

Dairy Business Analysis Project 2001

Dairy: **example**

Date prepared: **7/6/2002**

The Dairy Business Analysis Project (DBAP) is a service of the University of Florida and the University of Georgia. This report is a financial 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.

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Statement of Confidence

	Equity Imbalance	Cash Imbalance
Amount	\$ (6,072)	\$ 88,665
Percent	-0.2%	1.8%

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.

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Critical Success Factors: Business Structure + Profitability

Business structure	1995	1996	1997	1998	1999	2000	2001	2001 Average	2001 Top 6
Business Size									
Average number of cows	xxx	xxx	xxx	xxx	xxx	xxx	xxx	819	835
Average number of heifers + calves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	402	375
Milk sold (million lbs)	xxx	xxx	xxx	xxx	xxx	xxx	xxx	14.3	15.1
Full time worker equivalents	xxx	xxx	xxx	xxx	xxx	xxx	xxx	16.4	14.1
Acres of pasture and cultivated land	xxx	xxx	xxx	xxx	xxx	xxx	xxx	364	611
Capital Efficiency									
Average total assets / cow \$	4,266	4,533	4,897	5,215	4,368	4,105	4,364	4,943	5,259
Dairy assets turnover ratio	0.55	0.67	0.63	0.59	0.68	0.68	0.70	0.84	0.73
Financial Summary									
Debt to equity ratio (Dec 31)	0.71	0.68	0.57	0.62	0.81	1.01	0.87	0.82	0.53
Debt to asset ratio (Dec 31)	0.42	0.40	0.36	0.38	0.45	0.50	0.47	0.33	0.27
Average total liabilities / cow \$	1,741	1,831	1,798	1,915	2,057	2,049	2,108	1,377	1,401
Average equity / cow \$	2,525	2,701	3,099	3,300	2,311	2,056	2,256	3,279	3,591
Average equity \$	xxx	xxx	xxx	xxx	xxx	xxx	xxx	2,255,080	2,828,623
Profitability									
Net farm income from operations \$	(104,486)	456,064	530,716	23,073	486,818	(42,894)	228,646	305,389	813,340
Net farm income from operations / cwt \$	(0.45)	1.86	1.89	0.09	1.92	(0.17)	0.96	2.14	5.07
Rate of return on dairy assets	(0.00)	0.09	0.09	0.03	0.09	0.02	0.06	0.08	0.15
Rate of return on equity	(0.04)	0.09	0.09	(0.00)	0.11	(0.03)	0.05	0.08	0.16

Top 6 based on Net Farm Income From Operations per cwt

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Critical Success Factors: Production

Production	1995	1996	1997	1998	1999	2000	2001	2001	2001
								Average	Top 6
Production Efficiency									
Milk sold / cow (lbs)	14,301	15,143	16,501	14,703	15,279	15,218	14,665	16,863	18,281
Labor Efficiency									
Cows / FTE worker	57.9	57.5	56.4	53.4	43.3	45.8	47.8	49.5	50.8
Milk sold / FTE worker (million lbs)	0.83	0.87	0.93	0.79	0.66	0.70	0.70	0.83	0.92
Cost Control									
Personnel cost / cwt \$	2.68	2.69	2.51	3.17	2.49	3.19	3.61	2.71	1.88
Purchased feed cost / cwt \$	8.20	8.55	7.99	10.10	9.06	8.76	8.11	7.26	5.31
Crops cost / cwt \$	0.08	0.32	0.58	0.70	0.19	0.02	0.00	0.54	0.69
Machinery cost / cwt \$	1.45	1.85	1.16	1.61	0.83	2.03	0.87	1.12	1.23
Livestock cost / cwt \$	0.60	0.83	0.48	0.93	0.55	0.71	1.16	1.61	1.45
Milk marketing cost / cwt \$	1.36	1.21	1.19	1.13	1.08	1.07	1.00	1.09	1.03
Buildings, land cost / cwt \$	0.35	0.40	0.37	0.23	0.18	0.19	0.23	0.68	0.65
Other dairy cost / cwt \$	1.38	0.71	1.14	1.14	1.24	0.99	2.73	1.57	1.55
Depreciation / cwt \$	1.28	1.76	1.24	1.82	2.04	1.62	1.01	1.50	1.78
Total dairy production cost / cwt \$	17.39	18.34	16.66	20.83	17.66	18.57	18.72	18.07	15.56
Revenue Generation									
Milk sales / cwt \$	15.46	19.26	17.39	19.03	18.46	17.57	19.21	18.27	17.71
Total dairy revenue / cwt \$	16.43	20.19	18.55	21.36	19.58	18.40	19.68	20.25	20.63
Total dairy revenue \$	3,806,268	4,954,079	5,203,839	5,395,159	4,963,297	4,634,403	4,691,735	2,885,578	3,185,056

