



Dairy Business Analysis Project: 1999 Summary for Florida and Georgia Dairies



L. O. Ely¹, D. W. Webb², and M. J. Hoekema³

¹Animal and Dairy Science Department, The University of Georgia

²Department of Dairy and Poultry Sciences, University of Florida

³Dairy Strategies, Gainesville, Florida

Introduction

The Dairy Business Analysis Project was initiated in 1996 to measure and document the financial performance of Florida dairy businesses using standardized accounting measures, so uniform comparisons could be made among participants.

Since its inception, participation has grown, allowing for a variety of regional and management comparisons to be made.

Formal collaboration between the Universities of Florida and Georgia was started in 1998. Presented in this summary are the results from fiscal year 1999 information.

Method of Data Collection

The project uses accounting measures and assumptions as advised by the Farm Financial Standards Council.¹ The main feature of these assumptions is the use of accrual adjusted accounting procedures. Accrual adjusted accounting takes into account changes in inventory, prepaid expenses, accounts receivable, and accounts payable. This results in farm profits that are linked to changes in the balance sheet of the business.

In the report, all revenues and expenses were accrual adjusted. This means that revenue and expense categories were free from any distortions that may have been caused by cash basis accounting practiced by many participants. This also means that revenue or expenses may be calculated even though cash does not enter or leave the business. This was especially true for the revenue categories of cow sales, heifer/calf sales, and crop sales. Keep this in mind when interpreting the report. Depreciation for livestock was included for

capitalized livestock with gains/losses on sale of capitalized livestock computed on the change in capital base from the beginning to the end of the year.

Machinery and building/improvement depreciation were taken from tax records. Balance sheet data were based on market values.

Because accrual adjusted accounting takes into account changes in the balance sheet, it was possible to validate the financial performance measured for each dairy. The statement of cash flows reconciles the net cash flow of the business with beginning and ending cash balances reported for the year. The statement of owner's equity similarity matches equity changes with the beginning and ending equity balances. An imbalance suggested incomplete or incorrect information.

Included Dairies

The 1999 information was summarized from 25 dairies providing complete and verifiable financial data. This sample was collected from voluntary participants and does not represent the average values for either Florida or Georgia. Each of the dairies used in this report had an owner's equity imbalance of less than 10 percent of beginning equity and a cash imbalance of less than 10 percent of total cash receipts. These dairies were also screened for unusual circumstances. Dairies in start-up conditions or rapid expansion were excluded from this report.

Florida and Georgia Comparison

Table 1 (page 3) lists revenues, expense and descriptive statistical information sorted by state. The first item of note is the differences in revenues for the two states. Florida dairies had total revenue of \$19.47 per cwt milk sold, 7 percent above the \$18.20 average for Georgia dairies. Most of the differences was due to a difference in milk sales, Florida dairies averaged

¹Farm Financial Standards Council. 1997. Financial Guidelines for Agricultural Producers.

\$18.22 per cwt which was 5.8 percent higher than the \$17.22 per cwt received by the Georgia dairies.

While the Florida group had higher total revenue than Georgia dairies, total expense were also higher. The Florida dairies had total expense of \$17.20 per cwt which was 13 percent higher than the Georgia dairies average of \$15.22 per cwt. The largest difference between the two was the purchased feed expense, \$7.74 per cwt for Florida dairies compared to \$6.41 per cwt for Georgia dairies.

Florida dairies had higher expenses than Georgia dairies for personnel, machinery, interest, and other expenses. Georgia dairies were higher than Florida dairies for livestock, and milk marketing expenses. Crops, real estate, machinery depreciation, building/improvement depreciation, and livestock depreciation expenses were similar for Florida and Georgia dairies.

Georgia dairies had a net farm income from operations of \$2.98 per cwt, which is 31 percent higher than the net farm income from operations for the Florida dairies, \$2.27 per cwt.

The average herd size was 1,321 cows for the Florida dairies which is 85 percent larger than the Georgia dairies average of 712 cows. Total assets for the Florida dairies was \$4,147 per cow which is 5 percent greater than the Georgia dairies average of \$3,951 per cow. The Florida dairies had total liabilities of \$1,648 per cow, which is 54 percent higher than the Georgia dairies average of \$1,069 per cow.

The Georgia dairies had a higher rate of return on assets (16 percent versus 12 percent), operating profit margin (15 percent versus 13 percent) and asset turnover ratio (122 percent versus 91 percent) than the Florida dairies.

Level of Production

The data was sorted by level of production into three groups; low (<15,000 pounds milk sold per cow), medium (15,000 to 20,000 pounds milk sold per cow), and high (>20,000 pounds milk sold per cow). The data is shown in Table 2 (page 5). There were 5 low herds, 11 medium herds and 9 high herds.

