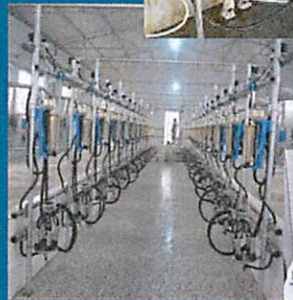
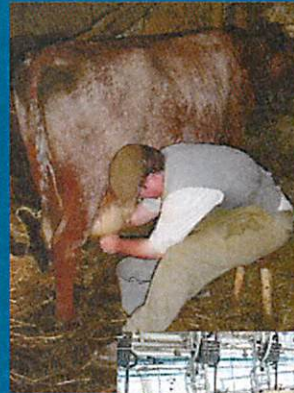


Dairy Cost Study



The Economics of Milk Production in Alberta 2015



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**DAIRY COST STUDY:
THE ECONOMICS OF MILK PRODUCTION
IN ALBERTA
2015**

Volume 75

by

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Economics and Competitiveness Branch
Alberta Agriculture and Forestry**

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This report can be found online at: www.agriculture.alberta.ca/data-analysis under Cost of Production.

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Introduction

The Dairy Cost Study is a valuable benchmark of cost and return information for individual dairy producers in Alberta. Participants in the study receive a detailed analysis of their farming operation which can be directly compared to the provincial profiles (e.g. average, top-third, bottom-third). Other dairy producers in the province can compare their own records and analysis with the provincial profiles. The Dairy Cost Study also provides vital information to other dairy industry participants, such as financial institutions, market analysts and policy analysts.

The Dairy Cost Study was introduced during World War II. Since then, the Economics Section has added cost and return assessments for a wide range of crop and livestock production in Alberta. This year we celebrate 75 years in publication.

In summary, the objectives of the study are as follows:

- to provide an annual account of the costs and returns of milk production in Alberta;
- to provide the participating dairy farmers with a personal business analysis for management purposes;
- to provide a benchmark for the evaluation of milk pricing; and
- to provide economic information for farm management, extension education, and service providers.

The Dairy Cost Study

The Dairy Cost Study is an economic analysis of the costs and returns of a sample of Alberta dairy producers for a given production year. Study participants are required to complete monthly survey forms regarding their dairy production activities - dairy herd inventory, capital purchases, milk sales and farm use, feed use and purchase costs, labour costs, and other expenses related to the dairy enterprise - and an annual form on their dairy investments. (The survey forms are shown in Appendix F.) From this database, weighted sample averages are calculated which represent benchmarks for all dairy producers in the province. As well, study participants receive a confidential report on their dairy operation which can be compared with these provincial benchmarks.

Milk production in Canada is directed towards two categories, fluid milk and industrial milk, which comprises milk used for all dairy products such as cheese and yogurt. In 2015, approximately 45 percent of Alberta's total milk production was for fluid milk. In the past, dairy producers had separate quota allocations for fluid and industrial milk production. However, in August 2008, Alberta moved to a total production quota (TPQ) system and no distinction is made between fluid and industrial milk production at the farm level. The cost profiles in this report therefore represent all milk production in Alberta. Also, in August 2009, it became mandatory for Alberta milk producers to participate on the Canadian Quality Milk Program.

The Survey Group

Forty-nine dairy producers across the province submitted monthly business information for the 2015 calendar year. Two regional sub-groups were also identified for Northern Alberta (north of Ponoka) and Southern Alberta. Northern Alberta was represented by 16 producers while Southern Alberta had 33 participants complete the study.

The study was designed to represent a cross section of dairy farms by the size of their milk quota. Efforts were made to select study participants by systematic random sampling to provide better representation of the total population. Some characteristics of the sample are shown in Table 1. Appendix E presents charts showing individual results for the 49 dairy cost study participants.

Table 1
2015 Sample Characteristics

Years in Dairy	Total Sample %	Indebtedness		Herd Size (# of cows)	
		<30%	≥30%	<75	≥75
<10	8	2	2	0	4
≥10	92	32	13	6	39
Total (%)	100	69	31	12	88

Study Methodology

1. **Enterprise identification:** There are several different approaches for calculating the farm cost of producing fluid milk. Some studies use the total farm approach, which combines the dairy costs with those of other enterprises. This Alberta study examines only the dairy enterprise, which is defined as all activities associated with both milking cows and maintaining dry cows and young dairy stock. In most cases, the dairy operator uses home-grown feed in association with purchased feed. The costs of production of the homegrown feed are allocated to the crop enterprise portion of the farm, and are not considered in the dairy enterprise. Consequently, the final costs outlined in this report are only those associated with milk production.

2. **Inventory adjustment:** Since the cost of raising young dairy stock is included in the cost of milk production, the total income includes net cattle sales and net inventory changes. Cattle inventory changes, or herd growth, are determined by subtracting the beginning-year inventory value from the year-end inventory value. Gross income is thus composed of milk sales, net cattle sales, and the value of this net inventory adjustment. The net inventory adjustment may be negative or positive.

3. **Home grown feed:** Hay that is grown on the farm and fed to dairy livestock is priced at the regional market value of stacked hay on the farm. Similarly, feed grain is valued at regional elevator prices provided by the Alberta Canola Producers Commission (Jan.-Aug.) and the Statistics and Data Development Section at Alberta Agriculture and Forestry (Sept.-Dec.). In

other words, the dairy enterprise is charged the current market value for these home-grown inputs, just as if they were purchased from the cropping enterprise. The total value of home-grown feed is determined by multiplying the regional value or price by the actual quantity fed. This procedure adequately compensates for the production cost of home-grown feed. Alternatively, where feed is purchased, the actual purchase cost is used in the analysis.

4. **Value of investment and depreciation:** The information presented in this report is intended to reflect the average yearly production conditions in the dairy industry. Depreciation estimates are based on the original value of buildings and machinery. Current market value of owned assets is also estimated by updating the original value of the dairy investment with appropriate inflation factors, and then depreciating each item accordingly, based on the number of years in use. Original values and years in use are obtained from participants' farm records. With the exception of acreage for pasture, house, dairy buildings and corral location, farmland is not considered to be a dairy investment. The dairy livestock inventory is valued using the average annual market price. Value of investment is used for calculating the return to equity, and for determining the equity position of the dairy operation.
5. **Operator and family labour:** The operator's actual labour may vary from almost none on some dairy farms to the total input of labour on other farms. The procedure used in this study to put a value to operator labour is to multiply the operator's labour hours times the average hourly wage rate paid for dairy labour reported by the participants on the study. (All type of paid labour is included in this category from strictly feeding, to all general chores, to relief milking.) Assigning a value to operator labour is preferred over leaving it as unpaid labour because of the great variability in labour time between operators. Family labour is evaluated similar to the above, but a lower wage rate is applied to family members under the age of 16. Partners, spouses and other family members (16 years of age or older) receive the same wage rate as the operator.
6. **Interest on capital:** The actual interest paid on existing liabilities is included in the capital cost. To obtain this value, participating producers were asked to report their outstanding liabilities (excluding quota) and the interest rates charged. This method is more accurate than reporting the total annual interest paid. When both the total variable cost and the capital

cost for the dairy enterprise are subtracted from gross income, the bottom line residual is the return to equity and management. When this residual is expressed as a percentage of the equity capital, then the percent return to equity can be compared with the returns from alternative investment opportunities such as Canada Savings Bonds or term deposits.

7. **Rent:** Rent charges are included in the cost of capital. The capital cost in this context represents the cost of ownership of resources. If resources are rented, there is a charge for their use. If, on the other hand, resources are owned, the owner must bear the cost of depreciation and interest on debt.

Dairy Enterprise Economic Overview

Tables 2 through 4 provide a summary of the costs and returns for dairy producers in Alberta. (More detailed results are presented in Appendices A, B, and C.) In Table 2, the average results for the entire survey sample are listed in the centre column. Costs and returns are provided for two sub-groups of dairy producers based on their total production costs. The bottom 1/3 are the highest cost producers and the top 1/3 the lowest cost producers. The total cost for the top 1/3 group was 26 percent or \$23.99 per hL lower than the bottom 1/3. Although this gap is relatively unchanged from 2014, the category with the highest difference has changed. Labour costs now show the largest difference at \$6.12 per hL or 36 percent difference between the high and low cost producers. This would indicate that giving attention to labour efficiencies can lower your costs. In 2014 the main difference between top 1/3 and bottom 1/3 was higher feed and variable costs but in 2015 this gap is lessening.

Table 3 compares the average costs and returns for 2014 and 2015. Overall, the cost profile is very similar. In 2015, total cost of production was \$78.63 per hL, only a slight increase of 2 percent or \$1.56 per hL compared to 2014. Feed costs increased by just under \$2.00 per hL. This was mainly due to the higher cost of hay as well as barley. Labour cost decreased by almost \$1 per hL and variable costs went down slightly mainly due to a decrease in cost of utilities and fuel. Revenue from milk sales dropped \$1.65 per hL or 2 percent between 2014 and 2015.

Finally, Table 4 compares average costs and returns for Northern and Southern Alberta.

Table 2
Dairy Enterprise Costs and Returns - \$ Per hL Sold
Bottom 1/3 (Highest Cost Producers), Average Cost, Top 1/3 (Lowest Cost Producers)

	Bottom 1/3	Average	Top 1/3
Milk Sales	80.52	80.36	80.43
Gross Income	87.89	89.12	88.16
Feed Cost	36.87	34.78	31.23
Main Feed Components:			
Grain	2.85	4.44	5.07
Complete Feed	13.25	10.91	7.97
Roughage	15.68	13.85	12.83
Labour Costs	16.85	11.99	10.73
Other Variable Costs	22.60	19.70	16.58
Depreciation	10.29	8.63	7.66
Other Capital Costs	5.80	3.52	2.23
Total Production Costs	92.42	78.63	68.43
Total Cash Costs	67.35	61.22	52.11
Gross Margin	20.54	27.90	36.05
Contribution Margin	11.56	22.65	29.61
Return to Investment	(2.04)	12.07	20.40
Return to Equity	(4.53)	10.50	19.73
Return to Investment (%)	(0.1)	7.2	14.1
Return to Equity (%)	(3.5)	8.4	15.9

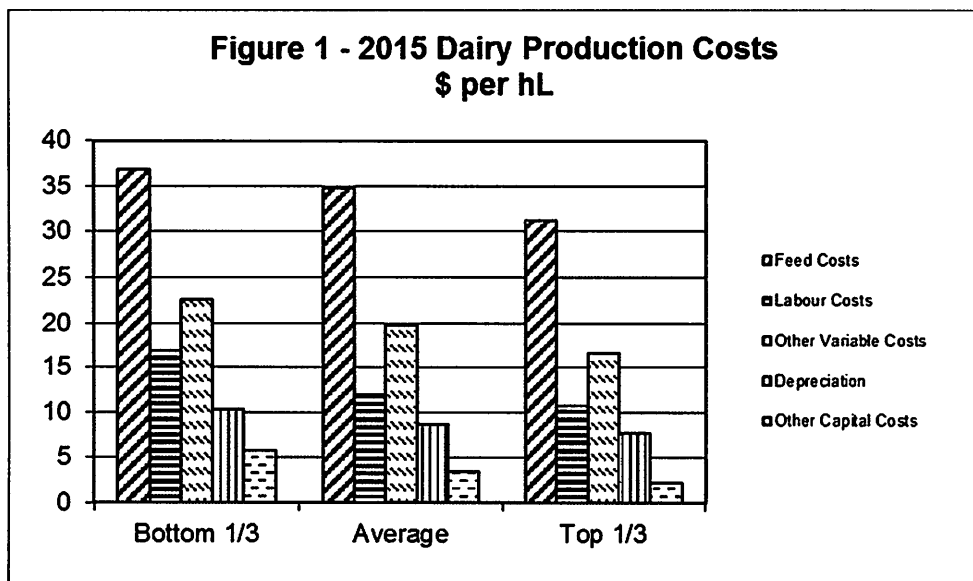


Table 3
Dairy Enterprise Costs and Returns - \$ Per hL Sold
2014 and 2015

	2014 (49 producers)	2015 (49 producers)
Milk Sales	82.01	80.36
Gross Income	88.18	89.12
Feed Costs	31.82	34.78
Main Feed Components:		
Grain	3.97	4.44
Complete Feed	10.86	10.91
Roughage	11.52	13.85
Labour Costs	12.85	11.99
Other Variable Costs	20.13	19.70
Depreciation	8.89	8.63
Other Capital Costs	3.37	3.52
Total Production Costs	77.07	78.63
Total Cash Costs	58.87	61.22
Gross Margin	29.31	27.90
Contribution Margin	23.37	22.65
Return to Investment	12.72	12.07
Return to Equity	11.11	10.50
Return to Investment (%)	7.7	7.2
Return to Equity (%)	8.8	8.4

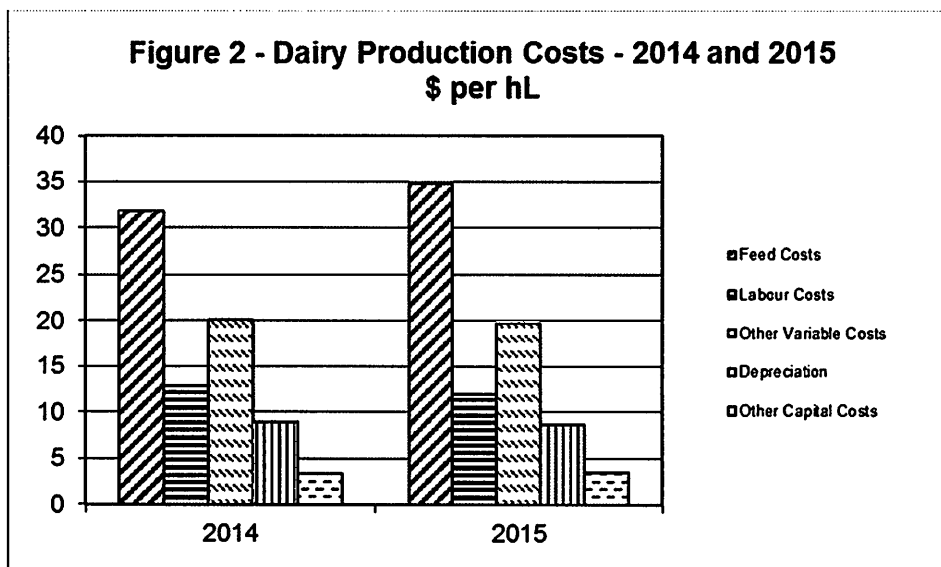
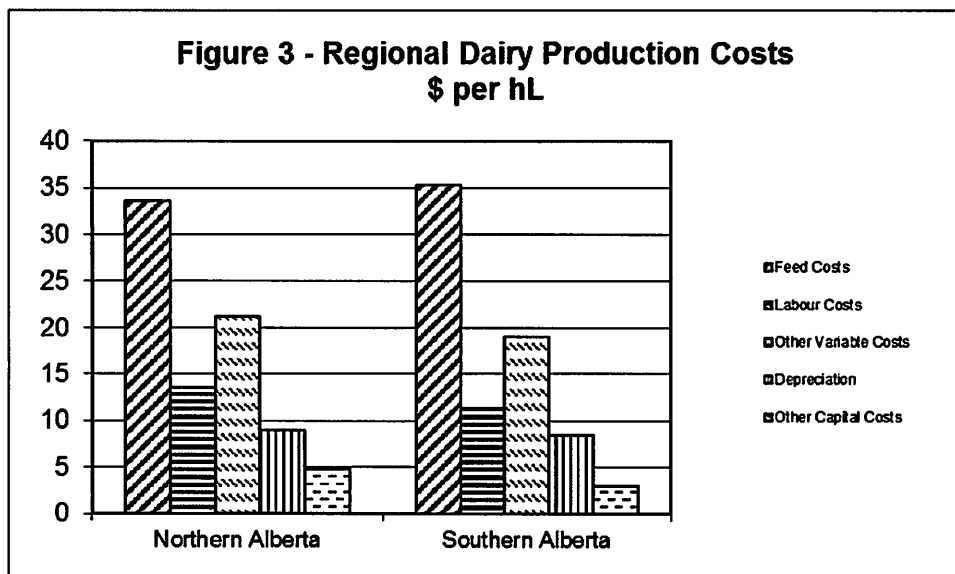


Table 4
Average Dairy Enterprise Costs and Returns - \$ Per hL Sold
Northern and Southern Alberta

	Northern Alberta (16 Producers)	Southern Alberta (33 Producers)
Milk Sales	80.14	80.46
Gross Income	90.45	88.55
Feed Costs	33.56	35.31
Main Feed Components:		
Grain	5.35	4.04
Complete Feed	9.92	11.33
Roughage	13.18	14.14
Labour Cost	13.48	11.35
Other Variable Costs	21.26	19.03
Depreciation	8.94	8.50
Other Capital Costs	4.88	2.94
Total Production Costs	82.13	77.12
Total Cash Costs	63.58	60.21
Gross Margin	26.87	28.33
Contribution Margin	22.15	22.86
Return to Investment	10.80	12.61
Return to Equity	8.32	11.42
Return to Investment (%)	6.1	7.8
Return to Equity (%)	7.5	8.7



Definitions for the Dairy Cost Study

Net Cattle Sales - revenues associated with the purchase and sale of dairy livestock (milking / dry cows, replacement heifers, bulls and young stock).