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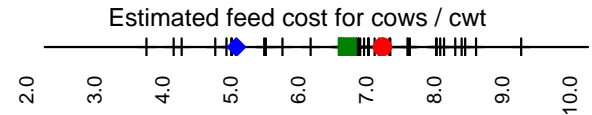
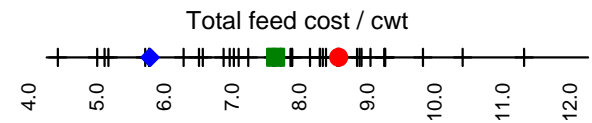
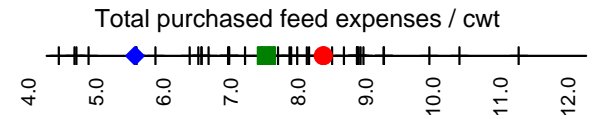
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Operating Activities: Feed

Purchased feed	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Grain, concentrate	1,466,353	6.15	5.56	5.00
Forage	466,560	1.96	0.69	0.31
Complete ration	0	0.00	0.85	0.00
Other (feed)	0	0.00	0.17	0.00
Total purchased feed expenses (A)	1,932,913	8.11	7.26	5.31

Raised feed / crops	Total	per cwt	Average	Top 6
Crop expenses	986	0.00	0.54	0.69
Crop receipts	(48,948)	(0.21)	0.41	0.48
Total raised feed expenses (B)	49,934	0.21	0.13	0.22
Total feed cost (A+B)	1,982,847	8.32	7.39	5.53

Feed performance	Total	per cwt	Average	Top 6
Heifers / cows	0.753		0.51	0.51
Estimated feed cost for cows	1,662,821	6.97	6.46	4.82
Estimated feed cost for youngstock	291,456	1.22	0.83	0.61
Estimated feed cost for bulls, other	28,570	0.12	0.10	0.10

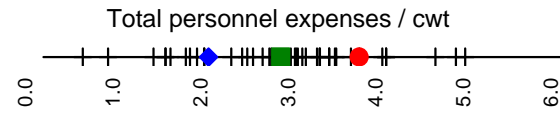


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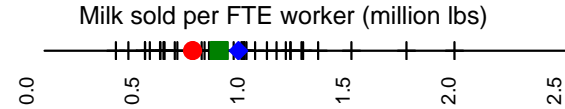
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Operating Activities: Labor

Personnel expenses	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Salaries	780,484	3.27	2.31	1.52
Related payroll costs	71,866	0.30	0.28	0.16
Other (personnel)	7,521	0.03	0.12	0.21
Total personnel expenses	859,871	3.61	2.71	1.88



Labor performance	Total	Average	Top 6
Cows per FTE worker	47.82	49.52	50.78
Milk sold per FTE worker (million lbs)	0.70	0.83	0.92

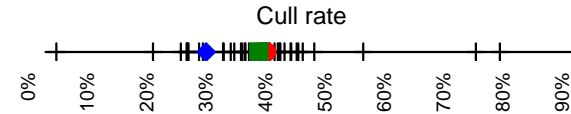


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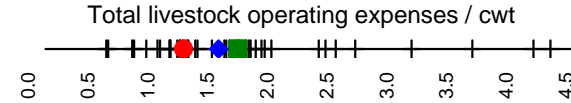
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Operating Activities: Livestock

