

2000 Dairy Business Analysis Project

The Dairy Business Analysis Project (DBAP) is a service of the University of Florida's Department of Animal Sciences in cooperation with the University of Georgia Animal and Dairy Science Department.

What follows is a detailed analysis of your dairy business. We hope this report helps you understand the performance of your business in comparison to others participating in the project. Several methods of analysis are provided to help you improve the business in the following business areas:

- ? Benchmarks. Performance factors and expenses are benchmarked to other DBAP dairies to identify the strengths and challenges of your business.
- ? Operating activities. This section highlights the areas of your business that contributed to operating efficiency. The areas of purchased feed, labor, crop, livestock, machinery and equipment, and other expenses are investigated in detail along with physical performance measures.
- ? Financing activities. A comparison and analysis of external financing is made. This section also tracks the financing your dairy has used and payments made on loans during the year.
- ? Investing activities. A detailed summary and comparison of investment performance and activity made by your dairy during the year.

If you have any questions about the report or project itself, please feel free to contact the following people.

Russ Giesy
Extension Dairy Science
PO Box 218
Bushnell, FL 33513
Ph: 352-793-2728
FAX: 352-793-6376
Email: giesyr@aol.com

Albert de Vries
Department of Animal Sciences
PO Box 110910
Gainesville, FL 32611-0910
Ph: 352-392-7563
FAX: 352-392-7652
Email: devries@animal.ufl.edu

Dan Webb
Department of Animal Sciences
PO Box 110910
Gainesville, FL 32611-0910
Ph: 352-392-5594
FAX: 352-392-5595
Email: webb@animal.ufl.edu

Lane Ely
Animal and Dairy Science Department
425 River Road
Athens, GA 30602-2771
Ph: 706-542-9107
FAX: 706-542-9316
Email: laneely@arches.uga.edu

Statement of Confidence

	Equity Imbalance	Cash Imbalance
Amount	xxx	xxx
Percent	-3%	-1%

The Dairy Business Analysis Project makes no statement about the accuracy of the financial statements contained in this report because data from dairies is accepted at face value. The above numbers provide some insight into the degree of confidence you can place into the measures of financial performance that are generated from these data. Two key areas are examined in the data to determine its accuracy.

Equity Imbalance:

If a dairy is profitable, the “profit” will show up somewhere on the balance sheet. It can be in the form of cash, an increase in assets, or in the form of reduced debt. Wherever the profit goes, it must be accounted for somewhere on the balance sheet and the ownership or “equity” in the business will increase. If everything is accounted for correctly, the difference between beginning and ending equity in the business will be equal to the profit. Some reasons for this not happening could include the following:

- Over/under estimation of profit. This can occur when accurate information about income is not included. Mistakes in data entry can also affect the imbalance.
- Inaccurate asset information. If asset levels are not correct or values dramatically change during the year, problems can occur when reconciling the differences.
- Incomplete liability information. If payment information is missing, or the balances are inaccurate, reconciliation will be difficult.

Cash Flow Imbalance:

The most active account on any dairy is cash. By paying particular attention to how cash moves into and out of the business, a determination of how much cash is “missing” from the financial statements can be done. One way is to add up all of the cash receipts and expenses and see if the cash account changed by this amount. If there is a discrepancy, some of the following may be occurring:

- Missing liability payments/borrowings. As a single use of cash, missing liability information is the biggest contributor to imbalances. Especially difficult to track is the borrowings and payments on an operating note or line of credit.
- Asset purchases/sales. Since they are not a part of the daily operation of the business, major transactions involving the sales or purchases of assets such as land or machinery are easy to overlook.
- Non-business uses. If cash is used for transactions not appearing on the “books”, the difference will not reconcile with beginning and ending balances.

Executive Summary

A. Florida DBAP Situation 2000:

The milk price received by DBAP participants averaged \$16.68 per cwt., 6% less than in 1999 and 10% less than in 1998. Cow sales were the highest in three years at \$0.59 per cwt., despite the moderate culling rate of 35%. Milk receipts were 93% of total revenues. Total expenses averaged \$17.03 per cwt., highlighted by purchased feed (\$7.14 per cwt., 42% of total expenses) and personnel costs (\$2.74 per cwt., 16%). The DBAP average total expenses for 1995-1999 were \$17.67. Thus it appears that producers reacted to the lower milk prices by successfully controlling costs. Net farm income from operations averaged \$1.00, or 6% of total revenues. The DBAP average herd size was 1122 cows and 639 heifers with 17,898 lbs. milk sold per cow.

