

# AgriProfit\$

2015 - 2019

Economic, Productive and Financial  
Performance of Alberta Cow/Calf Operations



AgriProfit\$ Business Analysis and Research Program

DECEMBER 2020

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# Overview

This report presents the multi-year business performance of Alberta's cow/calf producers participating in the AgriProfit\$ Business Analysis Program. The research was undertaken by Alberta Agriculture and Forestry with the cooperation of producers across the province. The AgriProfit\$ Program provides participating producers with cost of production (COP) analysis and benchmark reports based on actual farm records. Participating cow/calf producers received customized business analyses of their operations for comparison to this multi-year benchmark report.

Benchmarking allows comparisons of COP based on production practices and marketing strategies and can help drive efficiency and financial performance. The information helps improve decisions about what, when and how much to sell. The benchmarking process has two key time perspectives. The first is an historical analysis, involving comparisons over time. The second is a within-the-year comparison, focusing on how operations performed, responded to, or weathered the challenges they faced. The AgriProfit\$ Program is free, and individual participant's information remains confidential. This report presents the aggregated results and consists of a series of tables and figures with average historic provincial data showing the sales, production costs, and selected production and financial indicators for the past five years.

The value of the cost of production analysis is not in the figures themselves, but in better understanding of the farm business in order to pinpoint areas for improvement. Profitability can vary widely from year to year, but keeping thorough records of costs and returns can help control profitability. Each year is different and dependent on the relationships between yield, price and costs, as well as the producers' financial situation. Proactive cost management makes businesses better able to weather periods of fluctuation.

The following cow/calf benchmarks summarize all sources of income and expenses related to cow/calf enterprises and covers all those activities to produce and raise calves until weaning in a given fiscal year. The main sources of income for the cow/calf enterprise are sales of weaned calves, cull cows, heifers, and bulls. The main expenses are winter feeding and grazing cost, veterinary services, maintaining and replacement of buildings and machinery, as well as paid and unpaid labour, among others.

Economic performance indicators are presented in the form of dollars per unit of production (dollars per pound weaned and dollars per cow wintered). Physical performance indicators are presented based breeding and feeding information, as well as other physical measures such as conception, calving, weaning and calf crop rates and pounds weaned per cow (exposed and wintered). The financial performance indicators provide a snapshot of the sector's liquidity (ability to meet financial obligations as they come due); solvency (ability to meet long-term financial obligations); and profitability (the returns generated by the cow/calf business).

Finally, a glossary is also included providing definitions of the terms and performance indicators used in the following tables with a view to assist in interpretation of results.

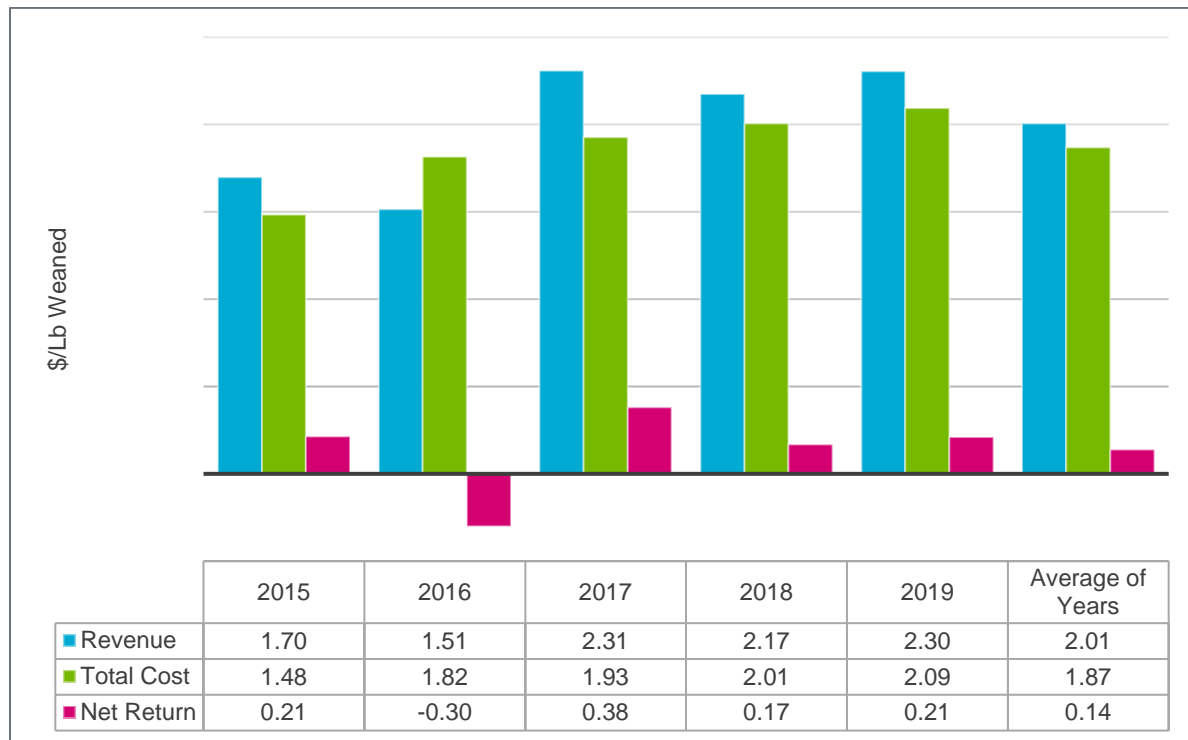
Table 1: Economic Performance Indicators (\$/Lb Weaned)

