	2,665	9,867	8,037	2,065	4,213

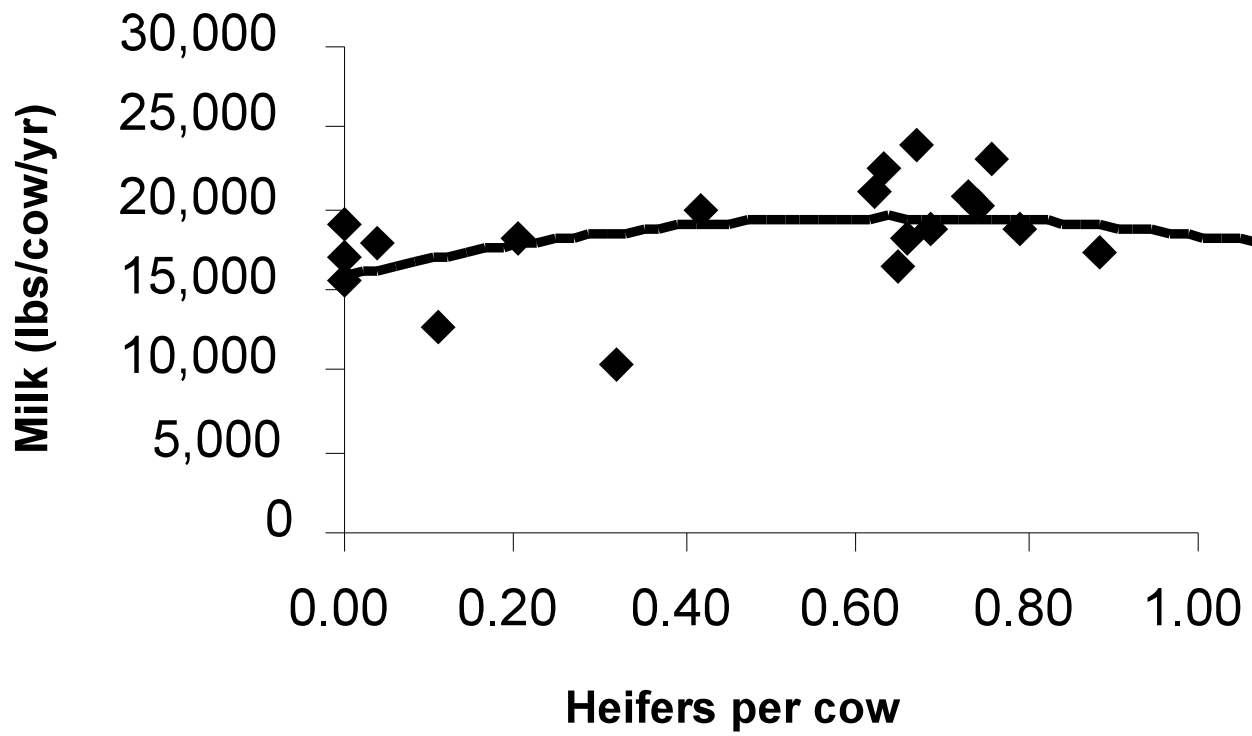


Figure 1. DBAP 2005 Summary – Milk production (lb / cow / year) by heifers per cow.