B. This dairy:

1. Capital efficiency

xxx

2. Productive efficiency

xxx

3. Profitability

xxx

C. Major constraints to greater profitability:

- xxx

D. Major recommendations:

- xxx

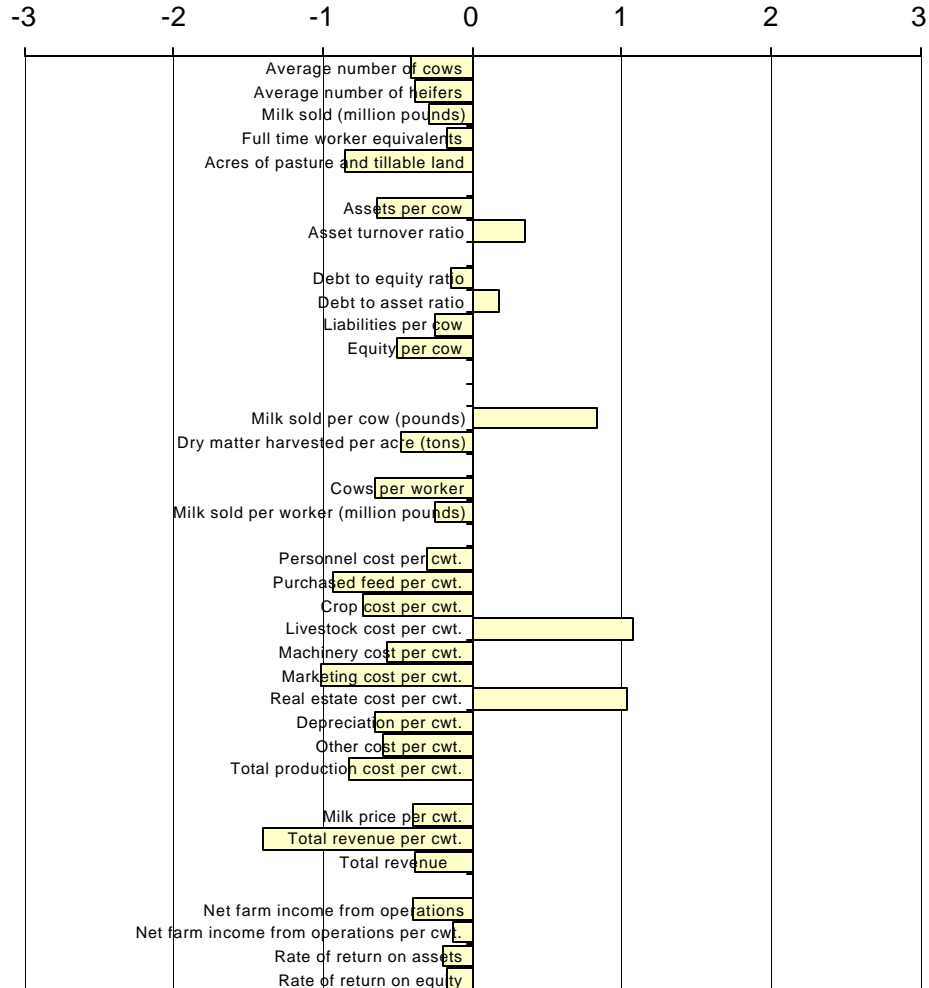
Critical Success Factor Report

	1995	1996	1997	1998	1999	2000
<u>BUSINESS STRUCTURE</u>						
Business Size						
Average number of cows						
Average number of heifers						
Milk sold (million pounds)						
Full time worker equivalents						
Acres of pasture and tillable land						
Capital Efficiency						
Assets per cow						
Asset turnover ratio						
Financial Summary						
Debt to equity ratio						
Debt to asset ratio						
Liabilities per cow						
Equity per cow						
<u>PRODUCTION</u>						
Production Efficiency						
Milk sold per cow (pounds)						
Dry matter harvested per acre (tons)						
Labor Efficiency						
Cows per worker						
Milk sold per worker (million pounds)						
Cost Control						
Personnel cost per cwt.						
Purchased feed per cwt.						
Crop cost per cwt.						
Livestock cost per cwt.						
Machinery cost per cwt.						
Marketing cost per cwt.						
Real estate cost per cwt.						
Depreciation per cwt.						
Other cost per cwt.						
Total production cost per cwt.						
Revenue Generation						
Milk price per cwt.						
Total revenue per cwt.						
Total revenue						
<u>PROFITABILITY</u>						
Net farm income from operations						
Net farm income from operations per cwt.						
Rate of return on assets						
Rate of return on equity						

*Top 5 based on net farm income per cwt. milk sold
above or below average is either percent above or below average of all dairies. If percentage or ratio, it is computed in 'points' rather than percentage.

