

AgriProfit\$
2013-2017
Economic, Production and
Financial Performance of Alberta
Cow/Calf Operations



AgriProfit\$ Business Analysis and Research Program

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2013 - 2017 Economic, Productive and Financial Performance of Alberta Cow/Calf Operations
AgriProfit\$ Business Analysis

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Table of Contents

Overview	4
Economic Performance Indicators	
\$/Lb Weaned.....	5
\$/Cow Wintered.....	6
Figure 1. Revenues, Costs & Net Returns.....	7
Figure 2. Cow /Calf Enterprise Unit Costs.....	7
Physical Performance Indicators.....	8
Figure 3. Physical Performance.....	9
Figure 4. Winter Feed Use.....	9
Financial Performance Indicators.....	10
Figure 5. Profitability.....	11
Figure 6. Selected Financial Ratios.....	11
Glossary.....	12

Overview

This AgriProfit\$ Business Analysis of Alberta Cow/Calf Operations presents a multi-year summary of the economic, production, and financial performance of Alberta's cow/calf producers. The research was undertaken through the Ministry of Agriculture and Forestry's AgriProfit\$ Business Analysis and Research Program with the cooperation of producers across the province. Participating cow/calf producers received a customized business analysis of their operations for comparison to this multi-year benchmark report.

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 faced by them. 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, 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 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 – costs as well as the producer's financial situation. Proactive cost management makes businesses better able to weather periods of fluctuation.

These 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, maintenance and replacement of the buildings and machinery as well as paid and unpaid labour, among others.

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

	2013	2014*	2015	2016	2017	Average of Years
Average Farm Size (wintered cows)	205	217	190	167	161	181
(A) 1. Weaned Calves	1.56	2.72	2.53	1.85	2.02	2.15
2. Cull Cows/Open Heifers	0.27	0.55	0.51	0.39	0.31	0.41
3. Bulls	0.04	0.08	0.06	0.05	0.07	0.06
4. Bred Cows/Bred Heifers	0.04	0.02	0.04	0.11	0.14	0.06
5. Miscellaneous Receipts	0.00	0.00	0.00	0.05	0.01	0.01
6. Government Programs	0.00	0.00	0.01	0.02	0.04	0.01
7. Inventory Adjustment	0.17	0.17	0.03	-0.16	0.35	0.12
8. Less: Cattle Purchases	0.57	0.88	1.48	0.79	0.64	0.88
Value of Production	1.52	2.65	1.70	1.51	2.31	1.95
(B) 1. Winter Feed	0.51	0.61	0.57	0.74	0.71	0.62
2. Bedding	0.04	0.02	0.03	0.04	0.05	0.03
3. Pasture	0.36	0.51	0.43	0.46	0.52	0.45
4. Veterinary & Medicine	0.04	0.04	0.05	0.06	0.08	0.05
5. Breeding Fees/Bull Rental	0.00	0.00	0.01	0.00	0.00	0.00
6. Trucking & Marketing Charges	0.03	0.03	0.04	0.03	0.03	0.03
7. Fuel	0.03	0.04	0.03	0.04	0.04	0.03
8. Repairs - Machine	0.02	0.03	0.02	0.04	0.04	0.03
9. Repairs - Corrals & Buildings	0.02	0.01	0.02	0.02	0.05	0.02
10 Utilities & Miscellaneous Expenses	0.03	0.03	0.05	0.07	0.06	0.05
11 Custom Work & Specialized Labour	0.01	0.01	0.01	0.00	0.01	0.01
12 Operating Interest Paid	0.00	0.00	0.01	0.01	0.01	0.00
13 Paid Labour & Benefits	0.01	0.02	0.03	0.04	0.04	0.03
14 Unpaid Labour	0.07	0.07	0.07	0.10	0.12	0.08
Variable Costs	1.16	1.43	1.37	1.64	1.75	1.45
(C) 1. Share/Lease Cattle Payments	0.02	0.00	0.01	0.00	0.01	0.01
2. Taxes, Water Rates, Lic. & Insurance	0.02	0.02	0.02	0.02	0.03	0.02
3. a) Equipment & Building Depreciation	0.06	0.06	0.09	0.13	0.12	0.09
b) Lease Payments	0.01	0.00	0.00	0.01	0.00	0.01
4. Paid Capital Interest	0.01	0.00	0.01	0.01	0.01	0.01
Total Capital Costs	0.11	0.09	0.12	0.17	0.17	0.13
(D) Cash Costs (B+C-B14-C3a)	1.15	1.38	1.33	1.59	1.69	1.41
(E) Total Production Costs (B+C)	1.27	1.52	1.48	1.82	1.93	1.58
(F) Gross Margin (A-D)	0.37	1.27	0.37	-0.08	0.62	0.54
Return to Unpaid Labour (A-E+B14)	0.31	1.21	0.28	-0.20	0.50	0.45
Return to Investment (A-E+C4)	0.25	1.14	0.22	-0.29	0.39	0.38
Net Return (A-E)	0.24	1.14	0.21	-0.30	0.38	0.37