	2015	2016	2017	2018	2019	Average of Years
Average Farm Size (wintered cows)	190	167	161	214	211	190
<b>(A) 1. Weaned Calves</b>	2.53	1.85	2.02	2.09	2.11	2.13
6. Cull Cows/Open Heifers	0.51	0.39	0.31	0.36	0.37	0.39
7. Bulls	0.06	0.05	0.07	0.05	0.06	0.06
8. Bred Cows/Bred Heifers	0.04	0.11	0.14	0.11	0.12	0.10
9. Miscellaneous Receipts	0.00	0.05	0.01	0.04	0.02	0.03
10 Government Programs	0.01	0.02	0.04	0.01	0.01	0.02
11 Inventory Adjustment	0.03	-0.16	0.35	0.33	0.16	0.14
12 Less: Cattle Purchases	1.48	0.79	0.64	0.81	0.55	0.86
<b>Value of Production</b>	<b>1.70</b>	<b>1.51</b>	<b>2.31</b>	<b>2.17</b>	<b>2.30</b>	<b>2.01</b>
<b>(B) 1. Winter Feed</b>	0.57	0.74	0.71	0.70	0.80	0.71
2. Bedding	0.03	0.04	0.05	0.03	0.03	0.03
3. Pasture	0.43	0.46	0.52	0.59	0.61	0.53
4. Veterinary & Medicine	0.05	0.06	0.08	0.07	0.07	0.06
5. Breeding Fees/Bull Rental	0.01	0.00	0.00	0.01	0.01	0.00
6. Trucking & Marketing Charges	0.04	0.03	0.03	0.04	0.02	0.03
7. Fuel	0.03	0.04	0.04	0.05	0.04	0.04
8. Repairs - Machine	0.02	0.04	0.04	0.03	0.04	0.03
9. Repairs - Corrals & Buildings	0.02	0.02	0.05	0.03	0.02	0.03
10 Utilities & Miscellaneous Expenses	0.05	0.07	0.06	0.06	0.08	0.07
11 Custom Work & Specialized Labour	0.01	0.00	0.01	0.02	0.01	0.01
12 Operating Interest Paid	0.01	0.01	0.01	0.02	0.02	0.01
13 Paid Labour & Benefits	0.03	0.04	0.04	0.03	0.04	0.04
14 Unpaid Labour	0.07	0.10	0.12	0.12	0.13	0.11
<b>Variable Costs</b>	<b>1.37</b>	<b>1.64</b>	<b>1.75</b>	<b>1.80</b>	<b>1.93</b>	<b>1.70</b>
<b>(C) 1. Share/Lease Cattle Payments</b>	0.01	0.00	0.01	0.01	0.01	0.01
2. Taxes, Water Rates, Lic. & Insurance	0.02	0.02	0.03	0.03	0.02	0.03
3. a) Equipment & Building Depreciation	0.09	0.13	0.12	0.12	0.11	0.11
b) Lease Payments	0.00	0.01	0.00	0.00	0.01	0.01
4. Paid Capital Interest	0.01	0.01	0.01	0.04	0.01	0.02
<b>Total Capital Costs</b>	<b>0.12</b>	<b>0.17</b>	<b>0.17</b>	<b>0.21</b>	<b>0.16</b>	<b>0.17</b>
<b>(D) Cash Costs (B+C-B14-C3a)</b>	<b>1.33</b>	<b>1.59</b>	<b>1.69</b>	<b>1.76</b>	<b>1.85</b>	<b>1.65</b>
<b>(E) Total Production Costs (B+C)</b>	<b>1.48</b>	<b>1.82</b>	<b>1.93</b>	<b>2.01</b>	<b>2.09</b>	<b>1.87</b>
<b>(F) Gross Margin (A-D)</b>	<b>0.37</b>	<b>-0.08</b>	<b>0.62</b>	<b>0.41</b>	<b>0.45</b>	<b>0.36</b>
<b>Return to Unpaid Labour (A-E+B14)</b>	<b>0.28</b>	<b>-0.20</b>	<b>0.50</b>	<b>0.29</b>	<b>0.34</b>	<b>0.25</b>
<b>Return to Investment (A-E+C4)</b>	<b>0.22</b>	<b>-0.29</b>	<b>0.39</b>	<b>0.21</b>	<b>0.22</b>	<b>0.16</b>
<b>Net Return (A-E)</b>	<b>0.21</b>	<b>-0.30</b>	<b>0.38</b>	<b>0.17</b>	<b>0.21</b>	<b>0.14</b>