Gross Income - the value of what was produced by the dairy enterprise over the course of the production year. Includes cash and non-cash values of:

- ◆ milk sales,
- ◆ revenues from miscellaneous sources eg. colostrum sales, BSE test cow payments, environmental compliance and a milk quality bonus (if applicable),
- ◆ inventory adjustments relating to changes in the number & value of stock included in the enterprise, and
- ◆ net cattle sales.

Feed Costs - the cost of all feed used by the dairy enterprise, purchased or homegrown. (Homegrown feed is valued on the market value of the feed, **not** the cost of growing the feed.)

Complete Feed - includes all feed values given under dairy ration, calf feed and milk replacer.

Labour Costs - the sum of paid and contributed labour, as allocated to the dairy enterprise. Paid labour is valued at cost, while unpaid labour is valued at a standard or base cost per hour.

Other Variable Costs - total variable costs (such as bedding and supplies, veterinary and medicine, utilities, fuel, repairs) less feed and labour costs.

Depreciation - sum of depreciation and machinery/equipment/building lease payments on assets allocated to the dairy enterprise.

Other Capital Costs - total cash overheads, as allocated to the dairy enterprise (rent, property taxes, insurances, licences and term loan interest).

Total Cash Costs - total production costs less depreciation and family labour.

Total Production Costs - sum of all variable and capital production costs.

Contribution Margin - gross income less variable costs.

Gross Margin - gross income less total cash costs.

Return to Equity (\$) - gross income less total production costs.

Investment - sum of assets allocated to the enterprise. Includes: dairy livestock, machinery, equipment, buildings/facilities and building site.

Return to Investment (\$) - gross income less total production costs plus capital interest.

Debt/Capital Ratio - measures the extent of external financing on dairy farms and is calculated as the farm's debt divided by its total capital.

Median - the value of the middle item of a data set that has been arranged in an increasing order (lowest to highest).

Total Production Quota (TPQ) - single quota system (effective August, 2008).

Dry Matter Equivalent - conversion to dry matter from silage at 60% moisture and haylage at 56% moisture.

Production Factor Analysis

This section provides a detailed analysis of the survey group based on six specific production factors:

- herd size
- milk production
- gross income
- total cost
- investment
- labour

For each analysis, the survey group was sorted into three separate classes (bottom 1/3, middle 1/3, top 1/3) based on the production factor being evaluated. For instance, on the next page the survey group was divided into three sub-groups based on herd size. The bottom 1/3 group consists of the smallest dairy enterprises while the top 1/3 group consists of the largest producers. Production and management results are shown for each sub-group in the accompanying table and figures.

Dairy Characteristics by Herd Size Class

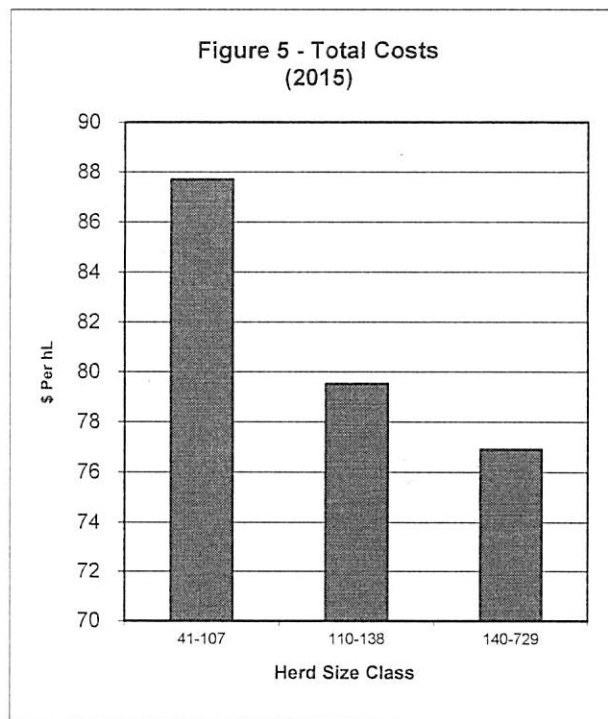
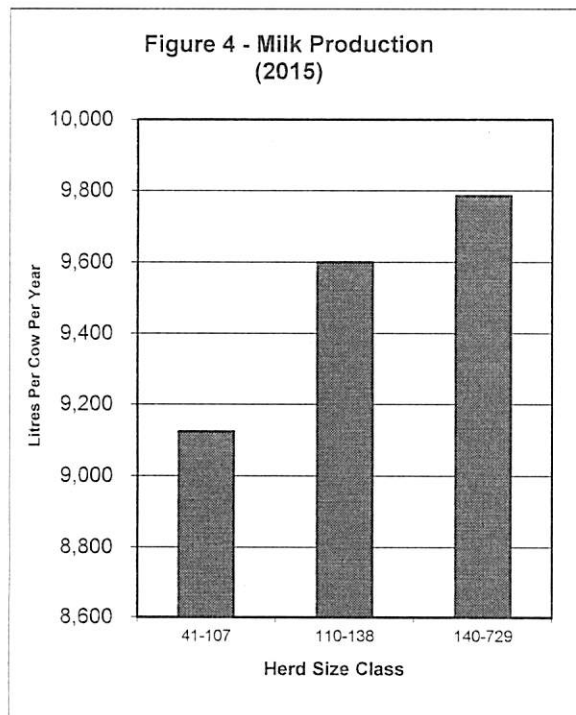
Table 5 - Dairy Enterprise Characteristics by Herd Size Class

Herd Size ranged from 41 to 729 milking cows. For this analysis, the sample group was split into the following three size classes:

Bottom 1/3 41 - 107
 Middle 1/3 110 - 138
 Top 1/3 140 - 729

	Bottom 1/3 41-107	Middle 1/3 110-138	Top 1/3 140-729
Years in Dairy	27.72	22.00	24.75
Milk Production (litres/yr)	9,123.95	9,599.68	9,785.35
Home Grown Feed (%)	67.2	68.6	77.8
Butterfat Test (kg/hL)	3.96	4.12	4.01
Gross Income (\$/hL)	88.07	88.06	89.25
Total Costs (\$/hL)	87.70	79.52	76.91
Feed Costs (\$/hL)	34.43	35.97	35.54
Labour (hrs/cow)	72.00	51.86	43.70
Investment (\$/cow)	14,813.37	15,971.13	15,765.54
Return to Equity (%)	2.9	5.3	10.5
Return to Investment (%)	2.5	5.6	8.5
Debt/Capital Ratio	0.17	0.25	0.21

Figures 4 and 5 illustrate Milk Production and Total Costs results for the bottom, middle and top 1/3 groups (sorted by Herd Size Class).



Dairy Characteristics by Milk Production Class

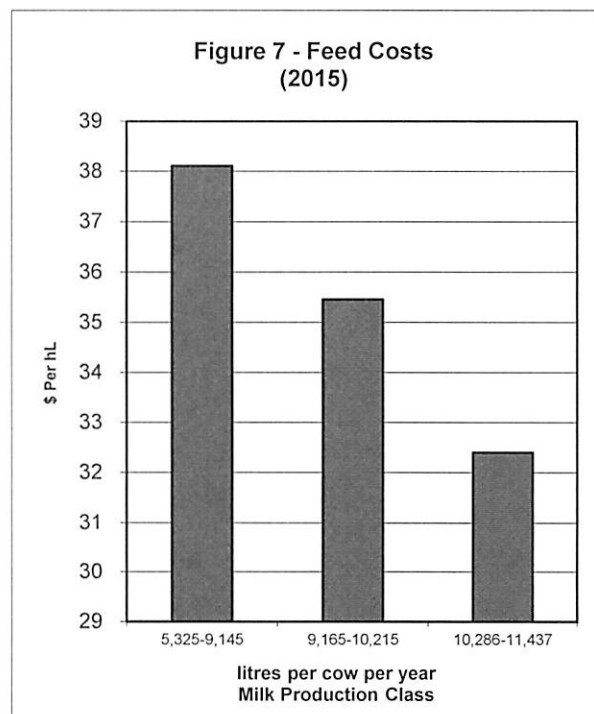
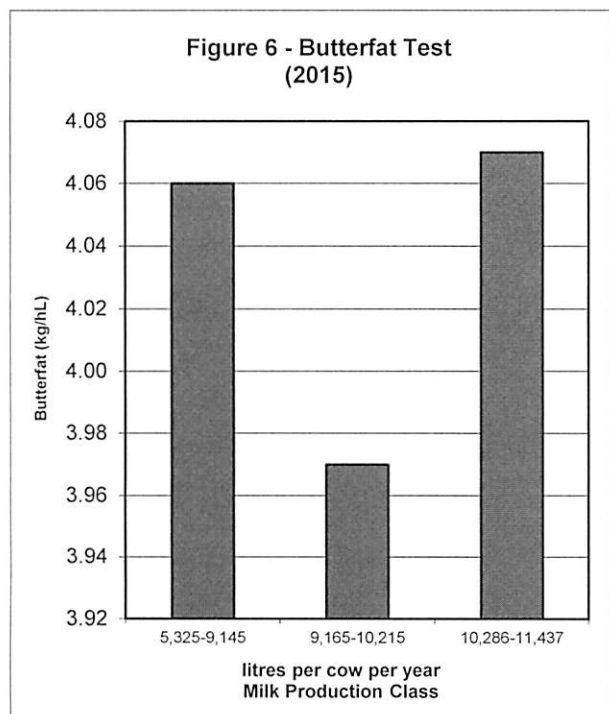
Table 6 - Dairy Enterprise by Milk Production Class

Milk Production ranged between 5,325 and 11,437 litres per cow per year. For this analysis, the sample group was split into the following three classes:

Bottom 1/3 5,325 - 9,145
 Middle 1/3 9,165 - 10,215
 Top 1/3 10,286 - 11,437

	Bottom 1/3 5,325-9,145	Middle 1/3 9,165-10,215	Top 1/3 10,286-11,437
Years in Dairy	25.31	24.68	24.31
Herd Size	155	121	166
Home Grown Feed (%)	85.1	61.9	67.1
Butterfat Test (kg/hL)	4.06	3.97	4.07
Gross Income (\$/hL)	89.99	86.77	88.71
Total Costs (\$/hL)	87.22	80.66	76.17
Feed Costs (\$/hL)	38.11	35.46	32.40
Labour (hrs/cow)	54.56	57.65	55.00
Investment (\$/cow)	15,472.87	14,176.11	17,013.26
Return to Equity (%)	3.5	4.6	10.7
Return to Investment (%)	3.1	4.9	8.7
Debt/Capital Ratio	0.18	0.22	0.24

Figures 6 and 7 illustrate Butterfat Test and Feed Costs results for the bottom, middle and top 1/3 groups (sorted by Milk Production Class).



Dairy Characteristics by Gross Income Class

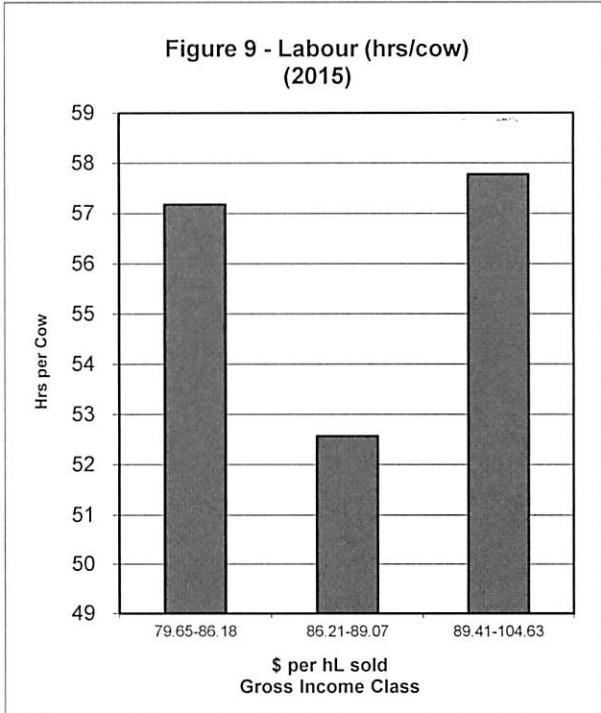
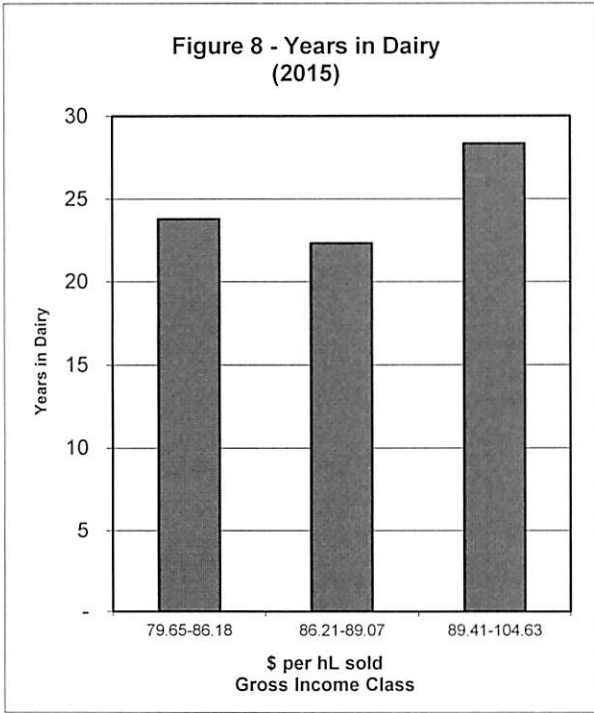
Table 7 - Dairy Enterprise by Gross Income Class

Gross Income ranged between \$79.65 and \$104.63 per hL sold. For this analysis, the sample group was split into the following three classes:

- Bottom 1/3 79.65 - 86.18
- Middle 1/3 86.21 - 89.07
- Top 1/3 89.41 - 104.63

	Bottom 1/3 79.65-86.18	Middle 1/3 86.21-89.07	Top 1/3 89.41-104.63
Years in Dairy	23.78	22.32	28.34
Herd Size	127	139	175
Milk Production (litres/yr)	9,544.53	9,600.31	9,364.10
Home Grown Feed (%)	61.8	80.6	70.6
Butterfat Test (kg/hL)	3.91	4.05	4.13
Total Costs (\$/hL)	83.50	76.06	84.78
Feed Costs(\$/hL)	36.36	33.53	36.21
Labour (hrs/cow)	57.18	52.57	57.78
Investment (\$/cow)	15,420.43	14,825.07	16,376.17
Return to Equity (%)	(0.8)	10.0	9.3
Return to Investment (%)	1.2	8.2	7.1
Debt/Capital Ratio	0.28	0.19	0.17

Figures 8 and 9 illustrate Years in Dairy and Labour results for the bottom, middle and top 1/3 groups (sorted by Gross Income Class).



Dairy Characteristics by Total Cost Class

Table 8 - Dairy Enterprise by Total Cost Class

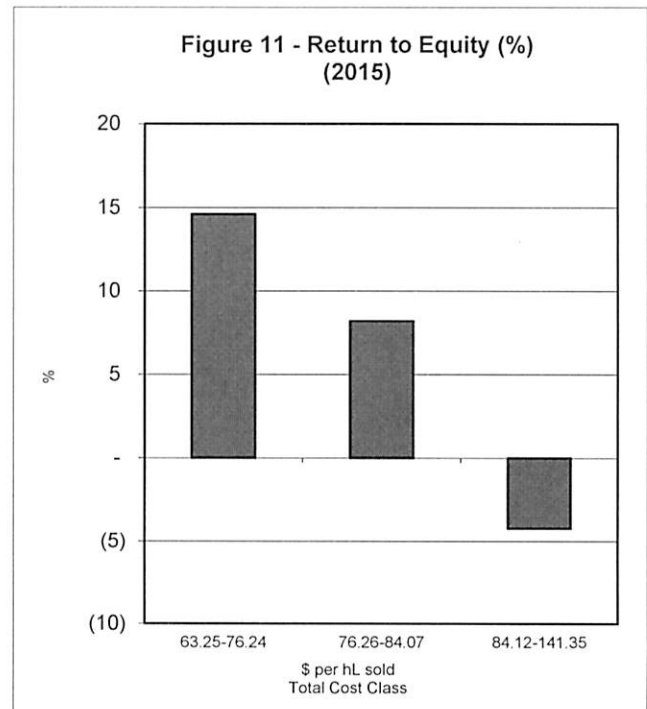
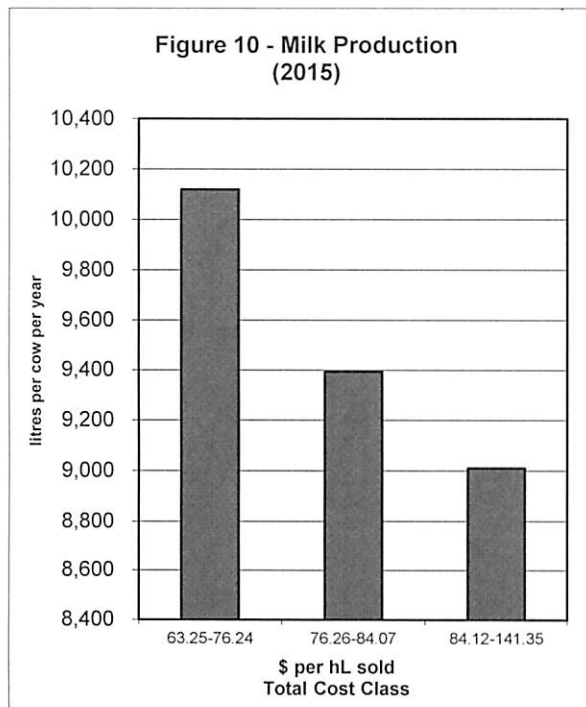
Total Cost ranged between \$63.25 and \$141.35 per hL sold. For this analysis, the sample group was split into the following three classes:

Top 1/3 63.25 - 76.24
 Middle 1/3 76.26 - 84.07
 Bottom 1/3 84.12 - 141.35

In this situation the top 1/3 are the lower cost producers and the bottom 1/3 are the higher cost producers.