*Higher profitability in 2014 reflects mostly the higher cattle prices observed in that year.

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

	2013	2014	2015	2016	2017	Average of Years
Average Farm Size (wintered cows)	205	217	190	167	161	181
\$/Cow Wintered						
(A) 1. Weaned Calves	843.54	1,465.08	1,350.33	977.86	1,057.17	1,111.93
2. Cull Cows/Open Heifers	147.13	296.40	272.13	204.95	163.60	209.15
3. Bulls	20.33	42.32	32.47	29.12	37.79	32.03
4. Bred Cows/Bred Heifers	20.56	9.88	19.34	57.93	71.20	40.22
5. Miscellaneous Receipts	0.59	0.00	1.21	24.63	6.44	7.52
6. Government Programs	0.12	0.29	6.02	11.23	21.11	9.20
7. Inventory Adjustment	94.14	93.07	18.04	-83.55	182.95	60.77
8. Less: Cattle Purchases	306.12	475.53	791.90	420.09	334.25	461.93
Value of Production	820.29	1,431.51	907.63	802.08	1,206.01	1,008.90
(B) 1. Winter Feed	274.04	330.47	307.40	390.01	373.02	339.25
2. Bedding	19.25	10.26	16.48	19.00	25.31	19.03
3. Pasture	194.82	273.70	232.04	240.99	270.45	242.05
4. Veterinary & Medicine	20.66	22.93	26.55	30.55	39.74	29.25
5. Breeding Fees/Bull Rental	0.45	0.00	3.41	0.10	1.50	1.20
6. Trucking & Marketing Charges	15.31	16.67	21.03	17.04	16.61	17.40
7. Fuel	16.08	19.62	14.08	20.34	19.59	17.95
8. Repairs - Machine	12.26	15.04	11.90	23.07	22.62	17.59
9. Repairs - Corrals & Buildings	8.97	6.45	10.54	10.74	24.53	13.33
10 Utilities & Miscellaneous Expenses	18.47	18.44	26.41	38.52	32.88	28.29
11 Custom Work & Specialized Labour	3.28	6.20	7.86	2.62	4.63	4.80
12 Operating Interest Paid	0.63	1.28	2.78	3.10	3.23	2.38
13 Paid Labour & Benefits	7.90	10.85	14.38	22.20	20.20	15.96
14 Unpaid Labour	35.16	38.14	34.95	51.31	62.01	45.93
Variable Costs	627.29	770.04	729.79	869.58	916.34	794.41
(C) 1. Share/Lease Cattle Payments	11.59	0.00	3.19	0.04	4.59	4.01
2. Taxes, Water Rates, Lic. & Insurance	9.57	8.63	10.16	12.42	17.60	12.26
3. a) Equipment & Building Depreciation	33.47	34.11	46.52	67.23	61.18	50.90
b) Lease Payments	3.01	2.66	0.31	6.90	1.48	2.88
4. Paid Capital Interest	3.47	2.23	3.51	5.43	5.77	4.35
Total Capital Costs	61.12	47.63	63.69	92.01	90.63	74.40
(D) Cash Costs (B+C-B14-C3a)	619.77	745.42	712.01	843.05	883.77	771.97
(E) Total Production Costs (B+C)	688.40	817.67	793.48	961.58	1,006.97	868.81
(F) Gross Margin (A-D)	200.52	686.08	195.62	-40.96	322.24	236.92
Return to Unpaid Labour (A-E+B14)	167.05	651.98	149.09	-108.19	261.06	186.02
Return to Investment (A-E+C4)	135.36	616.06	117.65	-154.08	204.81	144.43
Net Return (A-E)	131.89	613.83	114.15	-159.50	199.04	140.09