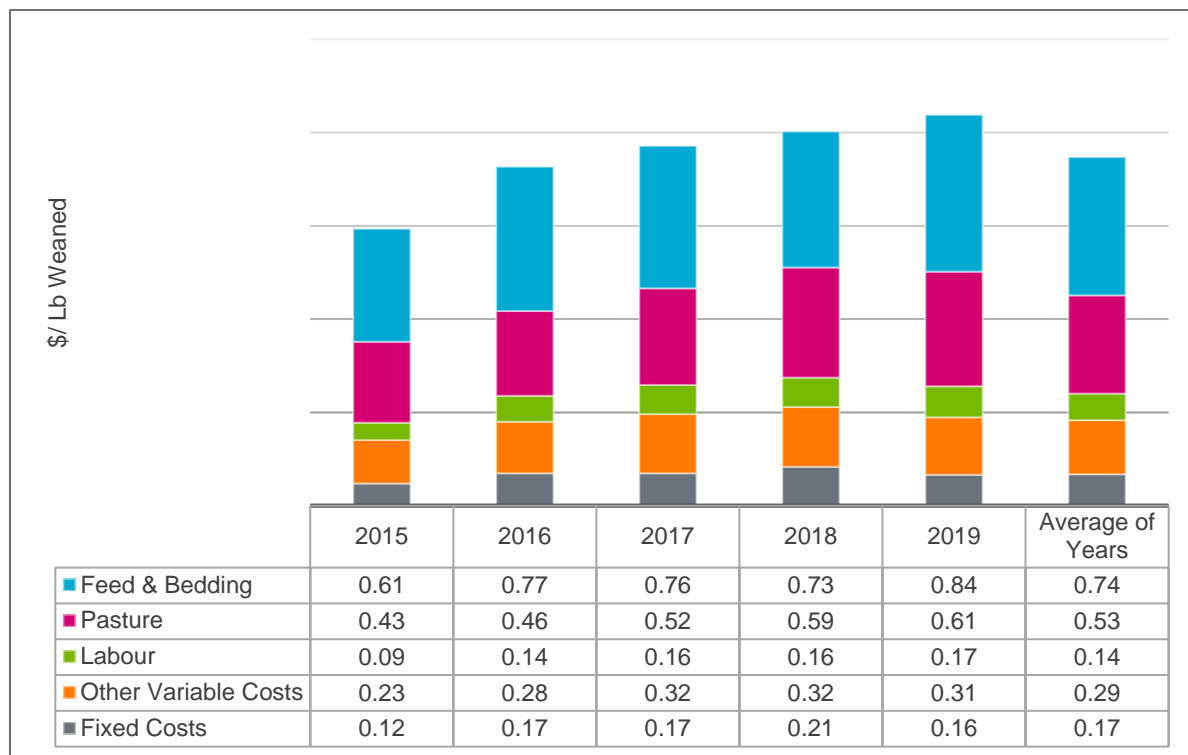
## Table 2. Economic Performance Indicators (\$/Cow Wintered)