	Top 1/3 63.25-76.24	Middle 1/3 76.26-84.07	Bottom 1/3 84.12-141.35
Years in Dairy	24.78	24.29	25.25
Herd Size	155	161	123
Milk Production (litres/yr)	10,120.37	9,391.36	9,010.27
Home Grown Feed (%)	69.9	76.5	66.8
Butterfat Test (kg/hL)	4.02	4.04	4.04
Gross Income (\$/hL)	88.05	89.48	87.77
Feed Costs (\$/hL)	33.18	35.33	37.46
Labour (hrs/cow)	46.49	59.84	60.73
Investment (\$/cow)	14,667.70	13,587.89	18,443.41
Return to Equity (%)	14.6	8.2	(4.2)
Return to Investment (%)	12.3	6.1	(1.8)
Debt/Capital Ratio	0.12	0.17	0.34

Figures 10 and 11 illustrate Milk Production and Return to Equity results for the top, middle and bottom 1/3 groups (sorted by Total Cost Class).



Dairy Characteristics by Investment Class

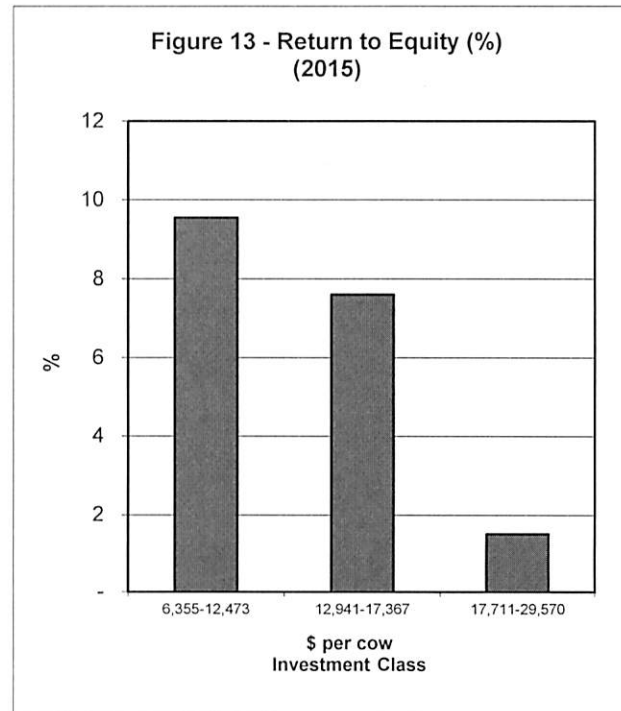
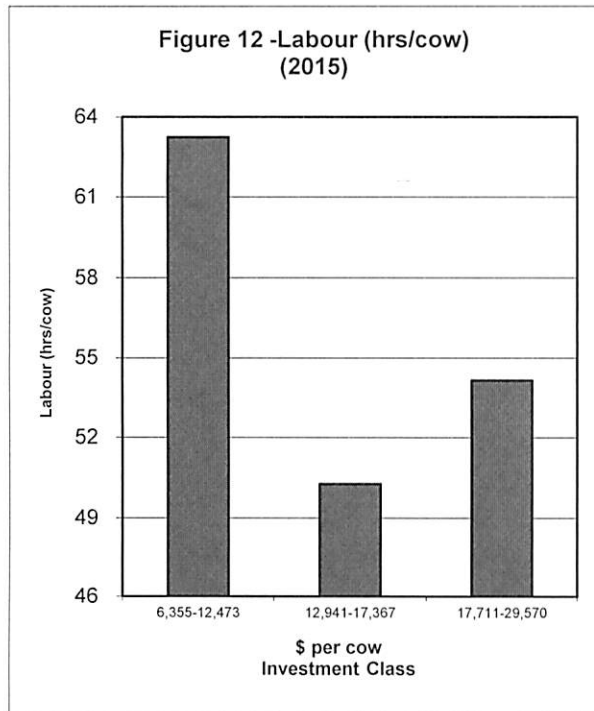
Table 9 - Dairy Enterprise by Investment Class

Investment per cow ranged between \$6,355 and \$29,570. For this analysis, the sample group was split into the following three classes:

Bottom 1/3 6,355 - 12,473
 Middle 1/3 12,941 - 17,367
 Top 1/3 17,711 - 29,570

	Bottom 1/3 6,355-12,473	Middle 1/3 12,941-17,367	Top 1/3 17,711-29,570
Years in Dairy	27.25	19.38	28.00
Herd Size	167	142	132
Milk Production (litres/yr)	9,120.39	10,006.94	9,356.19
Home Grown Feed (%)	68.8	76.5	67.8
Butterfat Test (kg/hL)	4.00	4.05	4.05
Gross Income (\$/hL)	87.83	88.46	89.07
Total Costs (\$/hL)	78.36	77.64	88.24
Feed Costs (\$/hL)	34.69	34.56	36.78
Labour (hrs/cow)	63.24	50.27	54.16
Return to Equity (%)	9.6	7.6	1.5
Return to Investment (%)	7.9	7.3	1.3
Debt/Capital Ratio	0.12	0.22	0.29

Figures 12 and 13 illustrate Labour and Return to Equity results for the bottom, middle and top 1/3 groups (sorted by Investment Class).



Dairy Characteristics by Labour (hrs/cow) Class

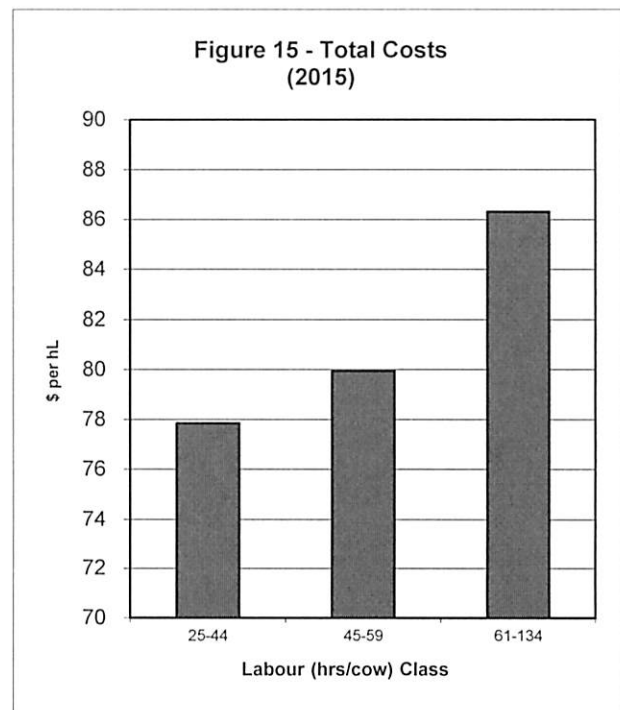
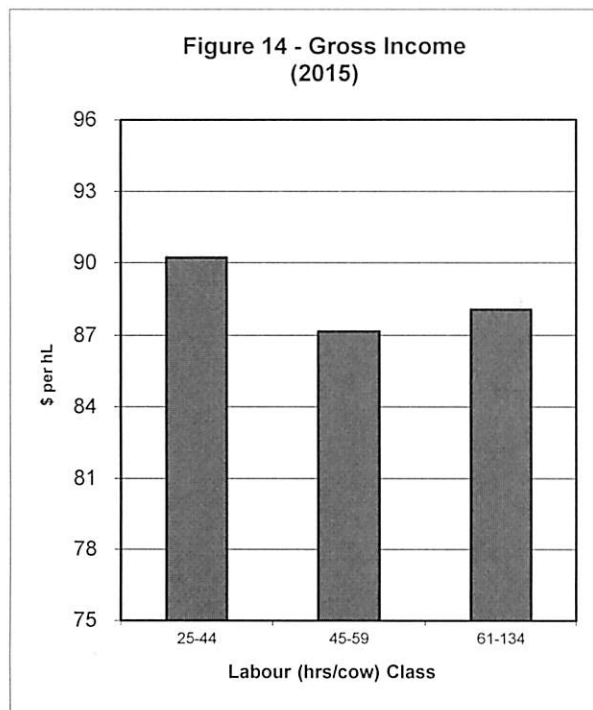
Table 10 - Dairy Enterprise by Labour (hrs/cow) Class

Labour (hrs/cow) ranged between 25 and 134. For this analysis, the sample group was split into the following three classes:

Bottom 1/3 25 - 44
 Middle 1/3 45 - 59
 Top 1/3 61 - 134

	Bottom 1/3 25-44	Middle 1/3 45-59	Top 1/3 61-134
Years in Dairy	26.38	22.65	25.41
Herd Size	207	135	99
Milk Production (litres/yr)	9,465.90	9,644.85	9,395.41
Home Grown Feed (%)	86.8	71.2	55.4
Butterfat Test (kg/hL)	4.10	3.98	4.03
Gross Income (\$/hL)	90.22	87.16	88.06
Total Costs (\$/hL)	77.84	79.94	86.32
Feed Costs (\$/hL)	37.22	33.78	35.08
Investment (\$/cow)	16,749.14	14,176.02	15,737.08
Return to Equity (%)	9.5	6.1	3.1
Return to Investment (%)	7.6	6.0	3.0
Debt/Capital Ratio	0.21	0.31	0.11

Figures 14 and 15 illustrate Gross Income and Total Costs results for the bottom, middle and top 1/3 groups (sorted by Labour hrs/cow Class).



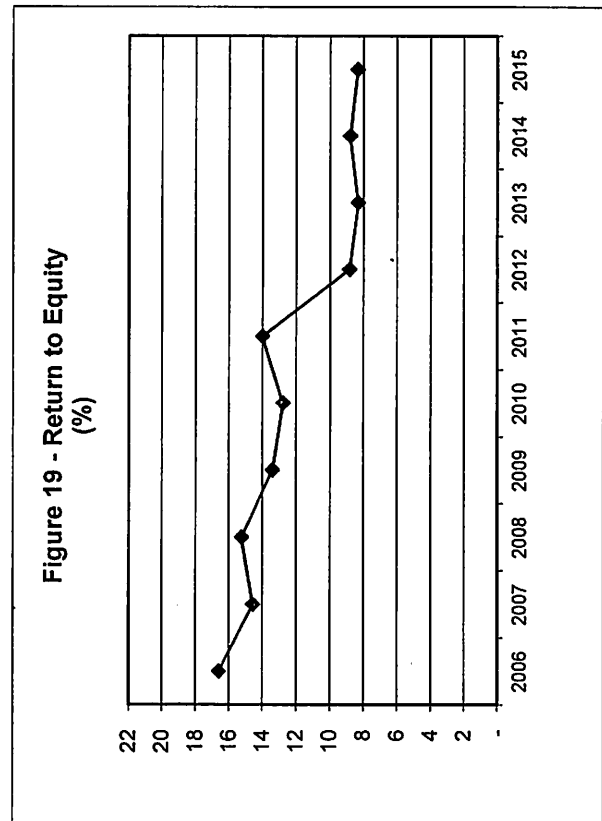
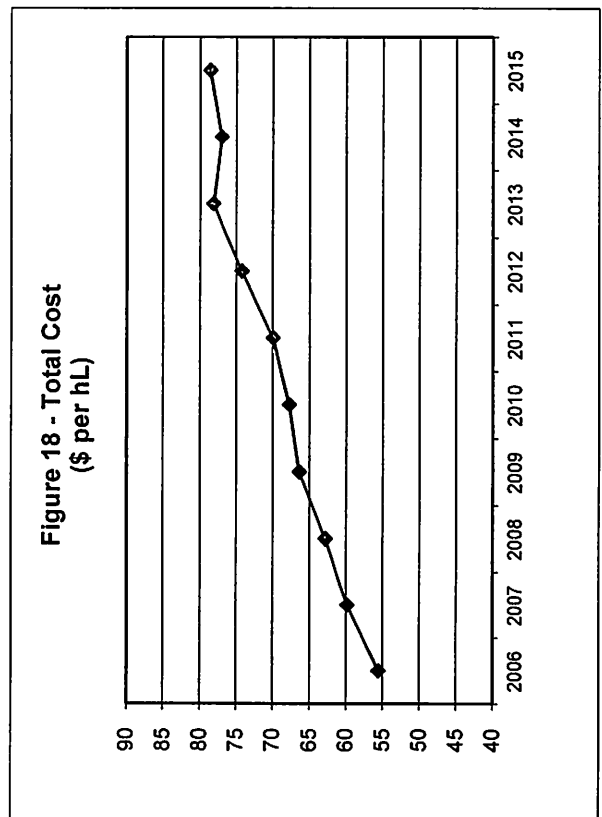
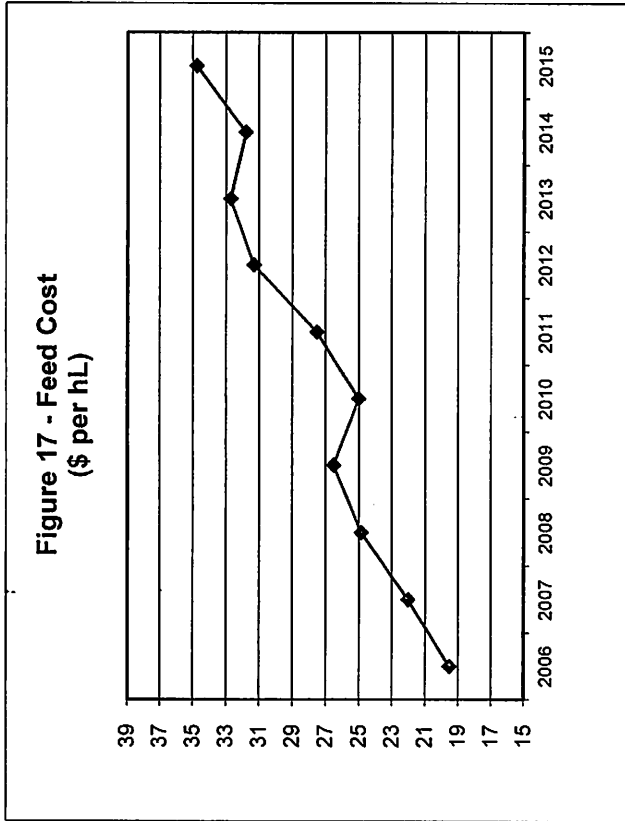
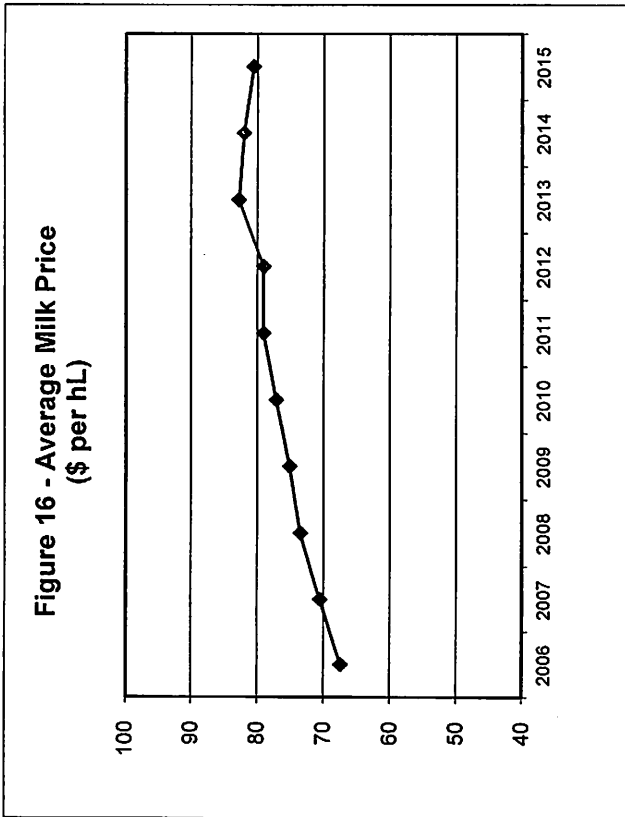
Detailed Management Factors, Northern and Southern Alberta

Table 11 provides a further examination of regional differences from a management perspective.