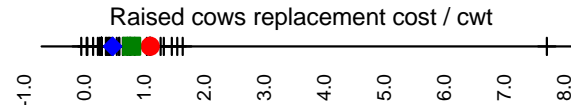
Livestock performance	Your dairy		All dairies	
	Total		Average	Top 6
Cull rate	37%		36%	27%
Milk sold / cow (lbs)	14,665		16,863	18,281



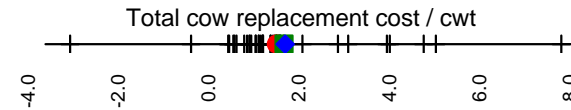
Livestock operating expenses	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Contracts	0	0.00	0.09	0.19
Breeding	44,922	0.19	0.11	0.10
Veterinary labor + supplies	167,697	0.70	0.52	0.47
BST	0	0.00	0.23	0.14
Parlor supplies	62,922	0.26	0.42	0.35
Livestock lease, rent	0	0.00	0.13	0.00
Other (livestock)	0	0.00	0.11	0.20
Total livestock operating expenses	275,541	1.16	1.61	1.45



Raised cows replacement cost	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Raised cows sold x \$1300 (A)	597,869	2.51	1.61	1.18
Raised cow sales (B)	78,986	0.33	0.61	0.69
Cull rate (C)	0.37		0.36	0.27
Raised cows replacement cost ((A-B)*C)	193,704	0.81	0.50	0.19



Total cow replacement cost	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Depreciation	127,323	0.53	0.72	0.77
Gain in value purchased livestock	(55,099)	(0.23)	(0.06)	0.35
Leased livestock	0	0.00	0.13	0.00
Raised cows replacement cost	193,704	0.81	0.50	0.19
Total cow replacement cost	265,928	1.12	1.29	1.31

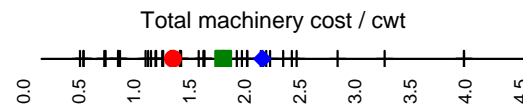


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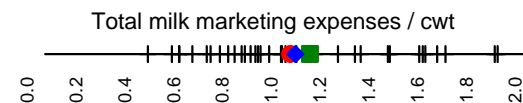
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Operating Activities: Machinery, Milk marketing, Buildings, Land, Other

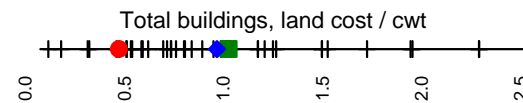
Machinery	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Repairs, parts	127,692	0.54	0.63	0.77
Fuel, oil, grease	56,212	0.24	0.24	0.32
Lease, rent	24,515	0.10	0.16	0.09
Other (machinery)	0	0.00	0.09	0.05
Total machinery expenses (A)	208,419	0.87	1.12	1.23
Depreciation (B)	75,433	0.32	0.53	0.77
Total machinery cost (A+B)	283,852	1.19	1.65	2.00



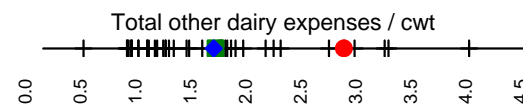
Milk marketing	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Hauling	182,280	0.76	0.80	0.79
Coop dues	14,861	0.06	0.11	0.06
Advertising, marketing	35,776	0.15	0.15	0.17
Base capital	6,605	0.03	0.02	0.01
Other (milk marketing)	0	0.00	0.01	0.00
Total milk marketing expenses	239,522	1.00	1.09	1.03



Buildings, Land	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Repairs	27,081	0.11	0.30	0.25
Land taxes	27,000	0.11	0.11	0.06
Lease, rent	0	0.00	0.27	0.33
Other (buildings, land)	0	0.00	0.01	0.00
Total buildings, land expenses (A)	54,081	0.23	0.68	0.65
Depreciation (B)	37,162	0.16	0.25	0.23
Total buildings, land costs (A+B)	91,243	0.38	0.94	0.88