	2015	2016	2017	2018	2019	Average of Years
Average Farm Size (wintered cows)	190	167	161	214	211	190
	<b>\$/Cow Wintered</b>					
<b>(A)</b> 1. Weaned Calves	1,350.33	977.86	1,057.17	1,016.57	1,083.54	1,083.69
2. Cull Cows/Open Heifers	272.13	204.95	163.60	176.44	192.25	196.81
3. Bulls	32.47	29.12	37.79	22.53	33.05	30.33
4. Bred Cows/Bred Heifers	19.34	57.93	71.20	52.48	64.15	54.50
5. Miscellaneous Receipts	1.21	24.63	6.44	21.59	10.52	13.66
6. Government Programs	6.02	11.23	21.11	3.30	3.67	8.33
7. Inventory Adjustment	18.04	-83.55	182.95	159.35	81.38	85.04
8. Less: Cattle Purchases	791.90	420.09	334.25	393.80	284.50	421.76
<b>Value of Production</b>	<b>907.63</b>	<b>802.08</b>	<b>1,206.01</b>	<b>1,058.47</b>	<b>1,184.06</b>	<b>1,050.60</b>
<b>(B)</b> 1. Winter Feed	307.40	390.01	373.02	342.43	413.53	366.96
2. Bedding	16.48	19.00	25.31	12.42	17.79	17.70
3. Pasture	232.04	240.99	270.45	287.78	316.02	275.24
4. Veterinary & Medicine	26.55	30.55	39.74	32.01	36.39	33.38
5. Breeding Fees/Bull Rental	3.41	0.10	1.50	2.53	3.25	2.25
6. Trucking & Marketing Charges	21.03	17.04	16.61	17.33	12.32	16.54
7. Fuel	14.08	20.34	19.59	24.58	20.76	20.51
8. Repairs - Machine	11.90	23.07	22.62	15.44	18.28	18.11
9. Repairs - Corrals & Buildings	10.54	10.74	24.53	14.48	11.21	14.36
10. Utilities & Miscellaneous Expenses	26.41	38.52	32.88	31.25	40.71	34.19
11. Custom Work & Specialized Labour	7.86	2.62	4.63	8.14	6.09	6.09
12. Operating Interest Paid	2.78	3.10	3.23	9.97	9.64	6.47
13. Paid Labour & Benefits	14.38	22.20	20.20	17.02	18.86	18.46
14. Unpaid Labour	34.95	51.31	62.01	59.64	67.05	56.73
<b>Variable Costs</b>	<b>729.79</b>	<b>869.58</b>	<b>916.34</b>	<b>875.01</b>	<b>991.91</b>	<b>887.00</b>
<b>(C)</b> 1. Share/Lease Cattle Payments	3.19	0.04	4.59	2.58	4.42	3.06
2. Taxes, Water Rates, Lic. & Insurance	10.16	12.42	17.60	16.64	11.23	13.90
3. a) Equipment & Building Depreciation	46.52	67.23	61.18	60.04	56.74	58.60
b) Lease Payments	0.31	6.90	1.48	0.65	5.28	2.83
4. Paid Capital Interest	3.51	5.43	5.77	21.45	6.69	9.86
<b>Total Capital Costs</b>	<b>63.69</b>	<b>92.01</b>	<b>90.63</b>	<b>101.36</b>	<b>84.36</b>	<b>88.25</b>
<b>(D) Cash Costs (B+C-B14-C3a)</b>	<b>712.01</b>	<b>843.05</b>	<b>883.77</b>	<b>856.69</b>	<b>952.48</b>	<b>859.92</b>
<b>(E) Total Production Costs (B+C)</b>	<b>793.48</b>	<b>961.58</b>	<b>1,006.97</b>	<b>976.37</b>	<b>1,076.27</b>	<b>975.25</b>
<b>(F) Gross Margin (A-D)</b>	<b>195.62</b>	<b>-40.96</b>	<b>322.24</b>	<b>201.78</b>	<b>231.58</b>	<b>190.67</b>
<b>Return to Unpaid Labour (A-E+B14)</b>	<b>149.09</b>	<b>-108.19</b>	<b>261.06</b>	<b>141.74</b>	<b>174.84</b>	<b>132.08</b>
<b>Return to Investment (A-E+C4)</b>	<b>117.65</b>	<b>-154.08</b>	<b>204.81</b>	<b>103.55</b>	<b>114.47</b>	<b>85.20</b>
<b>Net Return (A-E)</b>	<b>114.15</b>	<b>-159.50</b>	<b>199.04</b>	<b>82.10</b>	<b>107.79</b>	<b>75.34</b>