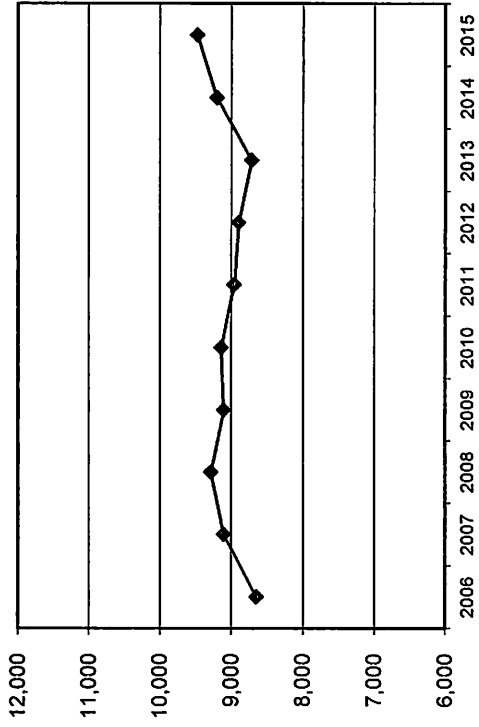
Table 11
Detailed Management Factors, Northern and Southern Alberta, 2015

	Northern Alberta	Southern Alberta
Herd Size	149	146
Milk Production (litres/cow/year)	8,655.92	9,884.74
Feed Conversion (litres/kg concentrates)	1.92	2.17
Labour Productivity (litres/hr)	163.85	198.44
Labour Hours/Cow (hrs)	52.83	49.81
Investment/Cow (\$/cow)	14,904.32	15,617.47
Milk Production/\$ Invest (litres/\$)	0.58	0.63
Feed Costs (\$/cow)	2,802.90	3,394.60
Purchased Barley (\$/tonne)	178.66	196.02
Cost of Purchased Hay (\$/tonne)	168.02	173.52
Home Grown Roughage (%)	49.8	70.6
Butterfat Test (kg/hL)	4.03	4.03
Protein (kg/hL)	3.35	3.30
LOS (kg/hL)	5.72	5.72
Total Costs (\$/hL)	82.13	77.12
Contribution Margin (\$/hL)	22.15	22.86
Return to Investment (%)	6.1	7.8
Return to Equity (\$/hL)	8.32	11.42
Return to Equity (%)	7.5	8.7
Debt to Capital Ratio	0.38	0.19

Historical Economic Trends



**Figure 21 - Milk Production
(litres/cow per year)**



**Figure 23 - Cost of Dairy Ration
(\$ per tonne)**

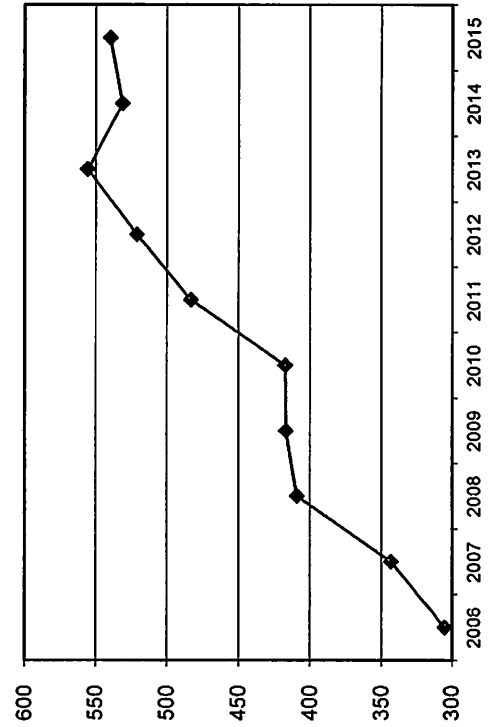
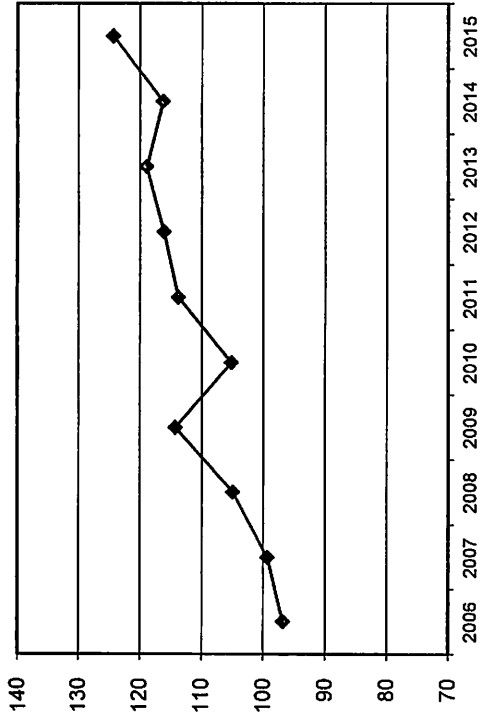
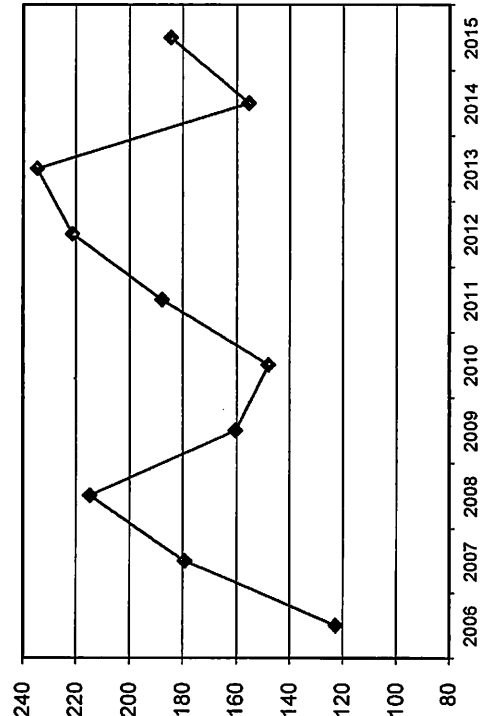


Figure 20 - Median Size of Dairy Herd



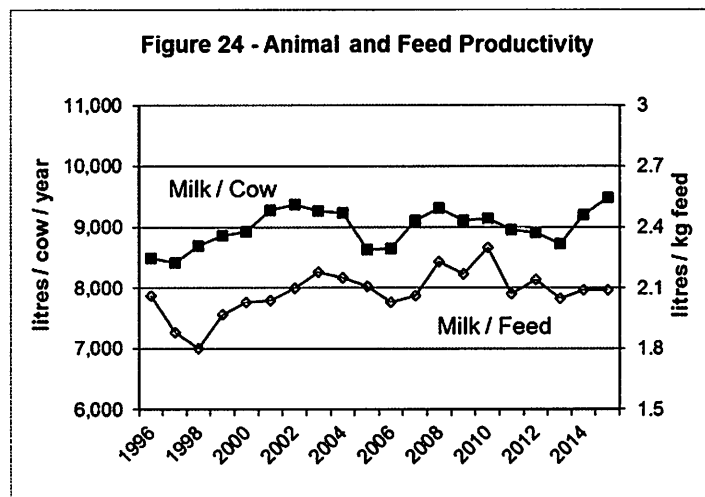
**Figure 22 - Purchased Barley Cost
(\$ per tonne)**



Milk Productivity Factors

A number of management factors related to milk production are reported in Table 3 of Appendix A. They relate the amount of milk produced to three management inputs: feed, labour and capital. While these results reflect the participants in the study group, which changes over time, they are a fair representation of provincial averages.

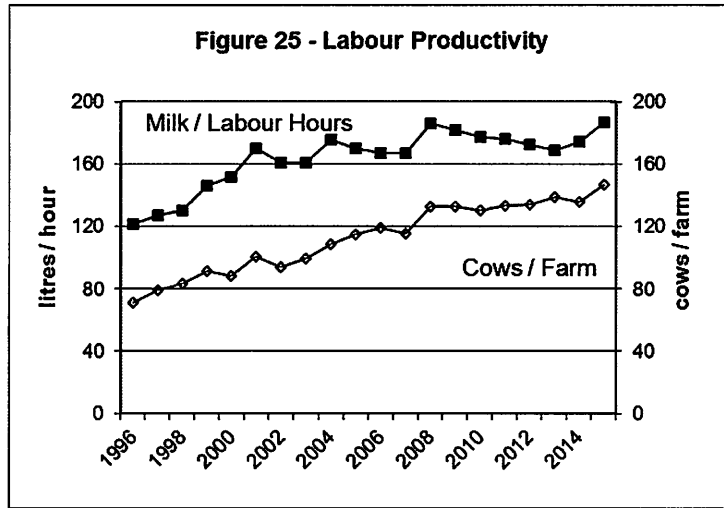
Figure 24 shows that milk productivity per cow increased steadily from 1996 to 2001. After levelling off for four years, productivity dipped in 2005, rebounding in 2007. Following a period of slow decline between 2008 and 2013, productivity jumped 5.6 percent in 2014 and another 2.8 percent in 2015. Many factors can affect milk productivity,



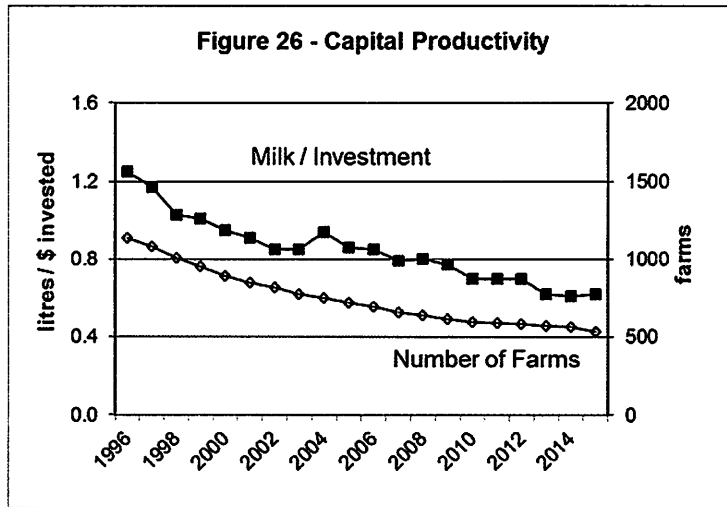
including poor feed quality, housing changes, temperature/weather fluctuations, and cow stress. A decrease in quota allotment or adjusting to the daily quota system could also lead to management decisions to lower production for a period of time. In 2014, however, there was a 6 percent increase in quota allotment driven by increase in consumption. This demand continued through 2015 with another 2 percent quota increase and added incentive days were issued.

The feed conversion rates (or productivity) have varied over time. In previous Dairy Cost Study reports, feed conversion rates appeared to generally improve over the 20-year assessment period, resulting in slightly higher milk production per unit of feed. However, the current feed conversion profile can be interpreted differently; that feed conversion rates have been fairly flat around 2.1 litres per kg of feed concentrates, with two big exceptions – a decline in the rate between 1997 and 1999, and an increase in the rate between 2008 and 2010. Feed conversion rates have since levelled off, possibly due to producers concentrating on relative feed values and less fluctuation in quality or make-up of rations.

Figure 25 shows the amount of milk produced for each hour of labour on dairy farms. Labour productivity increased dramatically from 1998 to 2001 and then levelled off until 2007. Investment per cow also levelled off during this time suggesting there were minimal changes made at the farm. The figure also shows how the scale of dairy farms has increased. As farm size increased, each employee was able to manage a larger number of dairy cows.



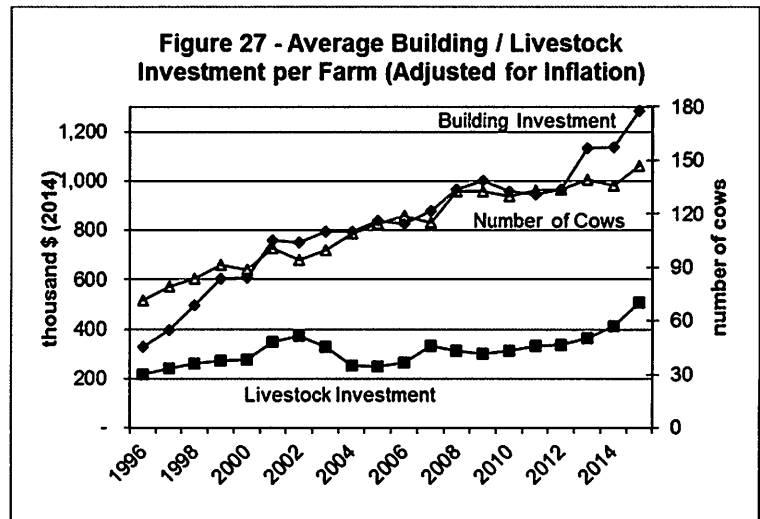
During the 1996 to 2001 period, labour intensity was gradually traded for capital intensity (Figure 26). While labour productivity increased through 2001, capital productivity declined. Dairy producers were investing in more capital equipment, which allowed them to handle greater herd sizes per employee. Between 2001 and 2008, capital investment rates were more stable. In recent years, capital intensity has again started to increase with more farms investing in voluntary milking systems.



Capital Investment Trends

Trends in capital intensity are shown more directly in Figures 27 and 28. The average value of dairy buildings (adjusted for inflation) climbed dramatically between 1996 and 2001, increasing by 132 percent.

During this time, there was an increase in construction of new facilities, either by those already in Alberta or by those moving to the province from abroad. This period coincided with a slightly higher rate in the expansion of herd sizes. After 2001, the average value of dairy buildings rose more slowly, in line with continued growth in the average herd size. Total building values rose



again from 2007 to 2009, partly due to a significant jump in the Dairy Cost Study average herd size in 2008. In 2013, building values again increased substantially, and again in 2015. This can be due to the fluctuation of participants on the Dairy Cost Study.

The total value of livestock per farm (adjusted for inflation) was flat during the mid 1990s. Livestock inventory values grew significantly through 2002. However, they dropped by one-third in the wake of the BSE crisis despite an increase in cows per farm. They rebounded in 2007 and 2008 and have remained fairly stable until 2013 where they started to climb due to the increase in beef prices and still remain high through 2015.

Dairy Enterprise Investment and Debt Levels

Total dairy farm investment (excluding quota) increased by 10 percent at \$2,256,347 per farm in 2015, compared to an average of \$2,020,047 in 2014. On a per cow basis, this works out to \$15,380 (Table 12). Of this total amount, 71 percent was comprised of buildings and equipment investment, 23 percent referred to livestock investment, the remaining 6 percent being invested in land and supplies.

Table 12
Annual Investment and Debt on Dairy Farms

	2013	2014	2015
	--- \$ Per Cow ---		
Land	749	952	866
Buildings and Equipment	10,369	10,681	10,944
Livestock	2,749	3,115	3,468
Supplies	110	117	102
TOTAL	13,972	14,865	15,380
Debt	3,876	3,577	3,830
Equity	10,093	11,288	11,550
TOTAL	13,972	14,865	15,380

The debt/capital ratio measures the extent of external financing on dairy farms in Alberta. This ratio has seen almost no change from 24 percent in 2014 to 25 percent in 2015. Total investment per cow increased only marginally in 2015, with an increase of only \$515 (or 3 percent) per cow compared to 2014. The increase in 2015 reflects the higher value of livestock investment. High market values and a constant increase in demand for milk production pushed livestock values upward.

Debt Repayment Capacity

The acceptable debt load or repayment capacity of a dairy enterprise can be measured by the contribution margin. Contribution margin is the difference between gross income and variable costs. Therefore, it represents the amount of money available to pay for capital assets - rent, mortgage payments (principle and interest), and taxes. The amount of cash remaining after capital assets payments is the producer's return to owner equity, or profit. A summary of contribution margins for the dairy years 2013, 2014, and 2015 is presented in Table 13.

Table 13

Summary of Average Costs and Returns in Alberta				
2013 – 2015				
	2013	2014	2015	2013-2015
	----- \$ Per Cow -----			
A. Gross Income	7404	7889	8195	7829
B. Feed Costs	2746	2847	3199	2930
C. Variable Costs	2714	2951	2914	2860
Contribution Margin	1944	2091	2082	2039
(A - B - C)				

The contribution margin can be used to determine the amount of debt load that a farm enterprise can carry. Table 14 shows the total debt load that a farm enterprise can carry on a per cow basis at various interest rates and various cow productivity levels. It is based on the average costs and returns between 2013 and 2015. An assumption behind the analysis is that feed costs vary directly with the level of production and market values. Forage and grain prices remained high in 2015 due to it being a dry year and demand for good quality hay was high. The lower value of the Canadian dollar also led to higher competition for hay sales to the United States.