Other dairy expenses	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Insurance	219,875	0.92	0.20	0.22
Utilities (dairy share)	85,078	0.36	0.40	0.39
Interest	222,530	0.93	0.67	0.69
Consulting	6,043	0.03	0.06	0.10
Other lease, rent	0	0.00	0.01	0.00
Miscellaneous, other	118,312	0.50	0.23	0.15
Total other dairy expenses	651,838	2.73	1.57	1.55



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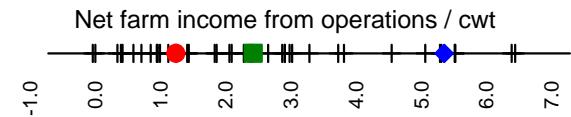
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Operating Activities: Receipts, Net Farm Income, Cash Flow

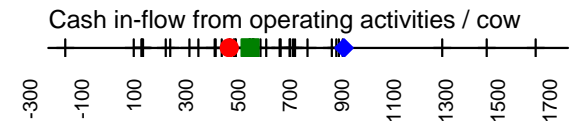
Accrual Receipts	Your dairy		All dairies	
	Total	per cwt	Average	Top 6
Milk sales	4,580,212	19.21	18.27	17.71
Leased, raised cow sales	78,986	0.33	0.61	0.69
Gain on sales of purchased livestock	(55,099)	(0.23)	(0.06)	0.35
Heifers, calves	32,759	0.14	0.34	0.51
Bulls, other livestock	38,018	0.16	0.12	0.13
Feed, crops	(48,948)	(0.21)	0.41	0.48
Government receipts	25,225	0.11	0.29	0.18
Custom work	0	0.00	0.02	0.11
Interest	67	0.00	0.01	0.04
Other receipts	40,515	0.17	0.24	0.43
Total dairy receipts	4,691,735	19.68	20.25	20.63



Net farm income from operations	Total	per cwt	Average	Top 6
Total dairy receipts (A)	4,691,735	19.68	20.25	20.63
Total dairy expenses (B)	4,463,089	18.72	18.07	15.56
Net farm income from operations (A-B)	228,646	0.96	2.14	5.07



Cash flow from operating activities	Total	per cow	Average	Top 6
Cash from receipts	4,892,309	3,009	3,347	3,499
Cash to expenses	4,246,690	2,612	2,848	2,623
Net social security and income taxes paid	0	0	23	38
Cash in-flow from operating activities	645,619	397	477	838



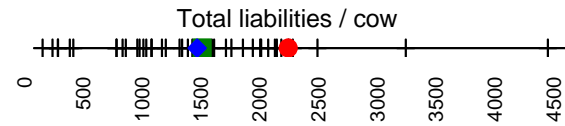
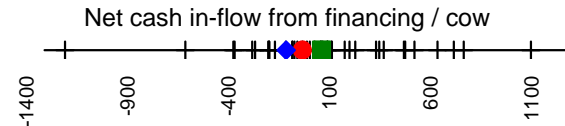
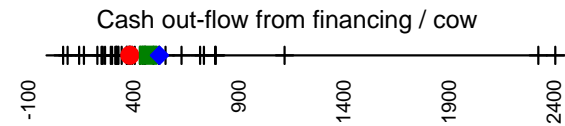
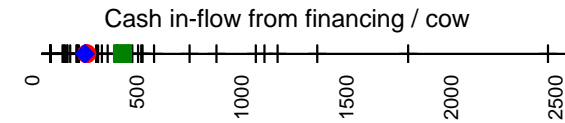
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Financing and Liabilities