Figure 1. Revenues, Costs & Net Returns

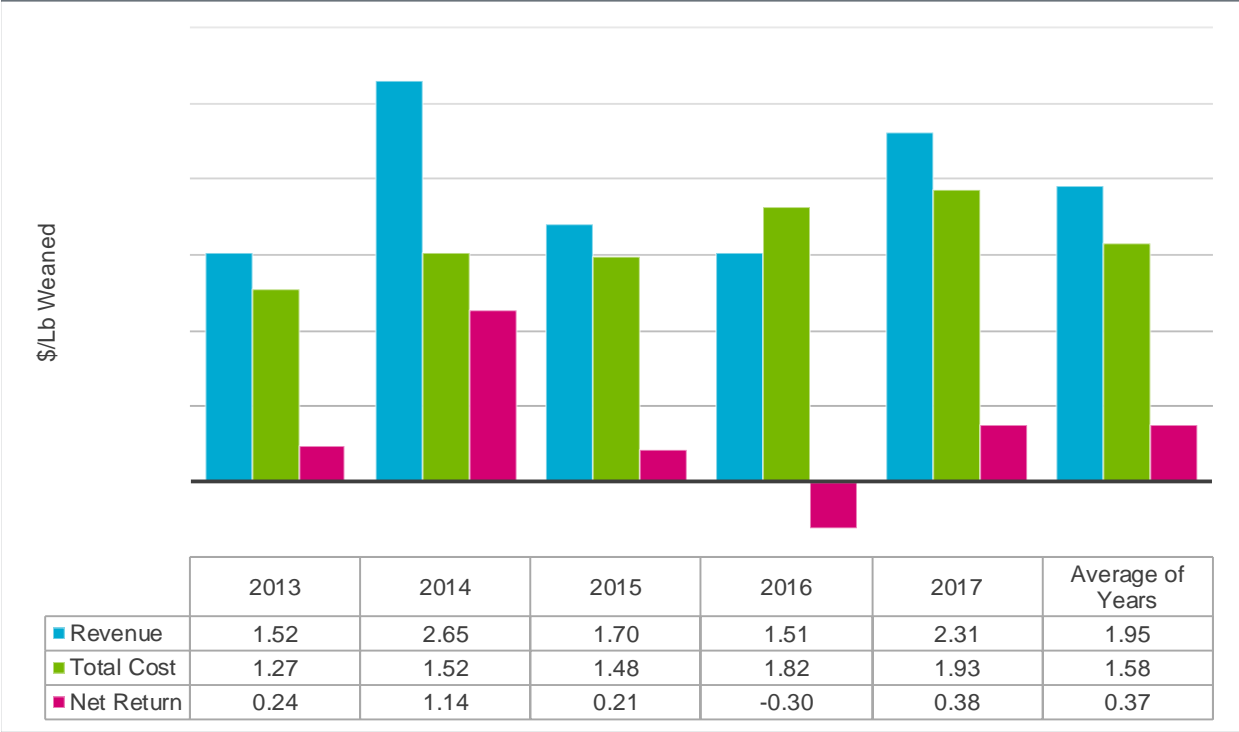


Figure 2. Cow/Calf Enterprise Unit Costs

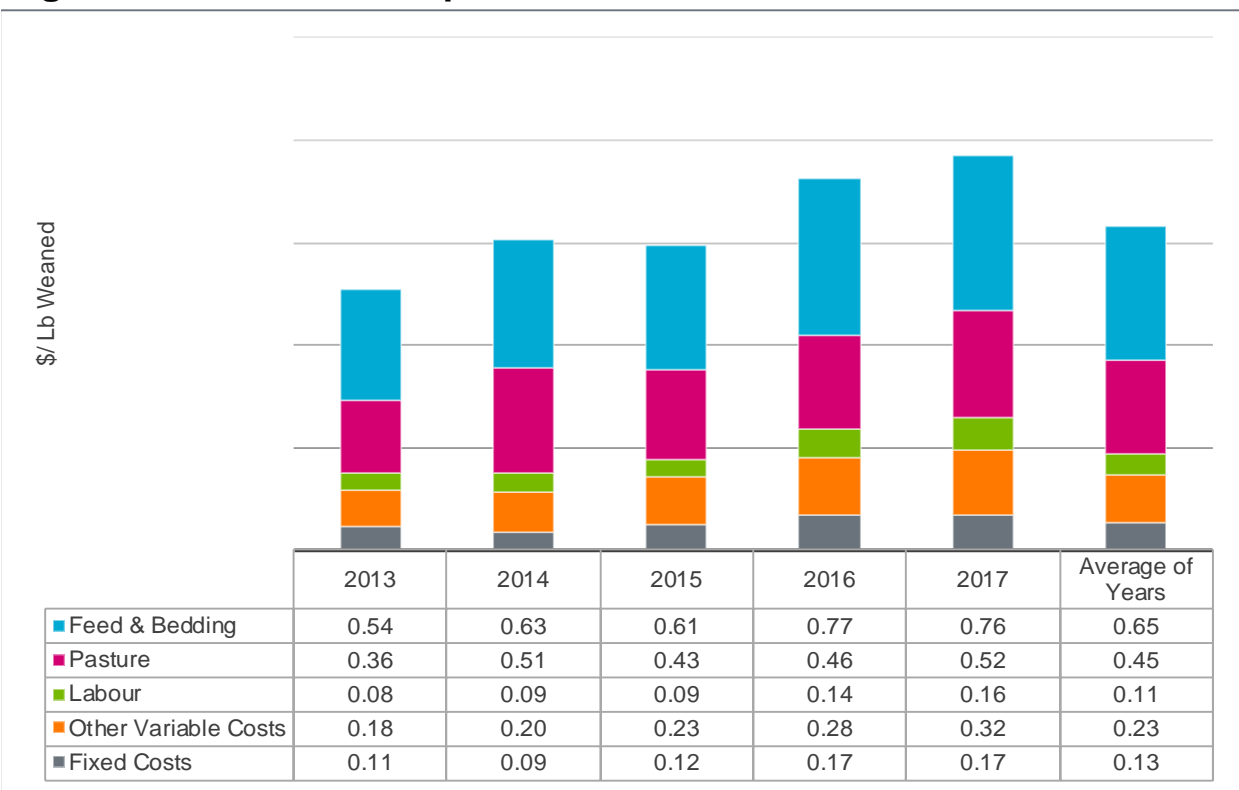


Table 3. Physical Performance Indicators

	2013	2014	2015	2016	2017	Average of Years
BREEDING SEASON INFORMATION						
Start of Breeding Period	6-19-12	6-30-13	6-27-14	6-17-15	7-15-16	
- no. of days	97	69	76	83	112	90
Length of Calving Period (days)	95	95	99	93	90	94
FEMALES EXPOSED	230	247	216	187	176	206
+ Bred Females Purchased	5	11	1	3	4	4
- Bred Females Sold	8	4	14	8	6	8
- Open Cows Culled	22	33	18	16	15	19
- Open Females Kept Back to be Re-Bred	2	2	1	1	2	2
- Cow Deaths Prior Calving	1	3	3	2	2	2
COWS/HEIFERS CALVED	202	216	182	163	154	179
+ Set of Twins	4	5	3	3	2	3
- Calves Born Dead / Aborted	7	7	6	7	7	7
LIVEBIRTHS	199	214	179	159	149	175
- Pasture Loss (after 24 hours)	6	8	5	6	4	5