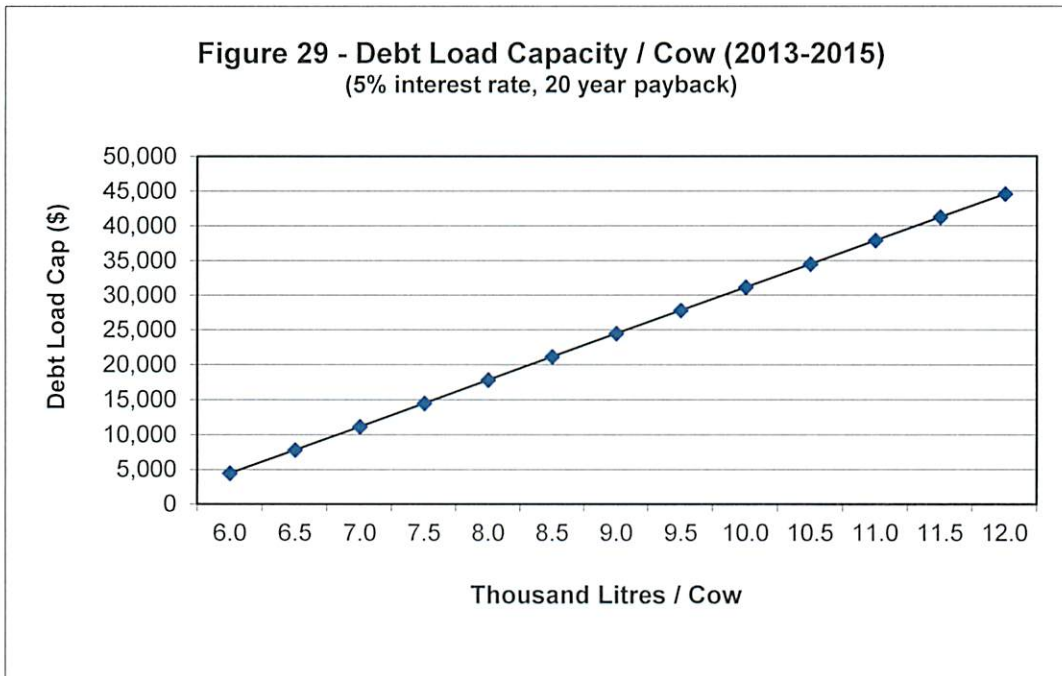
Table 14
Acceptable Total Debt-Load per Cow in Alberta, 2013-2015

Milk Productivity (litres/cow)	Interest Rates					
	3%	4%	5%	6%	7%	8%
6000	5,327	4,867	4,463	4,107	3,794	3,516
6500	9,317	8,511	7,804	7,183	6,635	6,149
7000	13,307	12,155	11,146	10,259	9,475	8,782
7500	17,296	15,800	14,488	13,335	12,316	11,414
8000	21,286	19,444	17,830	16,411	15,157	14,047
8500	25,276	23,089	21,172	19,486	17,998	16,680
9000	29,265	26,733	24,514	22,562	20,839	19,313
9500	33,255	30,378	27,856	25,638	23,680	21,946
10000	37,244	34,022	31,198	28,714	26,521	24,579
10500	41,234	37,667	34,540	31,790	29,362	27,212
11000	45,224	41,311	37,882	34,866	32,203	29,845
11500	49,213	44,955	41,224	37,941	35,044	32,477
12000	53,203	48,600	44,566	41,017	37,885	35,110

* With a 20 year repayment period

For example, at a milk production level of 8,500 litres per cow, the contribution margin would be \$1,699 per cow. This margin, if amortized over 20 years at 5 percent interest, results in a debt carrying capacity of \$21,172 per cow.

Figure 29 shows the impact of milk productivity on the debt load carrying capacity of dairy enterprises given an interest rate of 5 percent. As productivity declines, the debt carrying capacity of each cow also declines. Conversely, the debt carrying capacity rises as productivity increases.



Another way to use this information is to measure the minimum level of productivity required to carry a given debt load at a specific interest rate. As an example, if a farm has a debt of \$20,000 per cow, then at an interest rate of 5 percent, this amount of debt per cow would be supported at production levels of about 8,400 litres per cow and above (Table 14). In general, as productivity increases and/or interest rates fall, debt repayment or financing capacity increases.

To this point, the value of quota has not been included in the analysis. If externally financed quota valued at \$35,162 per cow (the average value of total production quota for one cow in the 2015 Dairy Cost Study) is added to current debt of \$3,830 per cow, the total amount of debt load per cow would be \$38,992. The ability to carry this amount of debt per cow depends upon the prevailing interest rate and the productivity of each cow carrying debt. As illustrated in Table 14, this level of debt would require a production level of around 11,000 litres per cow, assuming an interest rate of 5 percent.

Impact of Quota Values on Dairy Returns

The cost and return analysis in this study does not include any value for milk quota. However, new entrants into the dairy business would have to purchase quota. When the financing of these quota purchases (at the 2015 Dairy Cost Study average quota price) is taken into account, the average rate of return for new entrants would be a negative 3.2 percent (Table 15). This means that the borrowing costs of capital used to purchase quota in 2015 exceeded the financial returns obtained from producing milk. The assumption in this analysis was that all funds needed to purchase quota were borrowed at 3.8 percent, the average interest rate in the study.

Table 15

Impact of Quota Value on Dairy Returns, 2015

	2015 Study Average	Including Quota Value*
--- \$ per Farm ---		
Dairy Investment	2,256,347	7,414,853
Debt	561,857	5,720,363
Equity	1,694,490	1,694,490
--- \$ per hL Sold ---		
Equity	125.61	125.61
Gross Income	89.12	89.12
Production Costs	78.63	78.63
Interest Cost for Quota		14.45
Potential Total Cost	78.63	93.08
Return to Equity(\$ per hL)	10.50	-3.96
Return to Equity (%)	8.4	-3.2

*Applicable to new entrants who borrow 100 percent of funds needed to purchase total production quota at the average value from the 2015 Dairy Cost Study of \$37,021 per kg/day.

APPENDIX A

2015 Dairy Cost Study

Alberta Average

Alberta
2015 Dairy Cost Study - Business Analysis
49 Participants
Table 1 Dairy Enterprise Costs and Returns

	TOTAL ENTERPRISE	PER COW	PER HL SOLD	PERCENT FROM INCOME
INCOME:				
MILK SALES	1,084,127.51	7,389.81	80.36	
POOL ADJUSTMENTS (+ -)	3,369.01	22.96	.25	
MISCELLANEOUS RECEIPTS	5,725.78	39.03	.42	
NET CATTLE SALES (+ -)	90,401.23	616.21	6.70	
NET INVENTORY CHANGE (+ -)	18,655.69	127.16	1.38	
GROSS INCOME -----	1,202,279.22	8,195.17	89.12	100.00
EXPENSES:				
GRAIN	59,841.84	407.90	4.44	
COMPLETE FEED	147,137.30	1,002.94	10.91	
SUPPLEMENT	62,161.94	423.72	4.61	
MINERALS & VITAMINS	10,277.87	70.06	.76	
ROUGHAGE	186,820.07	1,273.43	13.85	
PROCESSING COSTS	3,013.75	20.54	.22	
TOTAL FEED COSTS -----	469,252.76	3,198.60	34.78	39.03
BEDDING AND SUPPLIES	39,320.97	268.03	2.91	
BREEDING	13,189.60	89.91	.98	
VET. AND MEDICINE	24,494.97	166.97	1.82	
MILK HAULING	45,352.94	309.14	3.36	
PRODUCER'S FEES	29,041.82	197.96	2.15	
UTILITIES	22,170.36	151.12	1.64	
FUEL, OIL, LUBE	16,896.02	115.17	1.25	
BLDG. & MACH. REPAIRS	33,772.96	230.21	2.50	
MISCELLANEOUS	41,491.93	282.82	3.08	
TOTAL OTHER VARIABLE COSTS -----	265,731.56	1,811.32	19.70	22.10
HIRED LABOUR	43,396.19	295.80	3.22	
FAMILY LABOUR	118,330.26	806.58	8.77	
TOTAL LABOUR COSTS -----	161,726.44	1,102.39	11.99	13.45
TOTAL VARIABLE COSTS	896,710.77	6,112.31	66.47	74.58
RENT	3,895.07	26.55	.29	
TAXES AND INSURANCE	22,433.02	152.91	1.66	
DEPRECIATION	116,429.70	793.63	8.63	
INTEREST (CAP.DEBT)	21,211.79	144.59	1.57	
TOTAL CAPITAL COSTS -----	163,969.58	1,117.68	12.15	13.64
TOTAL PRODUCTION COSTS	1,060,680.35	7,229.98	78.63	88.22
CONTRIBUTION MARGIN (\$)	305,568.44	2,082.87	22.65	
RETURN TO EQUITY (\$)	141,598.86	965.19	10.50	11.78
MILK PRICE			80.61	
INVENTORY ADJUSTMENT			8.51	
RETURN TO EQUITY (%)			8.36	
AVERAGE CAP. DEBT INTEREST RATE (%)			3.78	

Alberta
2015 Dairy Cost Study - Business Analysis
49 Participants
Table 2 Statement of Investment

LAND BUILDINGS & EQUIPMENT

	AGE	DEPRECIATION	DAIRY INVESTMENT
DAIRY BUILDINGS	13.32	51,157.40	1,282,246.94
POWER MACHINERY	8.34	24,089.85	160,572.24
DAIRY EQUIPMENT	12.10	26,359.01	100,620.00
OTHER EQUIPMENT	9.87	14,823.44	62,086.43
TOTAL EQUIPMENT	9.78	65,272.29	323,278.67
LAND			127,075.01
SUPPLIES			14,976.36
** SUBTOTAL **		116,429.70	1,747,576.98

DAIRY LIVESTOCK

	-- BEGIN YEAR --		-- END OF YEAR --		AVERAGE VALUE
	NUMBER	VALUE	NUMBER	VALUE	
COWS	144.51	310,728.03	152.00	326,832.70	318,780.36
BRED HEIFERS	43.92	87,836.73	46.67	93,346.94	90,591.84
OPEN HEIFERS	56.98	85,469.39	55.24	82,867.35	84,168.37
HEIFER CALVES	43.88	10,969.39	40.73	10,183.67	10,576.53
BULL CALVES	6.49	1,622.45	9.31	2,326.53	1,974.49
BULLS	1.88	2,816.33	1.69	2,540.82	2,678.57
** SUBTOTAL **	297.65	499,442.31	305.65	518,098.00	508,770.16

TOTAL DAIRY INVESTMENT	2,256,347.14
CAPITAL LOANS	561,856.68
OPERATOR EQUITY	1,694,490.46
INVESTMENT PER COW	15,380.08
DEBT/CAPITAL RATIO	.25
CAPITAL TURNOVER (YR)	1.88

HERD SIZE

	Average	Median
NUMBER OF DAIRY COWS	146.71	124.42
NUMBER OF ANIMAL UNITS	233.03	196.67
DRY COWS (%)	19.64	
CALF CROP (%)	104.82	
PASTURE PER COW (AC.)	.25	

CATTLE SALES & PURCHASES

	NUMBER SOLD	SELLING PRICE	NUMBER PURCHASED	PURCHASE PRICE
COWS	43.88	1,649.44	1.39	2,683.82
BRED HEIFERS	2.08	2,250.05	.04	2,400.00
OPEN HEIFERS	1.67	1,881.04	.08	2,300.00
HEIFER CALVES	1.16	455.33	.00	.00
BULL CALVES	42.59	325.59	.00	.00
BULLS	.94	2,214.33	.69	3,270.24
TOTAL VALUE		96,680.58		6,279.35

Alberta
2015 Dairy Cost Study - Business Analysis
49 Participants
Table 3 Labour and Management

LABOUR

	HOURS	VALUE	HOURLY RATE
OPERATOR LABOUR	3,136.51	69,003.22	22.00
HIRED LABOUR	1,996.02	43,396.19	21.74
FAMILY UNPAID LABOUR	2,321.72	49,327.03	21.25
TOTAL	7,454.25	161,726.44	21.70
RETURN TO FAMILY LABOUR	13.47		
MAN EQUIVALENTS	2.98		
LABOUR HOURS PER COW	50.81		
YEARS FARMING	24.77		

MILK PRODUCTION

	HL.	% OF TOTAL	VALUE	AVERAGE PRICE / HL
MILK SALES	13,490.11	97.02	1,084,127.51	80.36
OTHER MILK PRODUCED	414.21	2.98		
TOTAL	13,904.32	100.00		

AVERAGE COMPONENT PRICES (\$ / KG)

BUTTERFAT TEST	4.03 KG / HL	11.32
PROTEIN	3.32 KG / HL	4.35
L.O.S.	5.72 KG / HL	3.53
MILK PRODUCTION PER COW	9,477.69 LITRES / YEAR	

QUOTA INFORMATION

TPQ HOLDINGS	139.34 KG / DAY
TPQ PRICE	37,021.45 \$ / KG / DAY
CREDIT PRICE	8.31 \$ / KG

MANAGEMENT FACTORS

COST PER HL	78.63
MILK/FEED (KG) RATIO	2.09 LITRES
MILK/LABOUR (HR) RATIO	186.53 LITRES
MILK/CAPITAL (\$) RATIO	.62 LITRES

**Alberta
2015 Dairy Cost Study - Business Analysis
49 Participants
Table 4 Feed Report**

	-- PURCHASED --		-- HOMETGROWN--	
CONCENTRATES	QUANTITY (TONNES)	PRICE	QUANTITY (TONNES)	PRICE
OATS	3.96	154.35	1.74	183.89
BARLEY	86.92	184.69	122.72	197.92
WHEAT	.00	.00	.00	216.91
MIXED GRAIN	.00	.00	.00	.00
BREW GRAIN (DRY EQ.)	13.58	173.10		
BEET PULP	5.42	237.85		
OTHER PURCHASED	44.33	336.69		
DAIRY RATION	247.32	539.85		
CALF FEED	17.01	526.93		
MILK REPLACER	1.37	3,405.93		
SUPPLEMENT	108.56	562.72		
MOLASSES	3.32	322.60		
SALT	1.56	486.71		
MINERALS & VITAMINS	8.88	1,071.81		
SUBTOTAL -----	542.24	254,809.14	124.47	24,609.81
ROUGHAGE				
ALFALFA HAY	138.00	172.02	158.74	208.69
ALFALFA PELLETS	.00	.00		
STRAW FED	3.28	58.42	12.50	70.12
GREENFEED	.45	145.42	1.66	153.58
SILAGE/HAYLAGE (DRY EQ.)	246.83	130.65	510.84	188.54
SUBTOTAL -----	388.56	56,243.42	683.74	130,576.65
GRINDING & PROCESSING		3,013.75		
GRAND TOTAL FEED COSTS -----		314,066.31		155,186.46
BEDDING	174.53	64.55	74.65	66.54
AV. PRICE:	CONCENTRATE	419.10 \$/TONNE		
	ROUGHAGE	174.22 \$/TONNE		
FED PER COW:	CONCENTRATE	4.54 TONNES		
	ROUGHAGE	7.31 TONNES		
% HOME GROWN:	CONCENTRATE	18.67 %		
	ROUGHAGE	63.76 %		

APPENDIX B

2015 Dairy Cost Study

Northern Alberta

Northern Alberta
2015 Dairy Cost Study - Business Analysis
16 Participants
Table 1 Dairy Enterprise Costs and Returns

	TOTAL ENTERPRISE	PER COW	PER HL SOLD	PERCENT FROM INCOME
INCOME:				
MILK SALES	996,054.10	6,692.65	80.14	
POOL ADJUSTMENTS (+ -)	3,101.17	20.84	.25	
MISCELLANEOUS RECEIPTS	5,349.81	35.95	.43	
NET CATTLE SALES (+ -)	95,406.38	641.05	7.68	
NET INVENTORY CHANGE (+ -)	24,209.17	162.67	1.95	
GROSS INCOME -----	1,124,120.63	7,553.15	90.45	100.00
EXPENSES:				
GRAIN	66,435.64	446.39	5.35	
COMPLETE FEED	123,269.56	828.27	9.92	
SUPPLEMENT	47,092.01	316.42	3.79	
MINERALS & VITAMINS	7,680.31	51.61	.62	
ROUGHAGE	163,747.06	1,100.24	13.18	
PROCESSING COSTS	8,925.10	59.97	.72	
TOTAL FEED COSTS -----	417,149.66	2,802.90	33.56	37.11
BEDDING AND SUPPLIES	38,632.78	259.58	3.11	
BREEDING	14,662.00	98.52	1.18	
VET. AND MEDICINE	27,229.42	182.96	2.19	
MILK HAULING	42,003.74	282.23	3.38	
PRODUCER'S FEES	26,873.61	180.57	2.16	
UTILITIES	19,642.32	131.98	1.58	
FUEL, OIL, LUBE	12,236.46	82.22	.98	
BLDG. & MACH. REPAIRS	33,859.93	227.51	2.72	
MISCELLANEOUS	49,044.97	329.54	3.95	
TOTAL OTHER VARIABLE COSTS ----	264,185.23	1,775.10	21.26	23.50
HIRED LABOUR	48,143.30	323.48	3.87	
FAMILY LABOUR	119,408.78	802.33	9.61	
TOTAL LABOUR COSTS -----	167,552.08	1,125.81	13.48	14.91
TOTAL VARIABLE COSTS	848,886.98	5,703.81	68.30	75.52
RENT	3,807.66	25.58	.31	
TAXES AND INSURANCE	26,110.90	175.44	2.10	
DEPRECIATION	111,133.66	746.72	8.94	
INTEREST (CAP.DEBT)	30,755.19	206.65	2.47	
TOTAL CAPITAL COSTS -----	171,807.41	1,154.40	13.82	15.28
TOTAL PRODUCTION COSTS	1,020,694.38	6,858.21	82.13	90.80
CONTRIBUTION MARGIN (\$)	275,233.65	1,849.34	22.15	
RETURN TO EQUITY (\$)	103,426.25	694.94	8.32	9.20
MILK PRICE			80.39	
INVENTORY ADJUSTMENT			10.05	
RETURN TO EQUITY (%)			7.53	
AVERAGE CAP. DEBT INTEREST RATE (%)			3.64	