Critical Success Factor Scores

This graph compares the Critical Success Factors on your dairy with the averages of the farms in the project and takes into account the variation between farms. The variation between the farms in the project is measured by the standard deviation. The Critical Success Factor Scores are then calculated as $(\text{your data} - \text{average}) / \text{standard deviation}$ for each variable. This way the deviations



between your data and the averages are standardized.

*Top 5 based on net farm income per cwt. milk sold

above or below average is either percent above or below average of all dairies. If percentage or ratio, it is computed in 'points' rather than percentage.

Improving Business Performance

Purchased Feed Expense

Purchased Feed

Line item expenses	Your dairy		All dairies		
	Total	\$/cwt.	Top 5	Average	above/below#
Grain and concentrate			4.86	5.45	
Forage			0.36	0.87	
Complete ration			1.37	0.71	
Other feed			0.00	0.11	
Total feed			6.60	7.14	

Feed performance

Factors	Your dairy	Top 5	Average	above/below#
Pounds milk sold per cow		19,655	17,898	
Purchased feed expense per cow		1,277	1,242	
Purchased feed expense % of total revenues		37%	40%	

Feed adjustments

Factors	Your dairy	Top 5	Average	above/below#
Total purchased feed expense per cwt.		6.60	7.14	
Plus: crop expense per cwt.		0.22	0.21	
Less: crop revenues		0.00	-0.01	
Total adjusted feed expense		6.82	7.36	

Analysis

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Labor Expense

Labor

Line item expenses	Your dairy		All dairies		
	Total	\$/cwt.	Top 5	Average	above/below#
Salaries			1.84	2.31	
Insurance, etc.			0.22	0.32	
Other			0.07	0.11	
Total labor			2.13	2.74	

Labor performance

Factors	Your dairy	Top 5	Average	above/below#
Milk sold per worker (lbs.)		1,358,317	971,945	
Cows per worker		70	55	
Turnover rate		---	---	

Analysis

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Crop Expenses

Crop

Line item expenses	Your dairy		All dairies		
	Total	\$/cwt.	Top 5	Average	above/below#
Fertilizer			0.13	0.12	
Seeds			0.08	0.06	
Spray			0.01	0.03	
Total Crop			0.22	0.21	

Crop performance

Factors	Your dairy	Top 5	Average	above/below#
Tillable acres per cow		0.2	0.2	
Dry matter harvested per acre (tons)		3.2	1.5	
Crop expense per ton dry matter harvested		15.1	9.3	
Crop expense per tillable acre		117.2	52.5	

Analysis

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Livestock

Livestock

Line item expenses	Your dairy		All dairies		
	Total	\$/cwt.	Top 5	Average	above/below#
Expensed replacements			0.04	0.15	
Breeding			0.16	0.10	
Vet & drugs			0.16	0.28	
Dairy supplies			0.41	0.47	
Cattle lease/rent			0.00	0.10	
Other			0.32	0.51	
Total Livestock			1.10	1.61	

Livestock performance

Factors	Your dairy	Top 5	Average	above/below#
Cull rate		33%	35%	
Livestock expense as % of total revenues		6%	9%	
Adj. replacement exp. % of total revenues		4%	6%	
Veterinary expense per cow		37	51	
Breeding expense per cow		31	19	

Analysis

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Replacement expense

Factors	Your dairy	Top 5	Average	above/below#
Expensed livestock purchases per cwt.		0.04	0.15	
Plus: livestock depreciation per cwt.		0.51	0.84	
Less: loss on sale of livestock per cwt.		-0.22	-0.09	
Total adjusted replacement expense		0.76	1.07	

Livestock 'equity' change

Factors	Your dairy	Top 5	Average	above/below#
Cow sales		109	97	
Plus: gain (loss) on purchased cows		(48)	(13)	
Less: livestock depreciation		96	139	
Less: expensed purchased livestock		7	25	
Equity gain (loss) of cows		(42)	(80)	
Plus: heifer sales		35	71	
Equity gain (loss) of cows and heifers		(7)	(9)	

Analysis

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Machinery and Equipment

Machinery

Line item expenses	Your dairy		All dairies		
	Total	\$/cwt.	Top 5	Average	above/below#
Rent			0.07	0.14	
Repairs			0.42	0.47	
Fuel			0.15	0.20	
Total Machinery			0.63	0.81	

Machinery depreciation

Line item expense	Your dairy		All dairies		
	Total	\$/cwt.	Top 5	Average	above/below#
Machinery depreciation			0.17	0.42	
Total depreciation + expenses			0.80	1.22	

Analysis

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Other (milk marketing, real estate, other)