+ Baby Calves Purchased	0	1	2	0	0	1
- Baby Calves Sold	0	1	1	1	1	1
CALVES WEANED	192	207	176	153	144	170
SELECTED FEEDING PERFORMANCE						
Days on Feed	176	170	182	175	186	179
Winter Feed Use Total as Fed (tonne AF/cow)	4.2	5.1	4.5	3.7	4.2	4.3
a) Hay	1.9	1.4	1.2	1.2	1.7	1.5
b) Silage	2.0	3.3	2.5	1.8	2.3	2.3
c) Greenfeed	0.1	0.2	0.6	0.2	0.1	0.2
d) Straw (feed)	0.1	0.2	0.1	0.1	0.1	0.1
e) Grains	0.1	0.1	0.1	0.3	0.1	0.1
PHYSICAL PERFORMANCE INDICATORS						
Conception Rate (%)	89	85	89	90	89	89
Calving Rate (%)	98	99	98	98	97	98
Weaning Rate (%)	97	97	98	96	97	97
Calf Crop (%)	85	81	86	84	83	84
Females Calved in First 2 Cycles (%)	86	88	86	89	87	87
Pounds Weaned / Cow Exposed	489	461	500	488	484	486
Wean Weight as a % of Cow Weight	44	42	44	40	40	42
Weight per Day of Age (lb)	1.9	2.3	1.9	2.3	2.3	2.1
Mature Cow Weight (lb)	1,369	1,398	1,366	1,373	1,389	1,378