Cash flow from financing activities	Your dairy		All dairies	
	Total	per cow	Average	Top 6
Cash from new liabilities	282,339	174	309	166
Additions in paid-in capital	0	0	37	0
Reductions in other stock, certificates	0	0	0	0
Cash in-flow from financing (A)	282,339	174	346	166
Cash paid to pay-off principal of liabilities	385,416	237	281	206
Cash paid to pay-off principal of leases	0	0	0	0
Reductions in paid-in capital	0	0	0	0
Additions in other stock, certificates	0	0	0	0
Capital distributions made	0	0	0	0
Owner withdrawals	98,806	61	105	232
Cash out-flow from financing (B)	484,222	298	386	438
Net cash in-flow from financing (A-B)	(201,883)	(124)	(28)	(204)

Liabilities	Total	per cow	Average	Top 6
Current liabilities (Dec 31)	595,926	370	389	341
Increase in current liabilities (Jan-Dec)	(141,917)	(87)	27	97
Non-current liabilities (Dec 31)	2,767,886	1,720	969	973
Increase in non-current liabilities (Jan-Dec)	15,004	9	9	(132)
Total liabilities (Dec 31)	3,363,812	2,091	1,358	1,314



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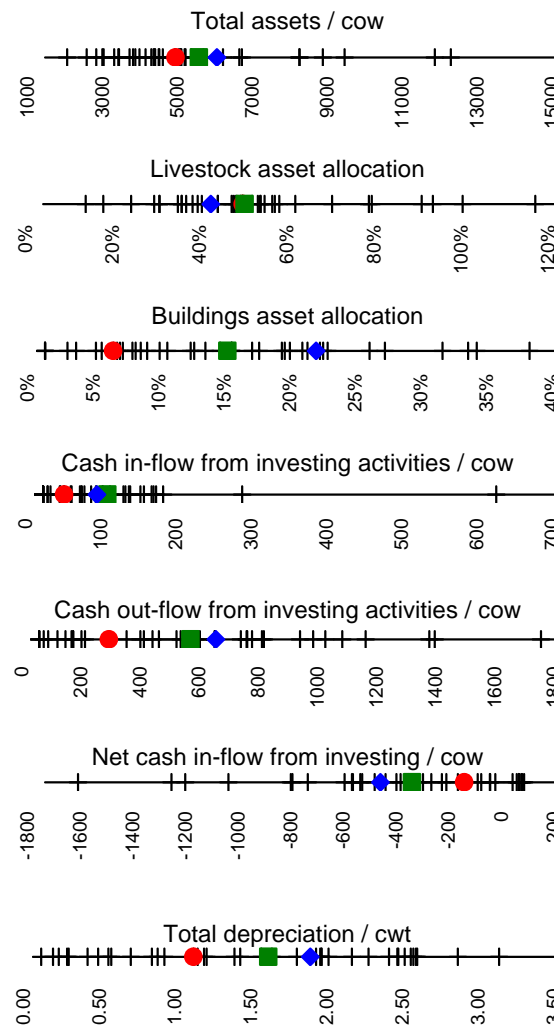
Assets

Current and non-current assets	Total	per cow	Average	Top 6
Current assets (Dec 31)	340,872	212	513	850
Increase in current assets	(74,031)	(46)	87	200
Non-current assets (Dec 31)	6,490,428	4,034	4,532	4,734
Increase in non-current assets	289,851	178	240	450
Total assets (Dec 31)	7,220,825	4,488	5,108	5,584

Asset Allocation (Dec 31)	%	Average	Top 6
Livestock	46%	46%	39%
Machinery	6%	13%	22%
Buildings	5%	14%	21%
Land	37%	24%	17%
Other	5%	3%	2%

Cash flow from investing activities	Total	per cow	Average	Top 6
Purchased livestock sales	35,178	22	75	55
Machinery sales	10,187	6	10	9
Building sales	0	0	0	0
Land sales	0	0	1	8
Cash in-flow from investing activities (A)	45,365	28	85	72
Livestock purchases	206,800	127	272	229
Machinery purchases	176,487	109	147	267
Building purchases	0	0	50	100
Land purchases	0	0	43	2
Cash out-flow from investing activities (B)	383,287	236	512	598
Net cash in-flow from investing (A-B)	(337,922)	(208)	(406)	(526)