Other

Line item expenses	Your dairy		All dairies		
	Total	\$/cwt.	Top 5	Average	above/below#
Hauling			0.74	0.71	
Coop dues			0.16	0.14	
Advertising/Marketing			0.15	0.21	
CCC			0.00	0.01	
Real estate repairs			0.16	0.13	
Taxes			0.14	0.12	
Rent			0.06	0.27	
Insurance			0.18	0.16	
Utilities			0.31	0.39	
Interest			0.43	0.64	
Miscellaneous			0.26	0.13	
Other			0.24	0.12	
Total Other			2.84	3.03	

Analysis

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Financing

Liability structure

Liabilities	Your dairy		All dairies -per cow		
	Total	Per cow	Top 5	Average	above/below#
Balance (year end)					
Accounts payable			18	62	
Operating notes			10	85	
Short Term notes			0	22	
Notes payable			984	1,251	
Leases			-3	-3	
Total Balance			1,009	1,417	
Borrowings					
Operating notes			123	96	
Short term notes			0	4	
Notes payable			433	417	
Leases			0	0	
Total Borrowings			557	518	
Payments					
Operating notes			5	59	
Short term notes			157	38	
Notes payable			643	382	
Leases			6	9	
Total Payments			811	488	
Change					
Accounts payable			1	6	
Operating notes			118	37	
Short term notes			-157	-34	
Notes payable			-210	35	
Leases			0	-8	
Net change			-247	37	

*Top 5 based on net farm income per cwt. milk sold

above or below average is either percent above or below average of all dairies. If percentage or ratio, it is computed in 'points' rather than percentage.

Solvency

Ratios	Your dairy	Top 5	Average	above/below#
Debt to asset		24%	35%	
Equity to asset		76%	65%	
Debt to equity		35%	73%	

Efficiency

Ratios	Your dairy	Top 5	Average	above/below#
Interest expense ratio		2%	4%	
Times interest earned ratio		36.0	9.5	

Analysis

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Investing

Capitalization

Factors	Your dairy	Top 5	Average	above/below#
Assets per cow		4,321	4,494	
Percent assets in livestock		33%	40%	
Percent assets in real estate		15%	24%	
Percent assets in machinery & equipment		8%	11%	
Percent assets in buildings/improvements		20%	11%	
Asset depreciation rate		5%	7%	
Net asset appreciation rate		0%	0%	

Investments

	Your dairy		All dairies		
	Total	Per cow	Top 5	Average	above/below#
Capital Purchases					
Livestock			232	247	
Machinery and equipment			66	131	
Buildings and improvements			147	57	
Real estate			0	11	
Total Purchases			445	445	
Capital Sales					
Livestock			54	68	
Machinery and equipment			6	3	
Buildings and improvements			0	0	
Real estate			0	0	
Total Sales			60	71	
Change					
Livestock			177	179	
Machinery and equipment			60	128	
Buildings and improvements			147	57	
Real estate			0	11	
Net Change			385	374	

*Top 5 based on net farm income per cwt. milk sold

above or below average is either percent above or below average of all dairies. If percentage or ratio, it is computed in 'points' rather than percentage.

Investment performance

Ratio	Your dairy	Top 5	Average	above/below#
Asset turnover ratio		0.85	0.88	
Depreciation expense ratio		5%	8%	
NFI from operations ratio		19%	5%	

Profitability

Ratio	Your dairy	Top 5	Average	above/below#
Rate of return on assets		17%	7%	
Rate of return on equity		22%	7%	
Operating profit margin		19%	6%	

Real Estate adjustments

Factors	Your dairy	Top 5	Average	above/below#
Number of Acres		0	63	
Value per acre		0	161	
Standardized value per acre		1,000	1,001	
Average total assets per cow		4,314	4,509	
Adjusted total assets per cow		3,655	3,277	
Actual rate of return on assets		17%	7%	
Adjusted rate of return on assets		20%	8%	
Actual asset turnover rate		0.85	0.86	
Adjusted asset turnover rate		1.01	1.08	

Analysis

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Revenues (per cwt. milk sold)

Categories	Your dairy		All dairies		% above or below avg.
	Total	Per cwt.	Top 5	Average	
Milk sales			17.07	16.68	
Cow sales			0.58	0.59	
Calf and heifer sales			0.19	0.42	
Other livestock			0.04	0.11	
Crops			0.00	-0.01	
Government receipts			0.00	0.04	
Custom work			0.00	0.00	
Gas tax refund			0.00	0.00	
Other			0.26	0.28	
Gain/loss on cow sales			-0.22	-0.09	
Total			17.93	18.03	

*Top 5 based on net farm income per cwt. milk sold

above or below average is either percent above or below average of all dairies. If percentage or ratio, it is computed in 'points' rather than percentage.