### Figure 1. Revenues, Costs and Net Returns



### Figure 2. Cow/Calf Enterprise Unit Costs



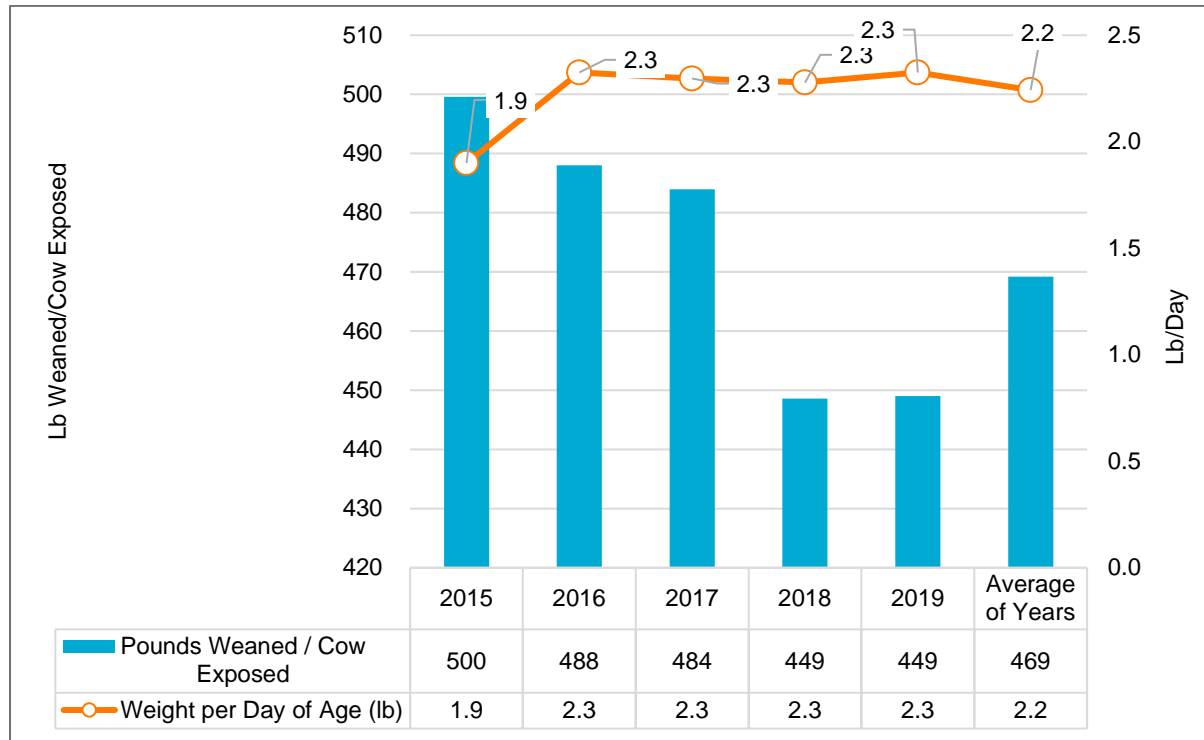


## Table 3. Physical Performance Indicators

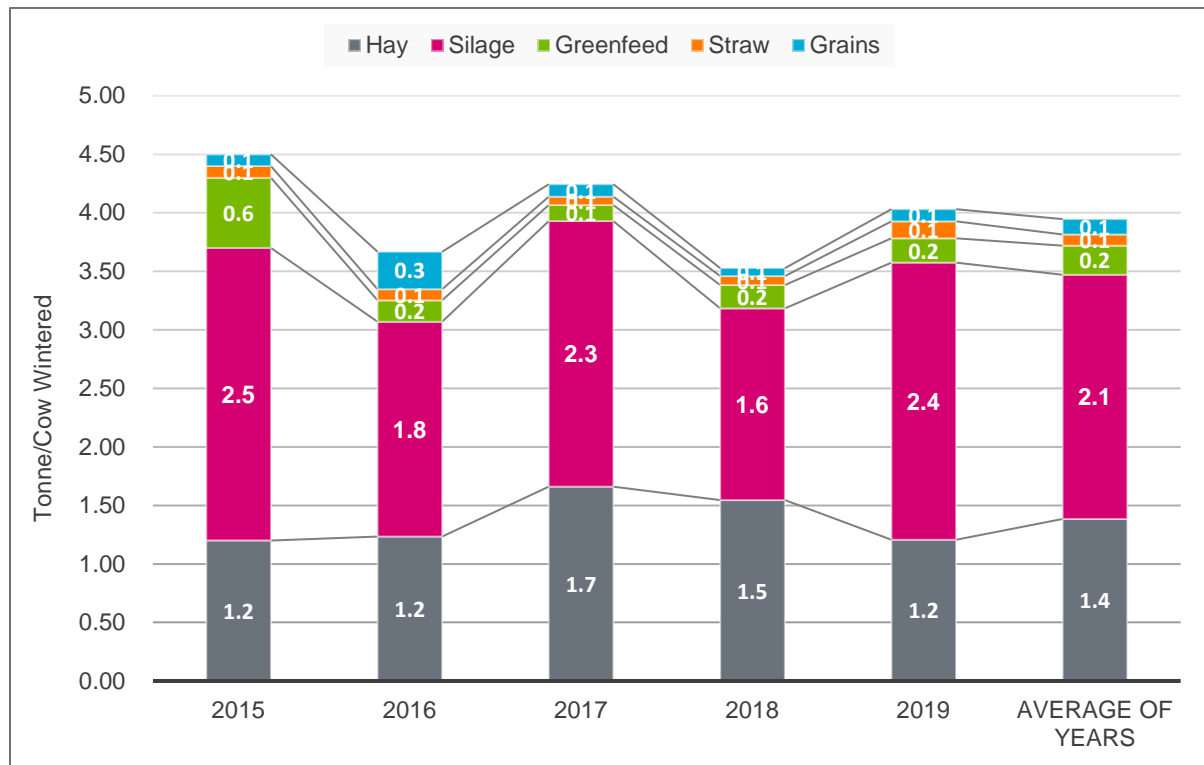
	2015	2016	2017	2018	2019	Average of Years
<b>BREEDING SEASON INFORMATION</b>						
Start of Breeding Period	6/27/14	6/17/15	7/15/16	6/22/17	7/18/18	
- no. of days	76	83	112	93	83	90
Length of Calving Period (days)	99	93	90	92	95	93
<b>FEMALES EXPOSED</b>	216	187	176	231	246	215
+ Bred Females Purchased	1	3	4	9	2	4
- Bred Females Sold	14	+	6	8	7	8
- Open Cows Culled	18	16	15	21	29	20
- Open Females Kept Back to be Re-Bred	1	1	2	2	2	2
- Cow Deaths Prior Calving	3	2	2	2	3	2
<b>COWS/HEIFERS CALVED</b>	182	163	154	207	208	187
+ Set of Twins	3	3	2	3	3	3
- Calves Born Dead / Aborted	6	7	7	8	6	7
<b>LIVE BIRTHS</b>	179	159	149	202	204	183
- Pasture Loss (after 24 hours)	5	6	4	5	7	5