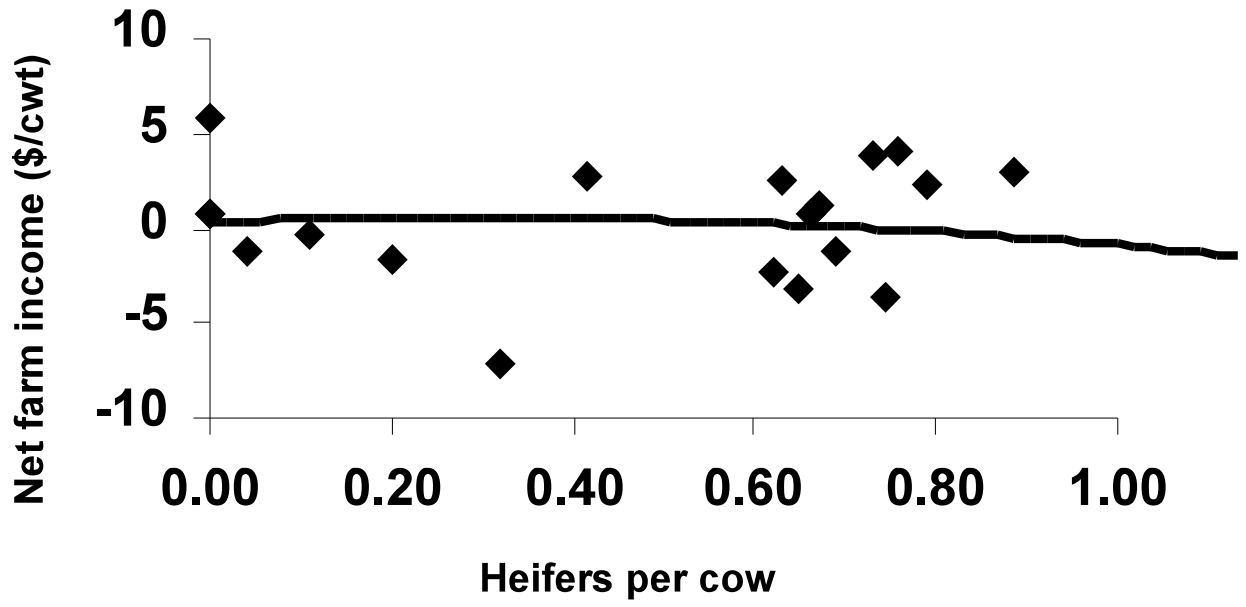


Figure 2. DBAP 2005 Summary - Net farm income (\$ / cwt.) by heifers per cow.

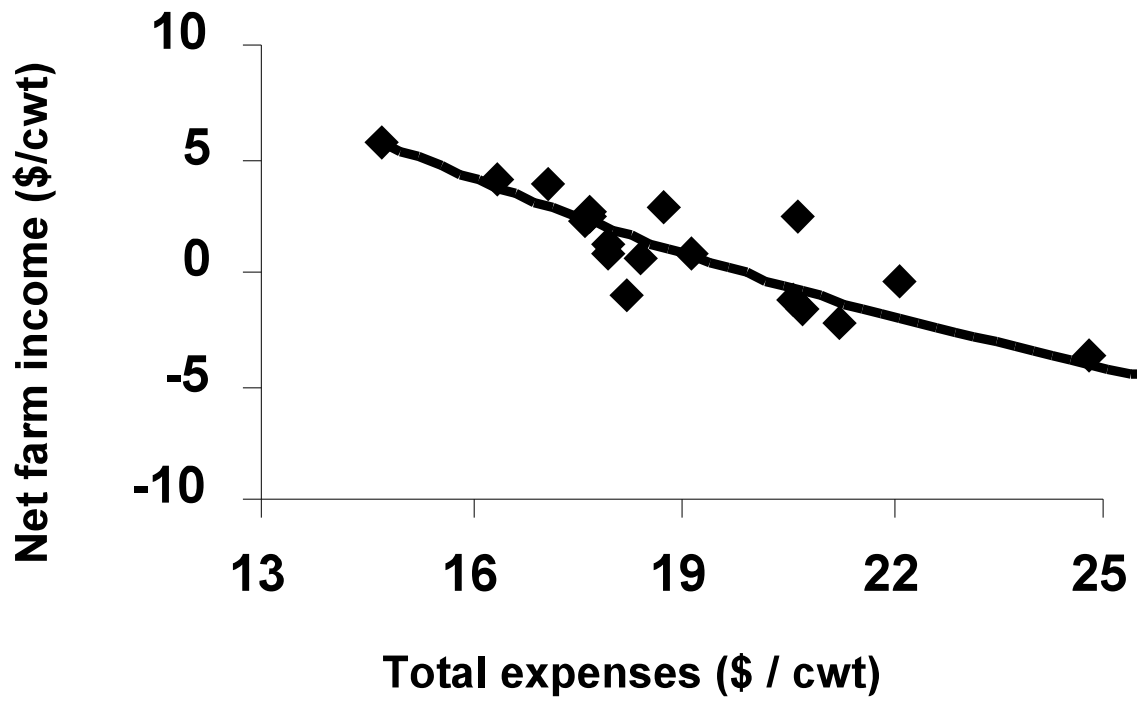


Figure 3. DBAP 2005 Summary - Net farm income (\$ / cwt.) by total expenses (\$ / cwt.)