**Northern Alberta
2015 Dairy Cost Study - Business Analysis
16 Participants**

Table 2 Statement of Investment

LAND BUILDINGS & EQUIPMENT

	AGE	DEPRECIATION	DAIRY INVESTMENT
DAIRY BUILDINGS	11.46	54,799.09	1,353,146.18
POWER MACHINERY	10.06	18,567.55	120,577.99
DAIRY EQUIPMENT	11.68	25,215.88	98,018.79
OTHER EQUIPMENT	11.07	12,551.13	50,054.32
TOTAL EQUIPMENT	10.79	56,334.57	268,651.10
LAND			71,642.03
SUPPLIES			17,322.03
** SUBTOTAL **		111,133.66	1,710,761.34

DAIRY LIVESTOCK

	-- BEGIN YEAR --		-- END OF YEAR --		AVERAGE VALUE
	NUMBER	VALUE	NUMBER	VALUE	
COWS	149.88	312,410.44	159.75	332,994.62	322,702.53
BRED HEIFERS	36.06	72,125.00	43.25	86,500.00	79,312.50
OPEN HEIFERS	60.00	90,000.00	52.69	79,031.25	84,515.63
HEIFER CALVES	66.94	16,734.38	61.00	15,250.00	15,992.19
BULL CALVES	7.94	1,984.38	16.63	4,156.25	3,070.31
BULLS	1.38	2,062.50	1.06	1,593.75	1,828.13
** SUBTOTAL **	322.19	495,316.69	334.38	519,525.87	507,421.28

TOTAL DAIRY INVESTMENT -----	2,218,182.62
CAPITAL LOANS	844,545.04
OPERATOR EQUITY	1,373,637.58
INVESTMENT PER COW	14,904.32
DEBT/CAPITAL RATIO	.38
CAPITAL TURNOVER (YR)	1.97

HERD SIZE

	Average	Median
NUMBER OF DAIRY COWS	148.83	105.08
NUMBER OF ANIMAL UNITS	239.72	160.33
DRY COWS (%)	25.20	
CALF CROP (%)	107.59	
PASTURE PER COW (AC.)	.22	

CATTLE SALES & PURCHASES

	NUMBER SOLD	SELLING PRICE	NUMBER PURCHASED	PURCHASE PRICE
COWS	43.31	1,702.13	.81	3,173.08
BRED HEIFERS	.69	1,838.82	.00	.00
OPEN HEIFERS	4.81	1,918.89	.06	700.00
HEIFER CALVES	1.88	451.73	.00	.00
BULL CALVES	41.25	294.06	.00	.00
BULLS	.88	1,804.48	.25	3,000.00
TOTAL VALUE		98,778.26		3,371.88

**Northern Alberta
2015 Dairy Cost Study - Business Analysis
16 Participants
Table 3 Labour and Management**

LABOUR

	HOURS	VALUE	HOURLY RATE
OPERATOR LABOUR	2,810.56	61,832.38	22.00
HIRED LABOUR	2,386.65	48,143.30	20.17
FAMILY UNPAID LABOUR	2,664.92	57,576.41	21.61
TOTAL	7,862.13	167,552.08	21.31
RETURN TO FAMILY LABOUR	13.10		
MAN EQUIVALENTS	3.14		
LABOUR HOURS PER COW	52.83		
YEARS FARMING	25.84		

MILK PRODUCTION

	HL.	% OF TOTAL	VALUE	AVERAGE PRICE / HL
MILK SALES	12,428.46	96.48	996,054.10	80.14
OTHER MILK PRODUCED	453.98	3.52		
TOTAL	12,882.44	100.00		

AVERAGE COMPONENT PRICES (\$ / KG)

BUTTERFAT TEST	4.03 KG / HL	11.36
PROTEIN	3.35 KG / HL	4.37
L.O.S.	5.72 KG / HL	3.54
MILK PRODUCTION PER COW	8,655.92 LITRES / YEAR	

QUOTA INFORMATION

TPQ HOLDINGS	128.94 KG / DAY
TPQ PRICE	37,543.05 \$ / KG / DAY
CREDIT PRICE	8.22 \$ / KG

MANAGEMENT FACTORS

COST PER HL	82.13
MILK/FEED (KG) RATIO	1.92 LITRES
MILK/LABOUR (HR) RATIO	163.85 LITRES
MILK/CAPITAL (\$) RATIO	.58 LITRES

**Northern Alberta
2015 Dairy Cost Study - Business Analysis
16 Participants
Table 4 Feed Report**

<u>CONCENTRATES</u>	-- PURCHASED --		-- HOMEGROWN--	
	QUANTITY (TONNES)	PRICE	QUANTITY (TONNES)	PRICE
OATS	.00	.00	1.19	174.40
BARLEY	173.82	178.66	111.94	184.83
WHEAT	.00	.00	.00	195.28
MIXED GRAIN	.00	.00	.00	.00
BREW GRAIN (DRY EQ.)	16.37	175.47		
BEET PULP	7.57	203.76		
OTHER PURCHASED	25.64	392.69		
DAIRY RATION	229.89	513.31		
CALF FEED	5.25	630.52		
MILK REPLACER	.55	3,528.81		
SUPPLEMENT	92.18	510.84		
MOLASSES	.00	.00		
SALT	2.05	641.04		
MINERALS & VITAMINS	4.95	1,286.07		
SUBTOTAL -----	558.28	223,580.46	113.13	20,897.05
<u>ROUGHAGE</u>				
ALFALFA HAY	114.98	168.02	94.18	167.46
ALFALFA PELLETS	.00	.00		
STRAW FED	4.91	66.96	2.37	69.32
GREENFEED	.81	152.62	.51	154.28
SILAGE/HAYLAGE (DRY EQ.)	422.11	129.48	441.08	166.19
SUBTOTAL -----	542.81	74,427.93	538.14	89,319.13
GRINDING & PROCESSING		8,925.10		
GRAND TOTAL FEED COSTS -----		306,933.48		110,216.18
BEDDING	175.17	72.87	110.76	62.83
AV. PRICE:	CONCENTRATE	364.13 \$/TONNE		
	ROUGHAGE	151.48 \$/TONNE		
FED PER COW:	CONCENTRATE	4.51 TONNES		
	ROUGHAGE	7.26 TONNES		
% HOME GROWN:	CONCENTRATE	16.85 %		
	ROUGHAGE	49.78 %		

APPENDIX C

2015 Dairy Cost Study Southern Alberta

Southern Alberta
2015 Dairy Cost Study - Business Analysis
33 Participants
Table 1 Dairy Enterprise Costs and Returns

	TOTAL ENTERPRISE	PER COW	PER HL SOLD	PERCENT FROM INCOME
INCOME:				
MILK SALES	1,126,829.77	7,735.14	80.46	
POOL ADJUSTMENTS (+ -)	3,498.87	24.02	.25	
MISCELLANEOUS RECEIPTS	5,908.07	40.56	.42	
NET CATTLE SALES (+ -)	87,974.49	603.90	6.28	
NET INVENTORY CHANGE (+ -)	15,854.57	108.83	1.13	
GROSS INCOME -----	1,240,065.77	8,512.45	88.55	100.00
EXPENSES:				
GRAIN	56,644.85	388.84	4.04	
COMPLETE FEED	158,709.53	1,089.46	11.33	
SUPPLEMENT	69,468.58	476.87	4.96	
MINERALS & VITAMINS	11,537.30	79.20	.82	
ROUGHAGE	198,006.98	1,359.22	14.14	
PROCESSING COSTS	147.64	1.01	.01	
TOTAL FEED COSTS -----	494,514.88	3,394.60	35.31	39.88
BEDDING AND SUPPLIES	39,654.64	272.21	2.83	
BREEDING	12,475.71	85.64	.89	
VET. AND MEDICINE	23,169.17	159.05	1.65	
MILK HAULING	46,976.79	322.47	3.35	
PRODUCER'S FEES	30,093.08	206.57	2.15	
UTILITIES	23,396.08	160.60	1.67	
FUEL, OIL, LUBE	19,155.20	131.49	1.37	
BLDG. & MACH. REPAIRS	33,730.79	231.55	2.41	
MISCELLANEOUS	37,829.85	259.68	2.70	
TOTAL OTHER VARIABLE COSTS ----	266,481.30	1,829.26	19.03	21.49
HIRED LABOUR	41,094.56	282.09	2.93	
FAMILY LABOUR	117,807.33	808.69	8.41	
TOTAL LABOUR COSTS -----	158,901.89	1,090.78	11.35	12.81
TOTAL VARIABLE COSTS	919,898.07	6,314.65	65.68	74.18
RENT	3,937.45	27.03	.28	
TAXES AND INSURANCE	20,649.81	141.75	1.47	
DEPRECIATION	118,997.47	816.86	8.50	
INTEREST (CAP.DEBT)	16,584.69	113.85	1.18	
TOTAL CAPITAL COSTS -----	160,169.42	1,099.49	11.44	12.92
TOTAL PRODUCTION COSTS	1,080,067.49	7,414.14	77.12	87.10
CONTRIBUTION MARGIN (\$)	320,167.70	2,197.80	22.86	
RETURN TO EQUITY (\$)	159,998.28	1,098.31	11.42	12.90
MILK PRICE			80.71	
INVENTORY ADJUSTMENT			7.84	
RETURN TO EQUITY (%)			8.65	
AVERAGE CAP. DEBT INTEREST RATE (%)			3.90	

**Southern Alberta
2015 Dairy Cost Study - Business Analysis
33 Participants**

Table 2 Statement of Investment

LAND BUILDINGS & EQUIPMENT

	AGE	DEPRECIATION	DAIRY INVESTMENT
DAIRY BUILDINGS	14.35	49,391.74	1,248,151.73
POWER MACHINERY	7.70	26,767.33	180,149.89
DAIRY EQUIPMENT	12.29	26,913.25	101,888.30
OTHER EQUIPMENT	9.41	15,925.16	67,907.85
TOTAL EQUIPMENT	9.39	69,605.73	349,946.05
LAND			153,951.61
SUPPLIES			13,839.06
** SUBTOTAL **		118,997.47	1,765,888.44

DAIRY LIVESTOCK

	--- BEGIN YEAR ---		--- END OF YEAR ---		AVERAGE VALUE
	NUMBER	VALUE	NUMBER	VALUE	
COWS	141.91	309,756.25	148.24	323,580.52	316,668.38
BRED HEIFERS	47.73	95,454.55	48.33	96,666.67	96,060.61
OPEN HEIFERS	55.52	83,272.73	56.48	84,727.27	84,000.00
HEIFER CALVES	32.70	8,174.24	30.91	7,727.27	7,950.76
BULL CALVES	5.79	1,446.97	5.76	1,439.39	1,443.18
BULLS	2.12	3,181.82	2.00	3,000.00	3,090.91
** SUBTOTAL **	285.76	501,286.55	291.73	517,141.12	509,213.84

TOTAL DAIRY INVESTMENT	2,275,102.28
CAPITAL LOANS	424,795.65
OPERATOR EQUITY	1,850,306.62
INVESTMENT PER COW	15,617.47
DEBT/CAPITAL RATIO	.19
CAPITAL TURNOVER (YR)	1.83

HERD SIZE

	Average	Median
NUMBER OF DAIRY COWS	145.68	131.42
NUMBER OF ANIMAL UNITS	229.78	217.50
DRY COWS (%)	16.89	
CALF CROP (%)	103.45	
PASTURE PER COW (AC.)	.27	

CATTLE SALES & PURCHASES

	NUMBER SOLD	SELLING PRICE	NUMBER PURCHASED	PURCHASE PRICE
COWS	44.15	1,624.37	1.67	2,568.18
BRED HEIFERS	2.76	2,299.76	.06	2,400.00
OPEN HEIFERS	.15	1,298.20	.09	2,833.33
HEIFER CALVES	.82	459.33	.00	.00
BULL CALVES	43.24	340.17	.00	.00
BULLS	.97	2,393.63	.91	3,306.27
TOTAL VALUE		95,663.52		7,689.03

**Southern Alberta
2015 Dairy Cost Study - Business Analysis
33 Participants
Table 3 Labour and Management**

LABOUR

	HOURS	VALUE	HOURLY RATE
OPERATOR LABOUR	3,294.55	72,480.00	22.00
HIRED LABOUR	1,806.63	41,094.56	22.75
FAMILY UNPAID LABOUR	2,155.32	45,327.33	21.03
TOTAL	7,256.49	158,901.89	21.90
RETURN TO FAMILY LABOUR	13.63		
MAN EQUIVALENTS	2.90		
LABOUR HOURS PER COW	49.81		
YEARS FARMING	24.24		

MILK PRODUCTION

	HL.	% OF TOTAL	VALUE	AVERAGE PRICE / HL
MILK SALES	14,004.85	97.26	1,126,829.77	80.46
OTHER MILK PRODUCED	394.92	2.74		
TOTAL	14,399.77	100.00		

AVERAGE COMPONENT PRICES (\$ / KG)

BUTTERFAT TEST	4.03 KG / HL	11.30
PROTEIN	3.30 KG / HL	4.34
L.O.S.	5.72 KG / HL	3.52
MILK PRODUCTION PER COW	9,884.74 LITRES / YEAR	

QUOTA INFORMATION

TPQ HOLDINGS	144.38 KG / DAY
TPQ PRICE	36,906.71 \$ / KG / DAY
CREDIT PRICE	8.34 \$ / KG

MANAGEMENT FACTORS

COST PER HL	77.12
MILK/FEED (KG) RATIO	2.17 LITRES
MILK/LABOUR (HR) RATIO	198.44 LITRES
MILK/CAPITAL (\$) RATIO	.63 LITRES

**Southern Alberta
2015 Dairy Cost Study - Business Analysis
33 Participants
Table 4 Feed Report**

	-- PURCHASED --		-- HOMEGROWN--	
<u>CONCENTRATES</u>	QUANTITY (TONNES)	PRICE	QUANTITY (TONNES)	PRICE
OATS	5.88	154.35	2.02	186.61
BARLEY	44.79	196.02	127.95	203.47
WHEAT	.00	.00	.00	219.18
MIXED GRAIN	.00	.00	.00	.00
BREW GRAIN (DRY EQ.)	12.23	171.57		
BEET PULP	4.38	266.41		
OTHER PURCHASED	53.40	323.66		
DAIRY RATION	255.77	551.41		
CALF FEED	22.71	515.32		
MILK REPLACER	1.76	3,387.20		
SUPPLEMENT	116.50	582.63		
MOLASSES	4.94	322.60		
SALT	1.33	371.28		
MINERALS & VITAMINS	10.78	1,024.12		
SUBTOTAL -----	534.47	269,950.32	129.97	26,409.94
<u>ROUGHAGE</u>				
ALFALFA HAY	149.15	173.52	190.04	218.60
ALFALFA PELLETS	.00	.00		
STRAW FED	2.50	50.29	17.41	70.18
GREENFEED	.27	135.00	2.22	153.51
SILAGE/HAYLAGE (DRY EQ.)	161.85	132.12	544.67	197.32
SUBTOTAL -----	313.77	47,426.69	754.34	150,580.29
GRINDING & PROCESSING		147.64		
GRAND TOTAL FEED COSTS -----		317,524.64		176,990.23
BEDDING	174.23	60.50	57.14	70.02
AV. PRICE:	CONCENTRATE	446.03 \$/TONNE		
	ROUGHAGE	185.38 \$/TONNE		
FED PER COW:	CONCENTRATE	4.56 TONNES		
	ROUGHAGE	7.33 TONNES		
% HOME GROWN:	CONCENTRATE	19.56 %		
	ROUGHAGE	70.62 %		

APPENDIX D

Dairy Cost Study Alberta 5 Year Average (2011-2015)