The medium level of production had the lowest total revenue and milk sales (\$18.39 per cwt and \$17.39 per cwt) while low and high production herds had similar total revenue (\$19.35 per cwt and \$19.51 per cwt) and milk sales (\$18.29 per cwt and \$18.09 per cwt). The medium production herds had the lowest cow sales and the highest crop sales.

Total expenses were highest for the low producing herds (\$17.17 per cwt), lowest for the medium producing herds (\$16.14 per cwt) and intermediate for the high producing herds (\$16.98 per cwt). This resulted in net farm income from operations of \$2.18 per cwt for low producing herds, \$2.25 per cwt for medium producing herds and \$2.53 per cwt for high producing herds.

High producing herds had the highest rate of return on assets (16%) and operating profit margin (18%) while medium producing herds had the highest asset turnover ratio (116%).

Herd Size

The data set was sorted by herd size into three groups: <500 cows, 500-1000 cows and >1000 cows. The data is presented in Table 3 (page 6). The <500 cow group averaged 366 cows and 17,312 pounds of milk per cow, the 500-1000 cow group averaged 718 cows and 17,721 pounds of milk per cow and the >1000 cow group averaged 1823 cows and 18,944 pounds of milk per cow.

Total revenues were highest for the >1000 cow group (\$19.57 per cwt). The <500 cow group and 500-1000 cow groups had similar total revenues of \$18.43 per cwt and \$18.61 per cwt respectively. Milk sales were \$18.46 per cwt for the >1000 cow group, \$17.76 per cwt for 500-1000 cow group and \$17.13 per cwt for <500 cow group.

The total expenses were highest for the >1000 cow group with \$16.95 per cwt, intermediate for <500 cow group with \$16.01 per cwt and lowest for the 500-1000 group with \$15.89. The net farm income from operations was highest for 500-1000 cow group with \$2.72 per cwt, intermediate for >1000 cow group with \$2.62 per cwt and lowest for <500 cow group with \$2.42.

Summary

How does your dairy compare to the benchmarks? In the short term, it may not make much difference whether or not a dairy is above or below average for a certain characteristic. What does matter, however, is the ability to generate revenues sufficient to cover expenses, service debt and retain a profit for capital replacement and return to management.

The database provides benchmarks for producers to evaluate their financial performance. The values can be used to highlight areas for improvement or areas that are performing satisfactorily.

Participants in the Dairy Business Analysis Project have provided the data to develop these benchmarks and each farm has received analysis reports for their individual farm.

Continued and expanded participation is needed to improve the data base and to provide increased evaluation of management and financial performance.

Related Publications

Hoekema, M. J., A. Andreasen, R. Giesy, P. Miller, M. Sowerby, T. Seawright, C. Vann and L. Ely. 2000. *Dairy Business Analysis Project: Financial Opportunities and Constraints on Georgia and Florida Dairies*. Bulletin 1188, University of Georgia Co-operative Extension Service.

Table 1. Dairy Business Analysis Project 1999. Overall, Florida and Georgia Summary Information.

Category (per cwt, milk sold)	Total	Florida	Georgia
Number of Dairies	25	15	10
Revenues			
Milk Sales	17.82	18.22	17.22
Cow Sales	0.54	0.60	0.46
Calf/Heifer Sales	0.24	0.16	0.35
Other Livestock	0.03	0.04	0.02
Crops	0.34	0.48	0.13
Other	0.18	0.24	0.10
Gain (Loss) on capital livestock sale	0.19	0.27	0.08
Total Revenue	19.07	19.47	18.20
Expenses (per cwt)			
Personnel	2.39	2.65	2.00
Purchased Feed	7.21	7.74	6.41
Crops	0.27	0.26	0.28
Machinery	0.84	0.90	0.76
Livestock	1.53	1.36	1.80
Milk Marketing	1.03	0.96	1.15
Real Estate	0.61	0.61	0.62
Interest	0.53	0.66	0.35
Other	0.77	0.87	0.62
Machinery Depreciation	0.37	0.35	0.39
Building / Improved Depreciation	0.14	0.15	0.12
Livestock Depreciation	0.70	0.69	0.72
Total Expenses	16.40	17.20	15.22

Table 1 (continued)

Net Farm Income Farm Operations ¹	2.67	2.27	2.98
Number of Cows	1078	1321	712
Number of Heifers	565	821	182
Milk sold per cow (pounds)	18,152	17,220	19,450
Cull Rate	34%	33%	35%
Cows per full time equivalent	58	57	60
Milk sold per full time equivalent (milk in million pounds)	1.026	.940	1.153
Average total assets per cow ²	\$4069	\$4147	\$3951
Average total liabilities per cow ²	\$1417	\$1648	\$1069
Rate of return on assets ³	14%	12%	16%
Operating Profit Margin ⁴	14%	13%	15%
Asset turnover ratio ⁵	104%	91%	122%

¹ Net farm income from operations was computed as accrual adjusted revenues minus accrual adjusted expenses. This represents the return to unpaid management and capitol.