+ Baby Calves Purchased	2	0	0	0	0	1
- Baby Calves Sold	1	1	1	5	4	2
<b>CALVES WEANED</b>	176	153	144	193	194	175
<b>SELECTED FEEDING PERFORMANCE</b>						
Days on Feed	182	175	186	162	153	169
Winter Feed Use Total as Fed (tonne AF/cow)	4.5	3.7	4.2	3.5	4.0	3.9
a) Hay	1.2	1.2	1.7	1.5	1.2	1.4
b) Silage	2.5	1.8	2.3	1.6	2.4	2.1
c) Greenfeed	0.6	0.2	0.1	0.2	0.2	0.2
d) Straw (feed)	0.1	0.1	0.1	0.1	0.1	0.1
e) Grains	0.1	0.3	0.1	0.1	0.1	0.1
<b>PHYSICAL PERFORMANCE INDICATORS</b>						
Conception Rate (%)	89	90	89	89	86	89
Calving Rate (%)	98	98	97	98	98	98
Weaning Rate (%)	98	96	97	95	95	96
Calf Crop (%)	86	84	83	83	81	83
Females Calved in First 2 Cycles (%)	86	89	87	88	89	88
Pounds Weaned / Cow Exposed	500	488	484	449	449	469
Pounds Weaned / Cow Wintered	539	535	529	522	487	523
Wean Weight as a % of Cow Weight	44	40	40	37	39	39
Weight per Day of Age (lb)	1.9	2.3	2.3	2.3	2.3	2.2
Mature Cow Weight (lb)	1,366	1,373	1,389	1,364	1,306	1,357