Expenses (per cwt. milk sold)

	Your dairy		All dairies	% above or
	Totals	Per Cwt.	Top 5	Average below avg.
Personnel				
Salaries/wages			\$1.84	\$2.31
Other payroll cost			\$0.22	\$0.32
Other			\$0.07	\$0.11
Total Personnel			\$2.13	\$2.74
Purchased Feed				
Grain & concentrate			\$4.86	\$5.45
Forage			\$0.36	\$0.87
Complete ration			\$1.37	\$0.71
Other feed			\$0.00	\$0.11
Total Purchased Feed			\$6.60	\$7.14
Crops				
Fertilizer & lime			\$0.13	\$0.12
Seeds & plants			\$0.08	\$0.06
Spray & other expense			\$0.01	\$0.03
Total Crops			\$0.22	\$0.21
Machinery				
Hire, rent, lease			\$0.07	\$0.14
Repairs & other expense			\$0.42	\$0.47
Fuel, oil, grease			\$0.15	\$0.20
Total Machinery			\$0.63	\$0.81
Livestock				
Expensed purchased livestock			\$0.04	\$0.15
Breeding			\$0.16	\$0.10
Vet & medicine			\$0.16	\$0.28
Bedding			\$0.01	\$0.09
Dairy supplies			\$0.41	\$0.47
Cattle lease/rent			\$0.00	\$0.10
Other livestock expense			\$0.32	\$0.51
Total Livestock			\$1.10	\$1.70
Milk Marketing				
Hauling			\$0.74	\$0.71
Coop dues			\$0.16	\$0.14
Advertising, marketing			\$0.15	\$0.21
CCC/government assessments			\$0.00	\$0.01
Total Milk Marketing			\$1.05	\$1.07
Real Estate				
Land, building, fence repair			\$0.16	\$0.13
Taxes			\$0.14	\$0.12
Rent & lease			\$0.06	\$0.27
Total Real Estate			\$0.37	\$0.52
Other				
Insurance			\$0.18	\$0.16
Utilities (dairy share)			\$0.31	\$0.39
Interest			\$0.43	\$0.64
Miscellaneous			\$0.26	\$0.13
Other overhead			\$0.24	\$0.12
Total Other			\$1.43	\$1.44

Depreciation

Livestock depreciation		\$0.51	\$0.84
Machinery depreciation		\$0.17	\$0.42
Building depreciation		\$0.29	\$0.20
Total Dairy Expenses		\$14.50	\$17.03

Revenues (per cow)

Categories	Your dairy		All dairies		% above or below avg.
	Total	Per cow	Top 5	Average	
Milk sales			3,392	2,983	
Cow sales			109	97	
Calf and heifer sales			35	71	
Other livestock			8	20	
Crops			(0)	1	
Government receipts			0	9	
Custom work			0	1	
Gas tax refund			0	0	
Other			57	48	
Gain/loss on cow sales			(48)	(13)	
Total			3,496	3,169	

Expenses (per cow)

	Your dairy		All dairies	% above or
	Totals	Per Cow	Top 5	Average below avg.
Personnel				
Salaries/wages			368	410
Other payroll cost			44	58
Other			16	21
Total Personnel			428	489
Purchased Feed				
Grain & concentrate			1,020	970
Forage			58	134
Complete ration			213	124
Other feed			1	17
Total Purchased Feed			1,292	1,245
Crops				
Fertilizer & lime			25	22
Seeds & plants			19	13
Spray & other expense			3	5
Total Crops			47	40
Machinery				
Hire, rent, lease			14	24
Repairs & other expense			82	82
Fuel, oil, grease			31	38
Total Machinery			128	144
Livestock				
Expensed purchased livestock			7	25
Breeding			31	19
Vet & medicine			37	51
Bedding			1	17
Dairy supplies			74	85
Cattle lease/rent			0	19
Other livestock expense			78	92
Total Livestock			229	308
Milk Marketing				
Hauling			152	125
Coop dues			32	24
Advertising, marketing			30	39
CCC/government assessments			0	1
Total Milk Marketing			214	190
Real Estate				
Land, building, fence repair			33	25
Taxes			29	20
Rent & lease			13	46
Total Real Estate			74	91
Other				
Insurance			41	29
Utilities (dairy share)			59	68
Interest			87	109
Miscellaneous			45	23
Other overhead			59	24
Total Other			291	254

Depreciation

Livestock depreciation	96	139
Machinery depreciation	32	74
Building depreciation	53	34
Total Dairy Expenses	2,883	3,000