² Balance sheet information computed as average between beginning and ending value for year divided by average number of cows.

³ Rate of return on assets was calculated by adding interest expense to net farm income from operations, subtracting a \$50,000 charge for unpaid management, dividing remainder by ending total assets.

⁴ The operating profit margin was determined by adding interest expense to net farm income from operations subtracting a \$50,000 charge for unpaid management dividing the remainder by gross revenues.

⁵ The asset turnover ratio was calculated by dividing gross revenues by average total assets.

Table 2. Dairy Business Analysis Project 1999: Comparison of Production Level

Category	Low¹	Medium	High
Number of farms	5	11	9
Revenues (per cwt)			
Milk Sales	18.29	17.39	18.09
Cow Sales	0.68	0.29	0.77
Calf/Heifer Sales	0.28	0.26	0.19
Other Livestock	0.09	0.02	0.01
Crops	0.11	0.46	0.32
Other	0.14	0.17	0.29
Gain (Loss) on capital livestock sale	(0.24)	(0.20)	(0.16)
Total Revenue	19.35	18.39	19.51
Expenses (per cwt)			
Personnel	2.42	2.24	2.56
Purchased Feed	7.89	6.95	7.14
Crops	0.24	0.24	0.33
Machinery	0.73	0.83	0.92
Livestock	0.69	1.88	1.58
Milk Marketing	1.22	0.94	1.04
Real Estate	0.74	0.80	0.31
Interest	0.70	0.48	0.50
Other	0.89	0.70	0.79
Machinery Depreciation	0.30	0.31	0.48
Building/Improved Depreciation	0.12	0.10	0.20
Livestock Depreciation	1.23	0.67	1.13
Total Expenses	17.17	16.14	16.98
Net farm Income from Operations	2.18	2.25	2.53
Average Herd Size	885	757	1589
Rate of return on assets	11%	14%	16%
Operating Profit Margin	14%	12%	18%
Asset turnover ratio	90%	116%	96%

¹ Low = <15,000 pounds per cow; Medium = 15-20,000 pounds per cow; High = >20,000 pounds per cow.

Table 3. Dairy Business Analysis Project 1999: Comparison by Herd Size

Category	< 500	500 - 1000	> 1000
Number of farms	9	5	11
Average cow per herd	366	718	1823
Average production per cow	17,312	17,721	18,944
Revenues (per cwt)			
Milk Sales	17.13	17.63	18.46
Cow Sales	0.57	0.54	0.52
Calf/Heifer Sales	0.10	0.11	0.42
Other Livestock	0.05	0.02	0.03
Crops	0.45	0.07	0.34
Other	0.11	0.18	0.25
Gain (Loss) on capitol livestock sales	0.02	0.06	(0.48)
Total Revenue	18.43	18.61	19.57
Expenses (per cwt)			
Personnel	1.93	2.69	2.63
Purchased Feed	7.28	6.45	7.49
Crops	0.31	0.22	0.26
Machinery	0.88	0.85	0.81
Livestock	1.26	2.29	1.42
Milk Marketing	0.96	1.02	1.09
Real Estate	0.85	0.52	0.46
Interest	0.40	0.50	0.66
Other	0.90	0.47	0.80
Machinery Depreciation	0.35	0.43	0.35
Building/Improvement depreciation	0.10	0.14	0.17
Livestock depreciation	0.79	0.31	0.81
Total Expenses	16.01	15.89	16.95
Net farm income from operations	2.42	2.72	2.62
Rate of return on assets	9%	14%	19%
Operating profit margin	11%	13%	16%
Asset turnover ratio	93%	103%	112%



College of Agricultural and Environmental Sciences
College of Family and Consumer Sciences

Learning *for* **Life**

Bulletin 1205-1

Reviewed March 2012

The University of Georgia and Ft. Valley State University, the U.S. Department of Agriculture and counties of the state cooperating. Cooperative Extension, the University of Georgia College of Agricultural and Environmental Sciences, offers educational programs, assistance and materials to all people without regard to race, color, national origin, age, gender or disability.

**An Equal Opportunity Employer/Affirmative Action Organization
Committed to a Diverse Work Force**