### Figure 3. Physical Performance



### Figure 4. Winter Feed Use

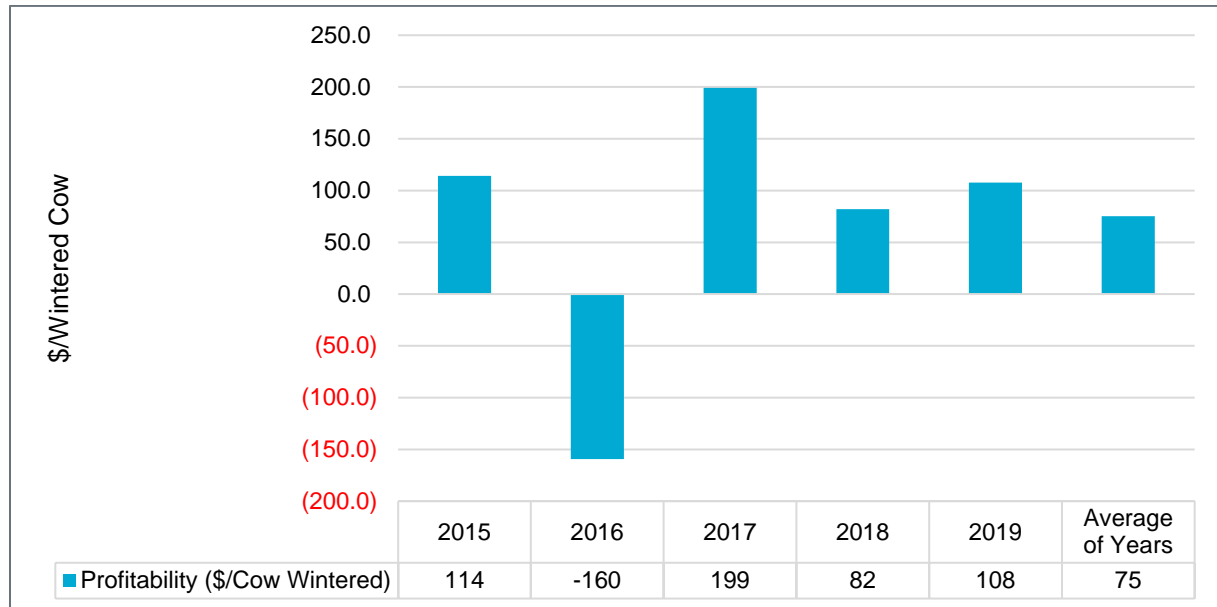


# Table 4. Financial Performance Indicators

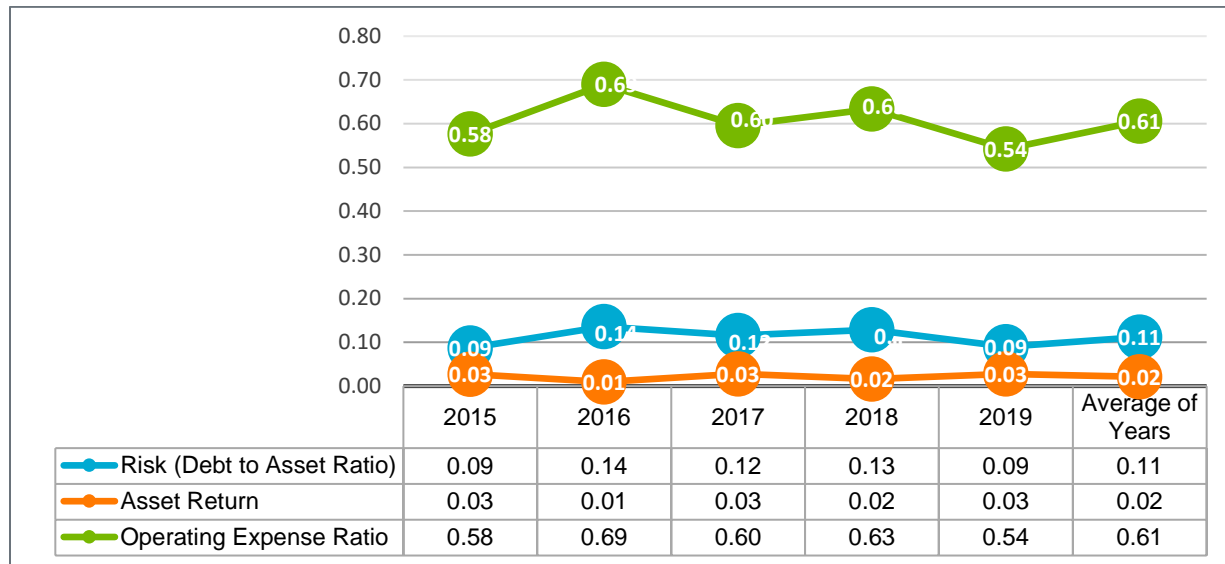
	2015	2016	2017	2018	2019	Average of Years
<b><i>ROAD to Profitability</i></b>						
Risk (Debt to Asset Ratio)	0.09	0.14	0.12	0.13	0.09	0.11
Operating Expense Ratio	0.58	0.69	0.60	0.63	0.54	0.61
Asset Return	0.03	0.01	0.03	0.02	0.03	0.02
Debt Payout	3.19	14.26	4.12	8.10	3.24	6.49
to Profitability (\$/Cow Wintered)	114	-160	199	82	108	75
<b><i>The "3-C's"</i></b>						
Current Ratio	5.04	3.67	3.39	2.67	3.39	3.49
Calif. Working Cap. Ratio	1.21	0.89	0.88	0.85	1.14	0.98
Capital Turnover Ratio	0.10	0.09	0.11	0.08	0.08	0.09
Farm Size (Acres)	2,746	2,094	2,091	3,082	3,959	2,794