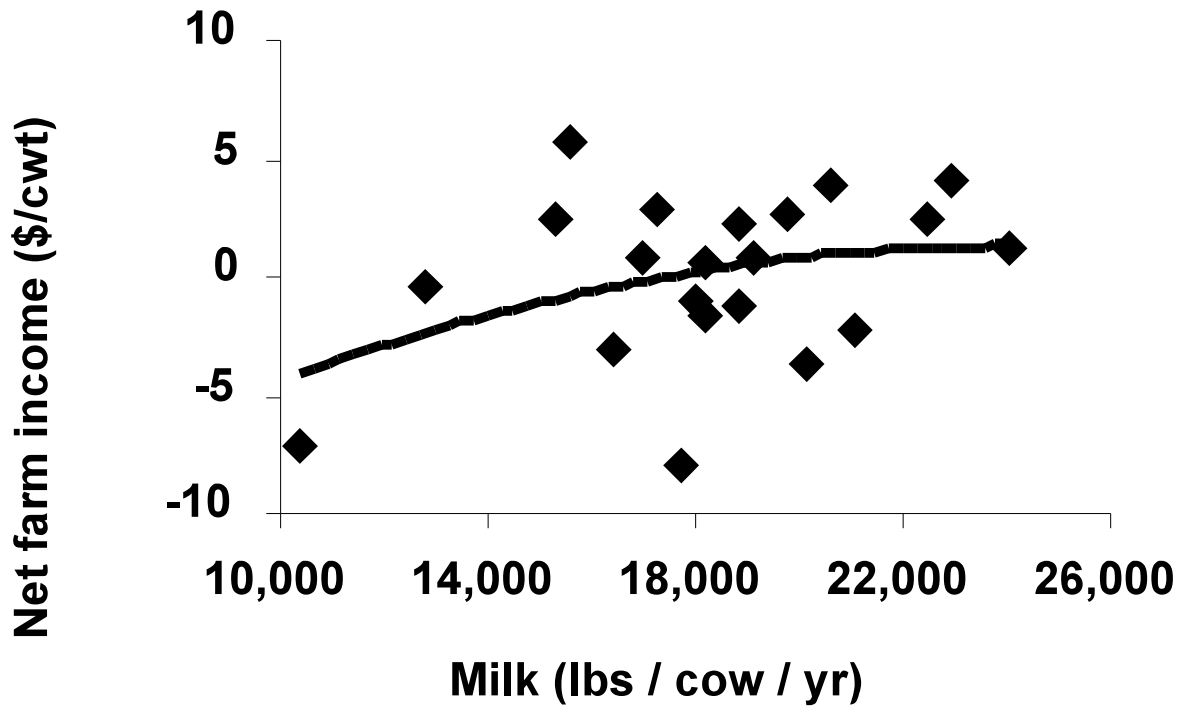


Figure 4. DBAP 2005 Summary - Net farm income (\$ / cwt.) by milk yield (lbs / cow / year)

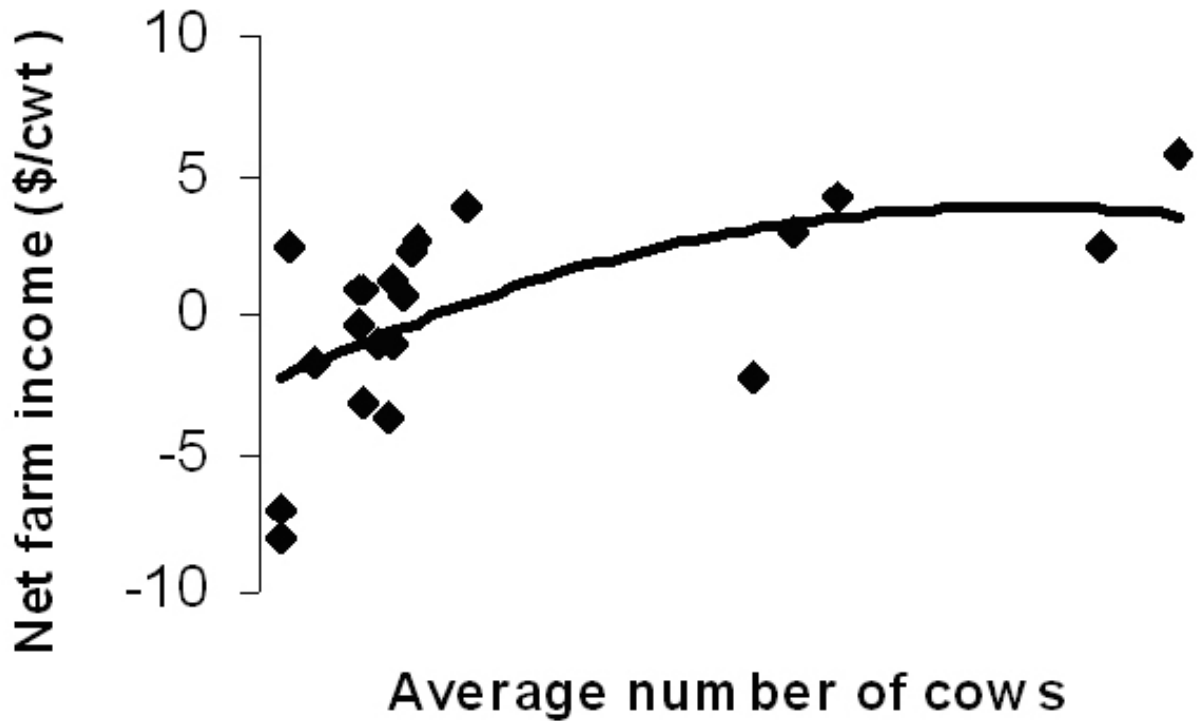


Figure 5. DBAP 2005 Summary - Net farm income per cwt. (\$) by average number of cows. The x-axis is not displayed to avoid possible identification of dairy farms.

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Reviewed May 2010

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