**Alberta Dairy Cost Study
Business Analysis (2011 - 2015)
Average 51 Participants**

Table 1 Dairy Enterprise Costs and Returns

	TOTAL ENTERPRISE	PER COW	PER HL SOLD	PERCENT FROM INCOME
INCOME:				
MILK SALES	973,354.08	7,062.29	80.50	
POOL ADJUSTMENTS (+ -)	3,173.12	22.59	.26	
MISCELLANEOUS RECEIPTS	5,926.42	43.15	.49	
NET CATTLE SALES (+ -)	49,750.81	356.46	4.03	
NET INVENTORY CHANGE (+ -)	15,186.33	110.11	1.25	
GROSS INCOME -----	1,047,390.76	7,594.61	86.54	100.00
EXPENSES:				
GRAIN	53,325.44	386.49	4.41	
COMPLETE FEED	140,704.81	1,021.99	11.67	
SUPPLEMENT	46,053.05	332.63	3.78	
MINERALS & VITAMINS	9,330.07	67.65	.77	
ROUGHAGE	131,630.29	949.98	10.79	
PROCESSING COSTS	2,522.85	18.29	.21	
TOTAL FEED COSTS -----	383,566.51	2,777.02	31.62	36.52
BEDDING AND SUPPLIES	32,768.48	237.37	2.70	
BREEDING	11,678.06	84.72	.97	
VET. AND MEDICINE	21,687.82	157.33	1.79	
MILK HAULING	36,655.82	265.45	3.02	
PRODUCER'S FEES	24,474.57	177.34	2.02	
UTILITIES	20,982.03	152.35	1.74	
FUEL, OIL, LUBE	17,269.09	125.50	1.43	
BLDG. & MACH. REPAIRS	28,233.46	204.67	2.33	
MISCELLANEOUS	37,527.00	272.39	3.10	
TOTAL OTHER VARIABLE COSTS ----	231,276.32	1,677.12	19.10	22.07
HIRED LABOUR	40,304.35	292.62	3.34	
FAMILY LABOUR	110,859.97	804.53	9.18	
TOTAL LABOUR COSTS -----	151,164.32	1,097.15	12.52	14.47
TOTAL VARIABLE COSTS	766,007.15	5,551.29	63.24	73.06
RENT	2,198.27	15.78	.18	
TAXES AND INSURANCE	19,389.01	140.52	1.60	
DEPRECIATION	104,408.58	757.23	8.63	
INTEREST (CAP.DEBT)	23,417.53	170.58	1.95	
TOTAL CAPITAL COSTS -----	149,413.40	1,084.12	12.37	14.30
TOTAL PRODUCTION COSTS	915,420.54	6,635.41	75.61	87.35
CONTRIBUTION MARGIN (\$)	281,383.62	2,043.32	23.29	
RETURN TO EQUITY (\$)	131,970.22	959.20	10.93	12.65
MILK PRICE			80.76	
INVENTORY ADJUSTMENT			5.77	
RETURN TO EQUITY (%)			9.72	
AVERAGE CAP. DEBT INTEREST RATE (%)			4.36	

**Alberta Dairy Cost Study
Business Analysis (2011 - 2015)
Average 51 Participants
Table 2 Statement of Investment**

LAND BUILDINGS & EQUIPMENT

	AGE	DEPRECIATION	DAIRY INVESTMENT
DAIRY BUILDINGS	12.12	43,972.16	1,092,246.79
POWER MACHINERY	8.01	21,643.16	144,952.60
DAIRY EQUIPMENT	11.05	25,359.09	101,119.19
OTHER EQUIPMENT	8.54	13,434.18	59,158.75
TOTAL EQUIPMENT	9.08	60,436.42	305,230.55
LAND			105,521.10
SUPPLIES			15,292.78
** SUBTOTAL **		104,408.58	1,518,291.21

DAIRY LIVESTOCK

	-- BEGIN YEAR --		-- END OF YEAR --		AVERAGE VALUE
	NUMBER	VALUE	NUMBER	VALUE	
COWS	136.47	264,477.64	141.36	274,180.57	269,329.11
BRED HEIFERS	39.38	68,167.18	41.12	274,180.57	69,691.49
OPEN HEIFERS	48.60	54,299.11	51.18	274,180.57	55,500.53
HEIFER CALVES	40.63	8,565.55	41.55	274,180.57	8,641.13
BULL CALVES	7.63	834.36	6.89	274,180.57	837.45
BULLS	1.65	2,476.56	1.57	274,180.57	2,413.86
** SUBTOTAL **	274.36	398,820.41	283.66	274,180.57	406,413.57

TOTAL DAIRY INVESTMENT	1,924,704.78
CAPITAL LOANS	536,169.88
OPERATOR EQUITY	1,388,534.90
INVESTMENT PER COW	13,945.15
DEBT/CAPITAL RATIO	.28
CAPITAL TURNOVER (YR)	1.83

HERD SIZE

	Average	Median
NUMBER OF DAIRY COWS	137.71	117.94
NUMBER OF ANIMAL UNITS	216.96	182.11
DRY COWS (%)	19.93	
CALF CROP (%)	103.99	
PASTURE PER COW (AC.)	.28	

CATTLE SALES & PURCHASES

	NUMBER SOLD	SELLING PRICE	NUMBER PURCHASED	PURCHASE PRICE
COWS	39.97	1,159.47	2.06	2,163.09
BRED HEIFERS	1.09	1,635.99	1.03	1,924.73
OPEN HEIFERS	1.01	1,344.99	.17	1,880.58
HEIFER CALVES	.74	293.65	.04	124.00
BULL CALVES	39.72	155.43	.00	.00
BULLS	1.00	1,760.28	.87	2,811.39
TOTAL VALUE		58,701.40		8,950.60

**Alberta Dairy Cost Study
Business Analysis (2011 - 2015)
Average 51 Participants
Table 3 Labour and Management**

<u>LABOUR</u>				
	HOURS	VALUE	HOURLY RATE	
OPERATOR LABOUR	2,980.13	64,056.71	21.50	
HIRED LABOUR	1,885.86	40,304.35	21.37	
FAMILY UNPAID LABOUR	2,226.95	46,803.26	20.96	
TOTAL	7,092.93	151,164.32	21.29	
RETURN TO FAMILY LABOUR	17.49			
MAN EQUIVALENTS	2.84			
LABOUR HOURS PER COW	51.51			
YEARS FARMING	23.26			
<u>MILK PRODUCTION</u>				
	HL.	% OF TOTAL	VALUE	AVERAGE PRICE / HL
MILK SALES	12,089.06	96.88	973,354.08	80.50
OTHER MILK PRODUCED	388.23	3.12		
TOTAL	12,477.47	100.00		
AVERAGE COMPONENT PRICES (\$ / KG)				
BUTTERFAT TEST	3.95 KG / HL		11.45	
PROTEIN	3.30 KG / HL		4.28	
L.O.S.	5.70 KG / HL		3.71	
MILK PRODUCTION PER COW	9,054.52 LITRES / YEAR			
<u>QUOTA INFORMATION</u>				
TPQ HOLDINGS	124.35 KG / DAY			
TPQ PRICE	37,201.91 \$ / KG / DAY			
CREDIT PRICE	8.37 \$ / KG			
<u>MANAGEMENT FACTORS</u>				
COST PER HL	75.61			
MILK/FEED (KG) RATIO	2.09 LITRES			
MILK/LABOUR (HR) RATIO	175.81 LITRES			
MILK/CAPITAL (\$) RATIO	.65 LITRES			

**Alberta Dairy Cost Study
Business Analysis (2011 - 2015)
Average 51 Participants
Table 4 Feed Report**

	-- PURCHASED --		-- HOMEGROWN--	
<u>CONCENTRATES</u>	QUANTITY (TONNES)	PRICE	QUANTITY (TONNES)	PRICE
OATS	2.24	132.70	3.27	184.16
BARLEY	67.67	196.91	107.70	203.74
WHEAT	.37	81.20	2.33	222.03
MIXED GRAIN	.07	57.60	.00	.00
BREW GRAIN (DRY EQ.)	11.89	179.64		
BEET PULP	5.42	198.31		
OTHER PURCHASED	39.97	350.28		
DAIRY RATION	243.42	526.72		
CALF FEED	18.79	505.42		
MILK REPLACER	.94	3,368.73		
SUPPLEMENT	81.09	555.12		
MOLASSES	3.04	300.91		
SALT	1.03	446.55		
MINERALS & VITAMINS	8.54	1,038.83		
SUBTOTAL -----	484.45	226,348.56	113.30	23,064.81
 <u>ROUGHAGE</u>				
ALFALFA HAY	133.89	138.65	155.35	141.88
ALFALFA PELLETS	.00	.00		
STRAW FED	3.86	56.97	17.36	56.07
GREENFEED	.24	33.68	3.95	101.72
SILAGE/HAYLAGE (DRY EQ.)	190.90	123.65	511.56	127.80
SUBTOTAL -----	328.68	42,453.69	688.22	89,176.60
GRINDING & PROCESSING		2,522.85		
GRAND TOTAL FEED COSTS -----		271,325.10		112,241.41
 BEDDING	 142.59	 61.84	 67.48	 52.60
 AV. PRICE:	CONCENTRATE	417.26 \$/TONNE		
	ROUGHAGE	128.55 \$/TONNE		
 FED PER COW:	CONCENTRATE	4.34 TONNES		
	ROUGHAGE	7.39 TONNES		
 % HOME GROWN:	CONCENTRATE	18.93 %		
	ROUGHAGE	67.73 %		

APPENDIX E

2015 Dairy Cost Study

Individual Results

(49 Participants)

Dairy Cost Study 2015

Individual Results (49 Participants)

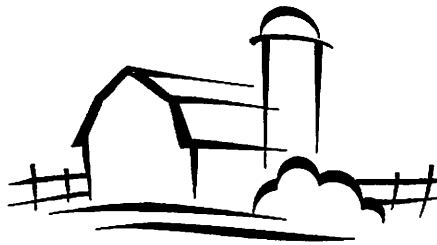
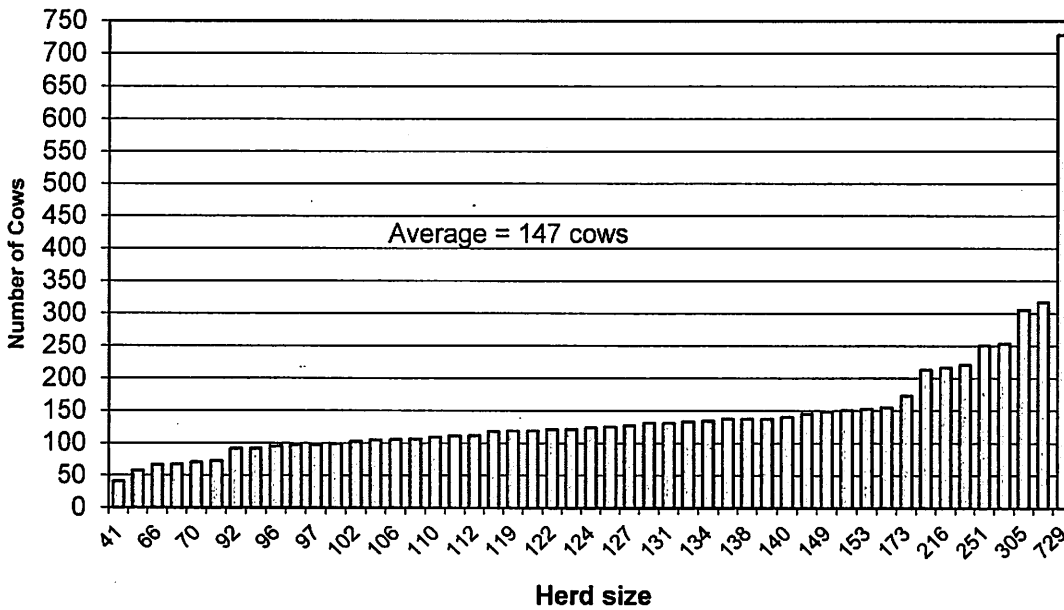
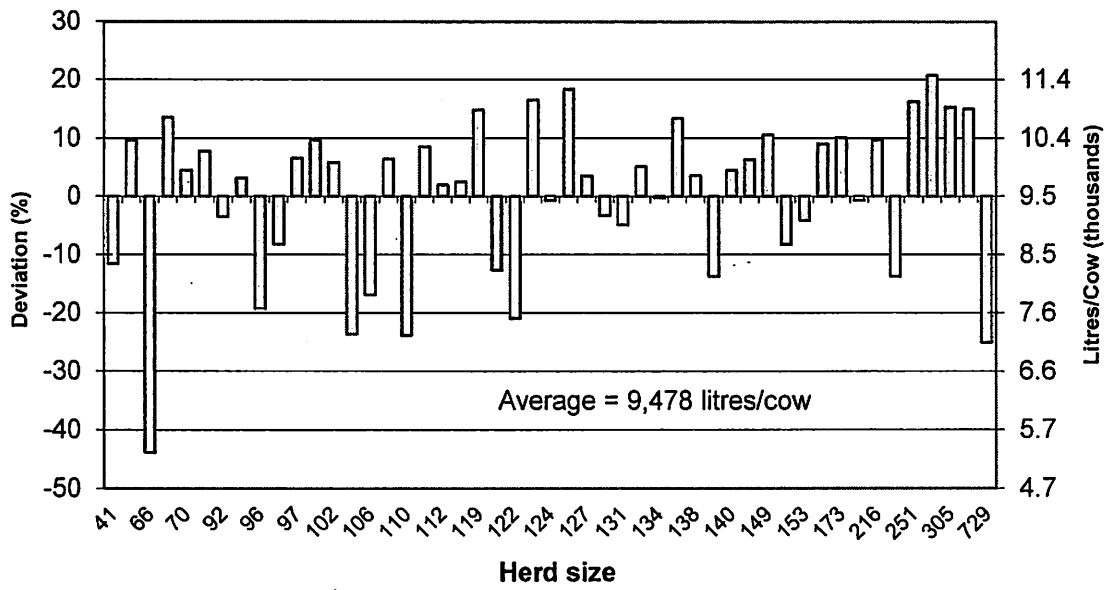


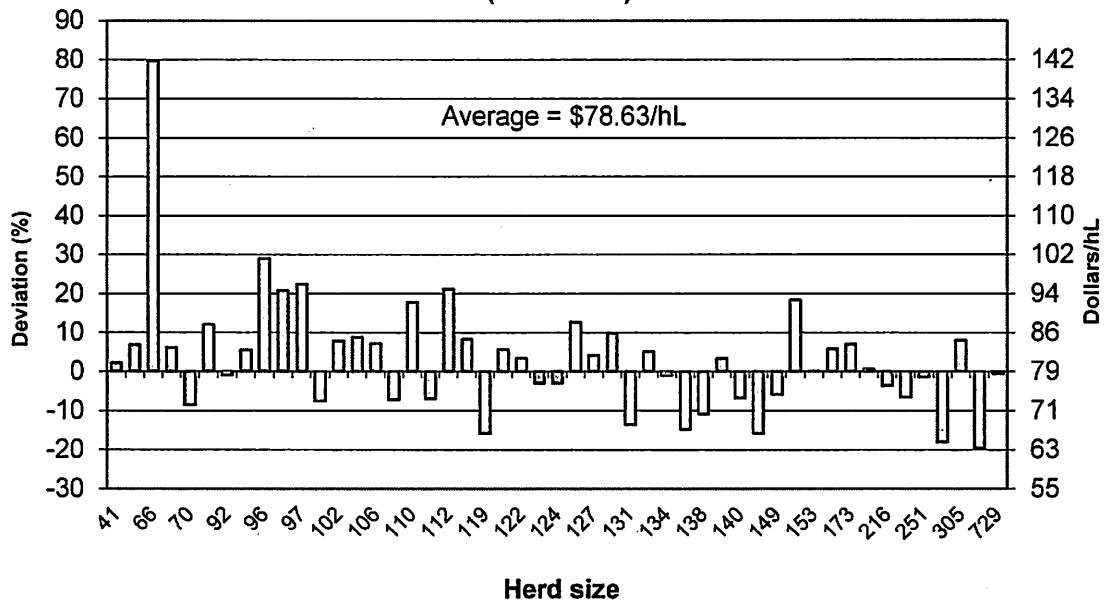
Figure 1 - Herd Size



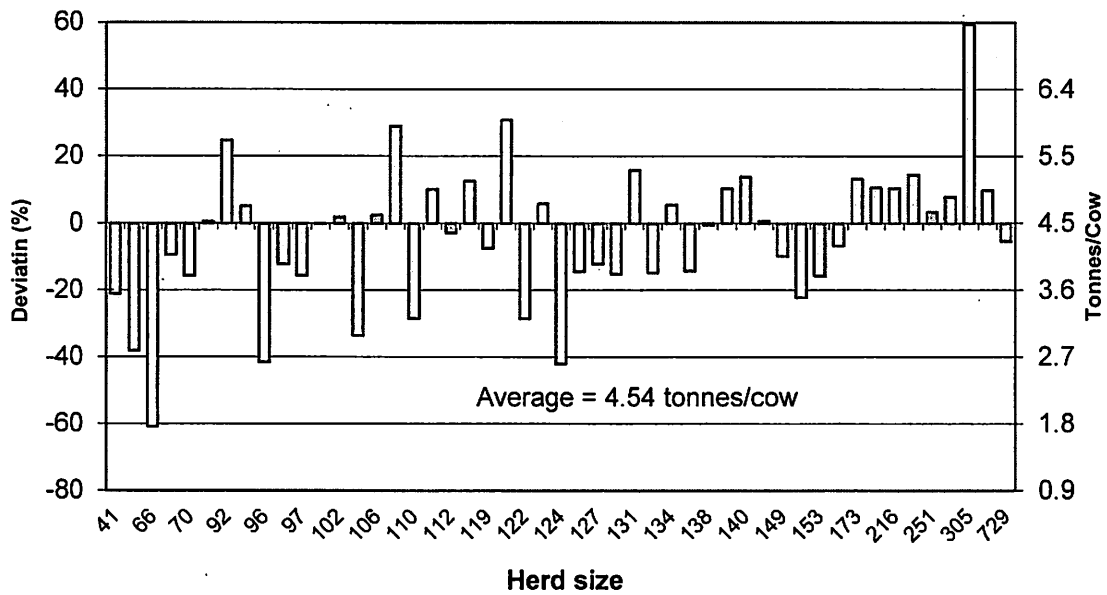
**Figure 2 - Milk Production
(Litres/Cow)**