Asset depreciation	Total	per cwt	Average	Top 6
Livestock	127,323	0.53	0.72	0.77
Machinery	75,433	0.32	0.53	0.77
Buildings	37,162	0.16	0.25	0.23
Total depreciation	239,918	1.01	1.50	1.78
Asset depreciation rate	0.04		0.06	0.06



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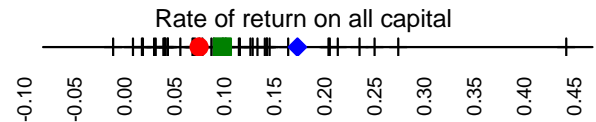
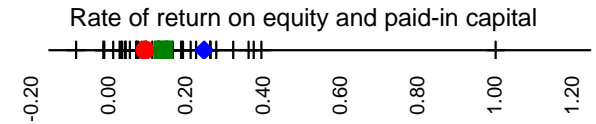
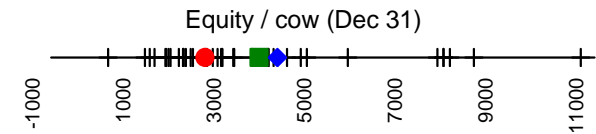
Equity and Profitability

Equity	Your dairy		All dairies	
	Total	per cow	Average	Top 6
Equity (Jan 1)	3,480,732	2,103	3,420	3,591
Increase in equity due to management	139,840	86	258	656
Increase in equity due to valuation	230,369	142	7	32
Imbalance	(6,072)	(4)	(29)	4
Equity (Dec 31)	3,857,013	2,397	3,597	3,997

Return to management	Total	per cow	Average	Top 6
Net farm income from operations	228,646	141	371	926
- Unpaid family labor	0	0	9	23
- Calculated interest on equity capital (7%)	256,821	158	230	251
= Return to management	(28,175)	(17)	133	651

Return to equity and paid-in capital	Total	per cow	Average	Top 6
Net farm income from operations	228,646	141	371	926
- Unpaid family labor	0	0	9	23
- Value of management	50,000	31	142	241
= Return to equity and paid-in capital	178,646	110	221	661
/ Average equity and paid-in capital	3,668,873	2,256	3,566	3,859
= Rate of return on equity and paid in capital	0.05		0.10	0.20

Return to all capital	Total	per cow	Average	Top 6
= Return to equity and paid-in capital	178,646	110	221	661
+ Cash interest paid	222,064	137	105	102
= Return to all capital	400,710	246	326	764
/ Average total assets	7,096,141	4,364	4,943	5,259
= Rate of return on all capital	0.06		0.08	0.15



Dairy Business Analysis Project 2001

Dairy: **example**
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Financial Ratios

Liquidity (Dec 31)	Your dairy	Average	Top 6
Current ratio	0.57	2.19	4.59
Working capital	(255,054)	53,164	376,557

Solvency (dec 31)	Your dairy	Average	Top 6
Debt to asset ratio	0.47	0.33	0.27
Equity to asset ratio	0.53	0.67	0.73
Debt to equity ratio	0.87	0.82	0.53

Profitability	Your dairy	Average	Top 6
Rate of return on dairy assets	0.06	0.08	0.15
Rate of return on equity	0.05	0.08	0.16
Operating profit margin ratio	0.09	0.08	0.20

Financial efficiency	Your dairy	Average	Top 6
Dairy asset turnover ratio	0.70	0.84	0.73
Operating expense ratio	0.85	0.79	0.64
Depreciation expense ratio	0.05	0.07	0.09
Interest expense ratio	0.05	0.03	0.03
Net farm income from operations ratio	0.05	0.10	0.25

Repayment capacity	Your dairy	Average	Top 6
Cash flow coverage ratio	1.07	2.14	6.27
Term debt and capital lease coverage ratio	0.00	10.17	7.13