Debt to Assets = Total Liabilities / Total Assets Operating Expense Ratio = Operating Expenses / Value of Production Return on Assets = Return on Assets / Total Farm Assets Debt Payout = Total Liabilities / Net Farm Income Profitability = Net Farm Income	Current Ratio = Current Assets / Current Liabilities Calif. Working Cap. Ratio = Working Capital / Total Expenses Capital Turnover = Value of Production / Total Farm Assets Farm Size = Total Acres in crops, forages & grazing (includes all acres owned, rented & leased)
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### Figure 5. Profitability



### Figure 6. Selected Financial Ratios



# Glossary

**Contribution Margin** – VOP less Variable Costs. Gross Margin – VOP less Total Cash Costs.

**Depreciation and Capital Lease Payments** – sum of depreciation and machinery, equipment and building lease payments on assets allocated to the cow/calf enterprise.

**Investment** – sum of assets allocated to the enterprise. Includes: breeding stock, machinery, equipment, buildings / facilities and building site (only).

**Production Stock Sales** – revenues associated with the sale of weaned calves and other non-breeding stock related sales.

**Labour Costs** – a sum of paid and contributed labour, as allocated to the cow/calf enterprise. Paid labour is valued at cost, while unpaid labour is valued at a standard or base cost.

**Net Return** – VOP less Total Production Costs.

**Other Fixed Costs** – total cash overheads, as allocated to the cow/calf enterprise (share/lease cattle payments, property taxes, insurances, licenses and term loan interest).

**Pasture Costs** – the value of grazing used by the cow/calf enterprise (exclusive of any other retained ownership / backgrounding uses). Pasture is valued into the cow/calf enterprise at market value (not cost) and is treated as a “cash” cost.

**Return to Investment** – VOP less Total Production Costs plus Term (Capital) Interest Paid.

**Total Cash Costs** – sum of enterprise cash costs, considering home grown feeds, bedding and pasture as cash costs.

**Total Production Costs** – sum of all variable and fixed production costs.

**Value of Production (VOP)** – the value of what was produced by the cow/calf enterprise over the course of the production year. Includes cash and non-cash values of:

- cull and breeding stock sales,
- revenues from miscellaneous sources (e.g., Program payments, patronage refunds, etc.) as allocated to the cow/calf enterprise,
- inventory adjustments relating changes in the number and value of stock included in the enterprise,
- an adjustment for livestock purchases (value is added only from the point of purchase forward).

**Winter Feed Costs** – the cost of all feeds used by the cow/calf enterprise, purchased or homegrown, based on the market value of these feeds (not the cost of raising the feeds).

## Breeding Performance Rates

*(adjusted for sales and purchases of bred cattle)*

**Animal Unit Months (AUMs)/Cow Wintered** – Total Enterprise AUMs / Cows Wintered

**Calving Rate (%)** - # Livebirths / # Bred Females

**Conception rate (%)** - # Bred / # Exposed Females

**Cows/Bulls** - # Cows and Heifers Exposed / # Bulls Used

**Cows Wintered** – Opening Inventory of Bred Cows and Heifers

**Days on Feed** – 365 Days, less length of grazing period in days

**Weaning Rate (%)** - # Weaned/# Exposed Females

**Dry Matter** – Tonnes Total Feed (Dry Matter) / # Cows Wintered

**Labour Hours/Cow** – Total Labour Hrs / Cows Wintered

**Lbs. Weaned/Cow Exposed** - Total Lbs. / # Females  
Weaned Exposed

**Lbs. Weaned/Cow Wintered** - Total Lbs.  
Weaned / # Opening Inventory of Bred Cows and Heifers

**Tonnes fed per Cow** – Tonnes Total Feed / # Cows Wintered  
(As-Fed)

**Weaned Wt. as % of Cow Wt.** - Avg. Lbs. Weaned  
*(adjusting bred heifer wts.)* / Avg. Mature Cow Wt.

**Weight per day of Age (Lbs.)** - Avg. Lbs. Weaned /  
Wtd Avg Wean Age

## GOLD Indicators

**Death Loss of Calves (%)** - # Calves Died / Live Births

**Growth (Wean wt.)** – Total Lbs. Weaned / # Calves  
Weaned

**Length of Calving Period** – Days from first to last calf

**Open Cows (%)** – # Open Cows and Heifers / # Exposed  
Females