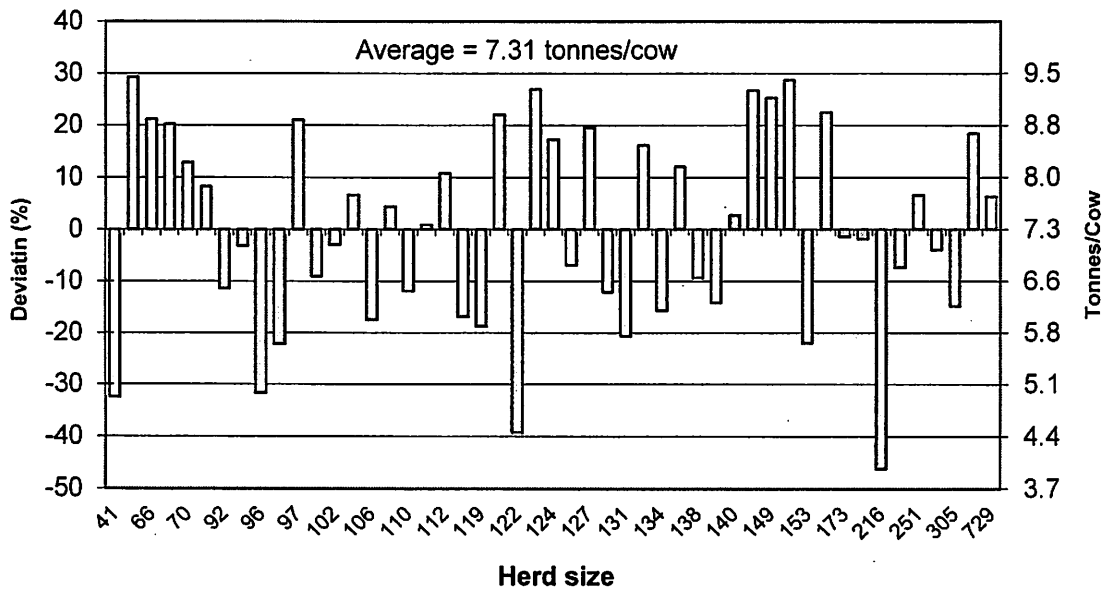
**Figure 3 - Cost of Production
(Dollars/hL)-**



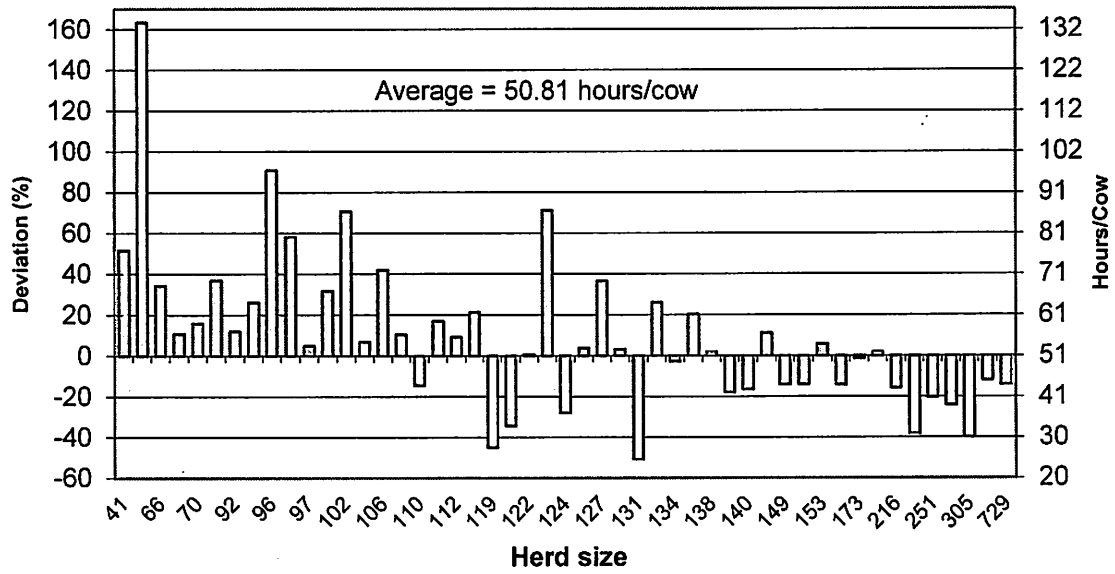
**Figure 4 - Concentrate Use
(Tonnes/Cow)**



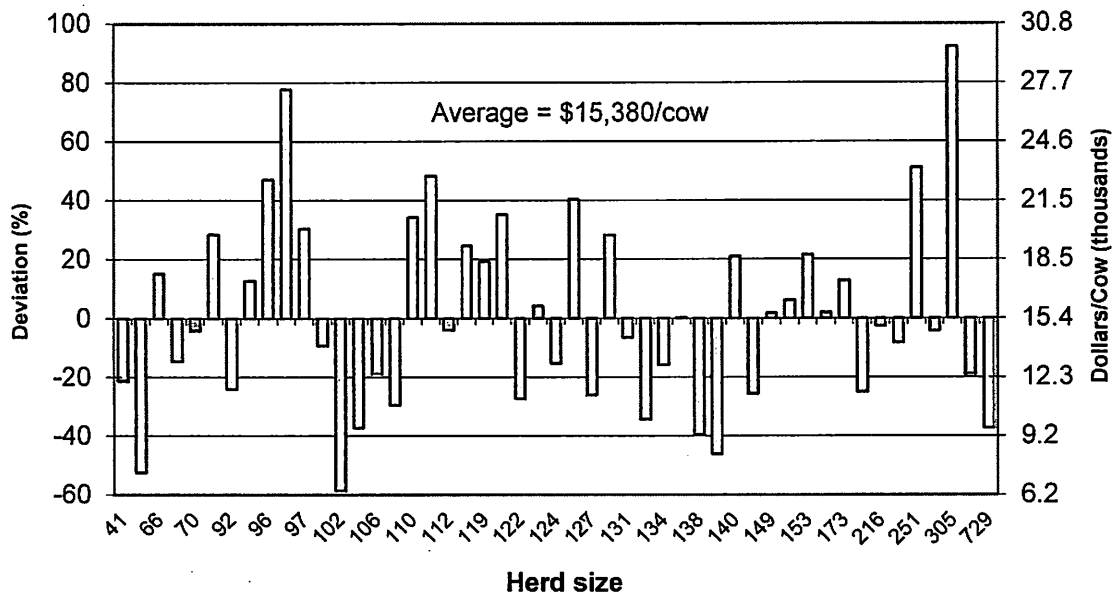
**Figure 5 - Roughage Use
(Tonnes/Cow)**



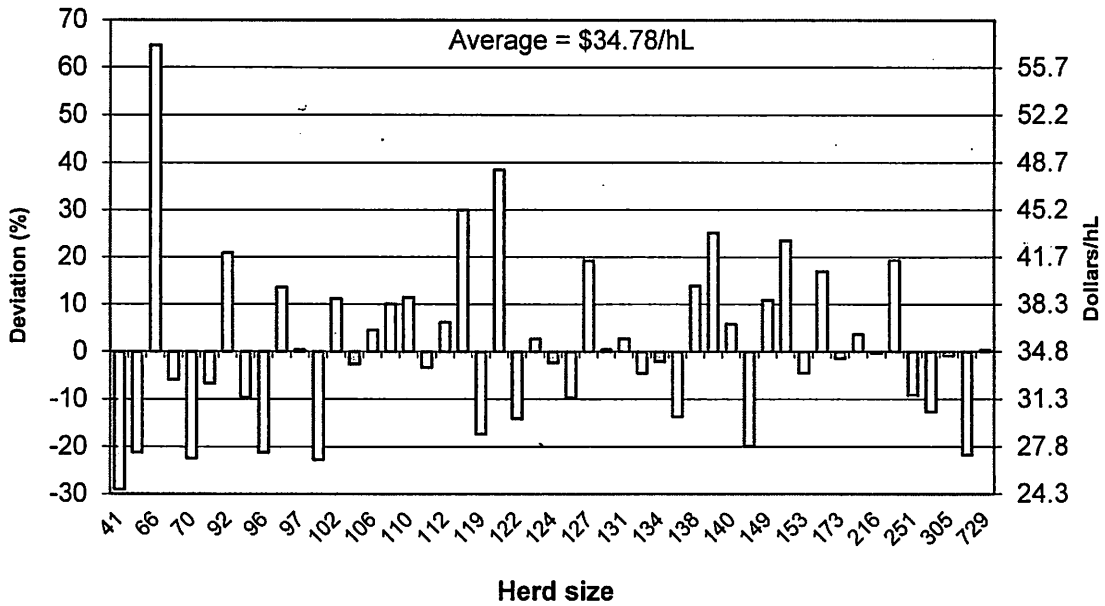
**Figure 6 - Labour Use
(Hours/Cow)**



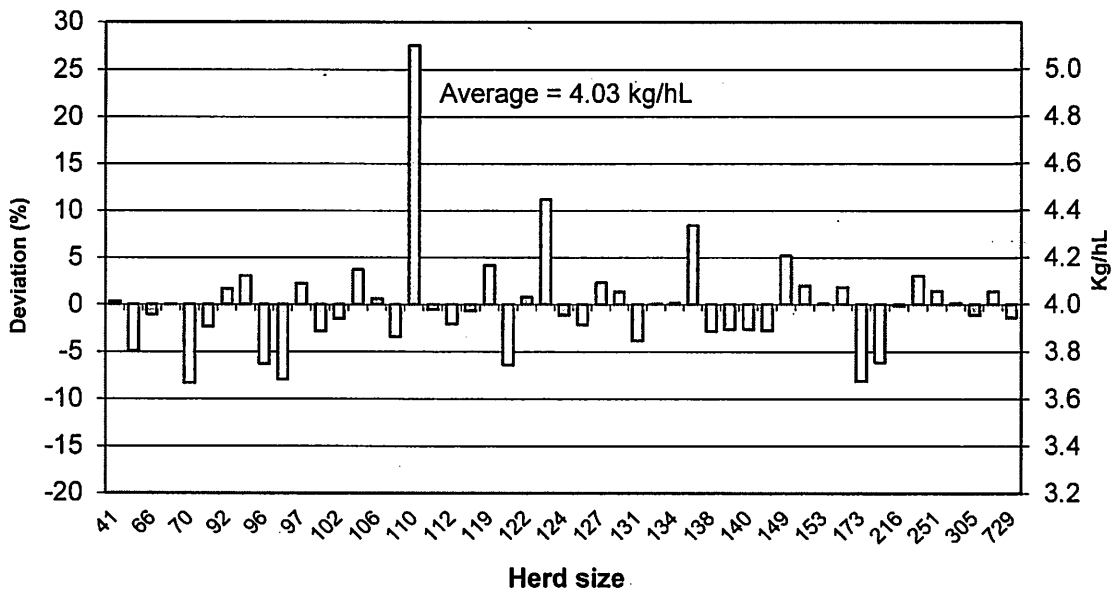
**Figure 7 - Investment
(Dollars/Cow)**



**Figure 8 - Total Feed Cost
(Dollars/hL)**



**Figure 9 - Butterfat Test
(Kg/hL)**



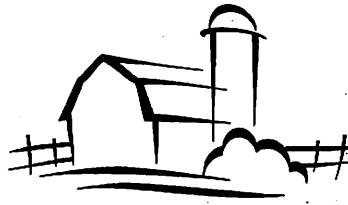
APPENDIX F

2015 Dairy Cost Study Data Collection Forms

DAIRY COST STUDY, 2015

Investments and Liabilities

Confidential



General Information

Contact Name:	TPQ Holdings kg/day: (January 2015)	
E-Mail:	Number of Years in Dairy	
Fax:		

Land Information

	Total Acres	\$ per Acre	% to Dairy	% to Other Farm
Building Site				
Pasture				
Crop / Hay Land				

Farm Loans

		Balance: Jan. 1, 2015	Interest Rate	% to Dairy	% to Other Farm
1	Land:				
1					
2	Building:				
2					
3	Livestock:				
3					
4	Machinery:				
4					
5	Other:				

Notice of Collection:

The personal information, on this form, is being collected for the purpose of conducting research on the costs and returns of agricultural production in Alberta. The collection is under the authority of section 33 of the *Freedom of Information and Protection of Privacy (FOIP) Act* and is subject to the provisions of the Act. Only aggregated, non-identifying, information will be published and made available to the general public or organizations for research purposes.

If you have any questions about the collection or use of the information, please contact the Director, Economics Branch, Alberta Agriculture and Rural Development, #303, 7000 - 113 Street, Edmonton, Alberta, T6H 5T6 or phone: 780-422-3771

DAIRY COST STUDY, 2015

Name: _____

Supplies Inventory, Machinery and Buildings, January 1, 2015

Supplies Inventory		Value: Jan. 1, 2015	% to Dairy	% to Other Farm
1	Gas, Oil & Grease			
2	Vet., Semen, Etc			
3	Bedding			
4	Dairy Livestock Supplies (ie. pails)			
5	Rations & Supplements			
6	Other Supplies (ie. filters, soaps, etc.)			

Buildings Used for Dairy:		Purchased Price	Year Purchased	% to Dairy	% to Other Farm
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					

Examples: barns, machine shed, hay sheds, bunkers, shop, calf hutches, corrals

Tractors & Trucks Used for Dairy:					
2					
2					
2					
2					
2					
2					
2					
2					

If you have any questions, please call Pauline Van Biert at 780-415-2153, toll free by first dialing 310-0000



Dairy Equipment:

3					
3					
3					
3					
3					
3					
3					
3					
3					
3					

Examples: bulk tank, pipeline, milk meters, washer, vacuum pump, generator, buckets

Other Equipment Used for Dairy:		Purchased Price	Year Purchased	% to Dairy	% to Other Farm
4					
4					
4					
4					
4					
4					
4					
4					
4					
4					
4					
4					
4					
4					
4					
4					

Examples: manure spreader, barn cleaner, manure pump, cattle trailer, quad, bale feeders, silo unloader, scraper, feed mixers, sawdust blowers, semen tank, fences, fans, crowd gate, small tools (table saw, drill press, welder, power tools), fuel tanks, wheel barrows, computer feeding system, home computer

DAIRY COST STUDY, 2015

Monthly Reporting Sheet

Confidential



Name: _____

Month: _____

If you have any questions, please call Pauline Van Biert at 780-415-2153, toll free by first dialing 310-0000

Dairy Herd	Beginning No.	Purchases		No. Born	Died or Trans/Out	Sales		End No.
		No.	Total Value			No.	Total Value	
1. Milking Cows								
2. Dry Cows								
3. Bred Heifers								
4. Open Heifers								
5. Heifer Calves								
6. Bull Calves*								
7. Herd Bulls								

*less than 6 months

Capital Purchases			Total Value (\$)	% to Dairy	% to Other Farm
Specify					
1. Equipment	Purchases:				
2.	Sales:				
3. Tractor/Truck	Purchases:				
4.	Sales:				
5. Buildings	Purchases/Const:				
6.	Sales:				
13. TPQ	Purchased:	(kgs/day)			
14.	Sold:	(kgs/day)			
16. Credit Transfers		(\$/kg)			

Milk Produced / Sold *	Litres	Total \$ Value
2. Milk Fed To Livestock		
3. Milk Used in the Home		
4. Unuseable Milk (dumped)		
5. Miscellaneous Dairy Income (i.e. colostrum sales, BSE pmts.)		

* All Plant Sales will be recorded from Milk Statement provided by Alberta Milk

FEED Used by Dairy Herd		Office Use	Unit Type*	Bale Weight	Amount Used	Unit Price (if purchased)	Ca	Office Use	Unit Type *	Amount Used	Unit Price
1	Barley						21	Dairy Ration			
2	Oats						22	Supplement			
3	Wheat						23	Brew Grain			
5	Hay (homegrown)						24	Beet Pulp			
6	Hay (purchased)						25	Alfalfa Pellets			
7	Silage						26	Calf Feed			
8	Haylage						27	Milk Replacer			
9	Greenfeed						28	Salt			
10	Straw - Fed						29	Min. & Vit.			
11	Straw-Bedding										
11	Sawdust										
12	Other:						31	Grinding & Processing			

* T = Imperial Ton, t = Metric tonne, bu = bushels, kg = kilograms, ba = bales (please provide bale weight), bags (20 or 25 kg)



LABOUR for Dairy Activities *

LABOUR for Dairy Activities *			Total Hours	
1	Operator			
2	Wife, Partner, 2nd Operator			
3	Family Labour	16 yrs and Over		
4		Under 16		Wages & Board
5	Hired Labour	1		
5		2		

* do not include hours doing fieldwork

EXPENSES

EXPENSES		Total Farm (\$)	% to Dairy	% Other Farm
1	Veterinary and Medicine			
1	Breeding			
2	Livestock & Barn Supplies			
3	Building & Fence Repair			
4	Machinery & Equipment Repair			
5	Fuel, Oil, Lube (for equipment, not heating)			
13	Natural Gas			
14	Electricity			
15	Other Utilities (phone, propane, heating oil, etc.)			
7	Insurance, Licences & Taxes			
8	Cash Rental (pasture, equipment, leases, etc.)			
9	Operating Loan Interest			
10	Custom Work (i.e. manure hauling, parlour cleaning)			
11	Silage Bags (hay tarps, plastic, etc.)			
12	Misc. (legal, acct, D.H.I., hooftrimming, etc)			

Confidential when Completed