Figure 3. Physical Performance

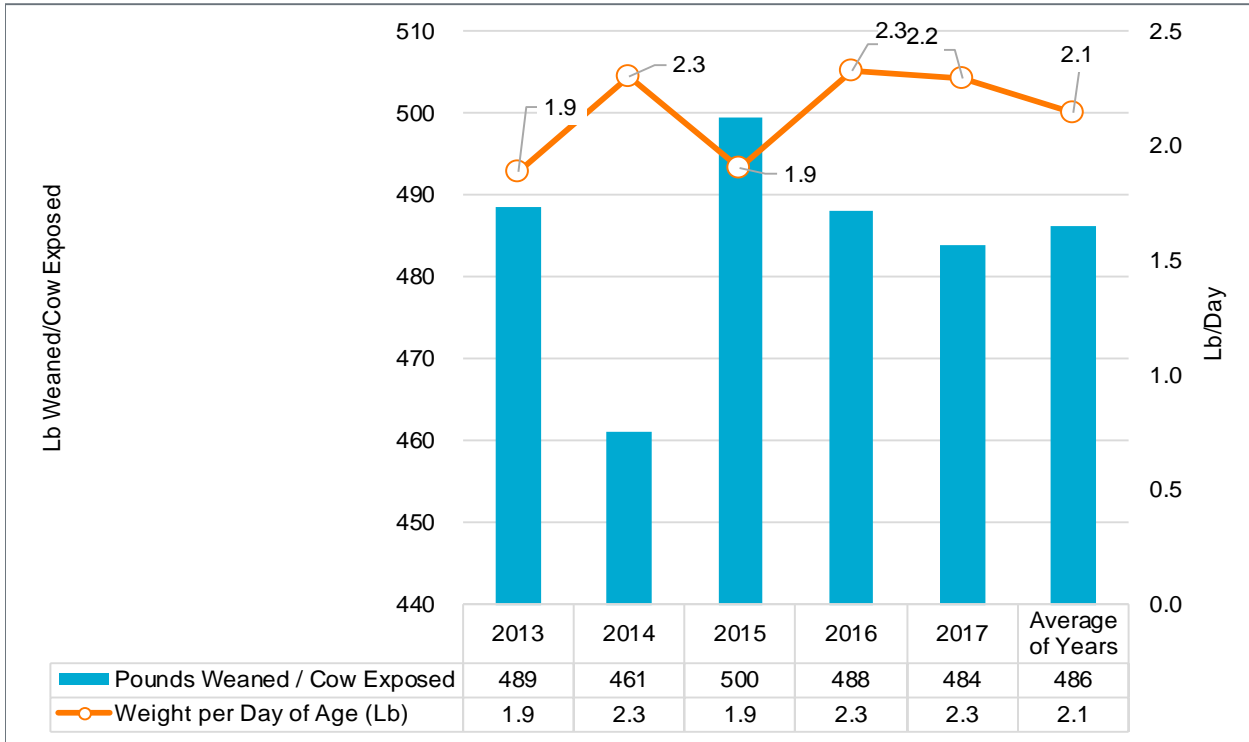


Figure 4. Winter Feed Use

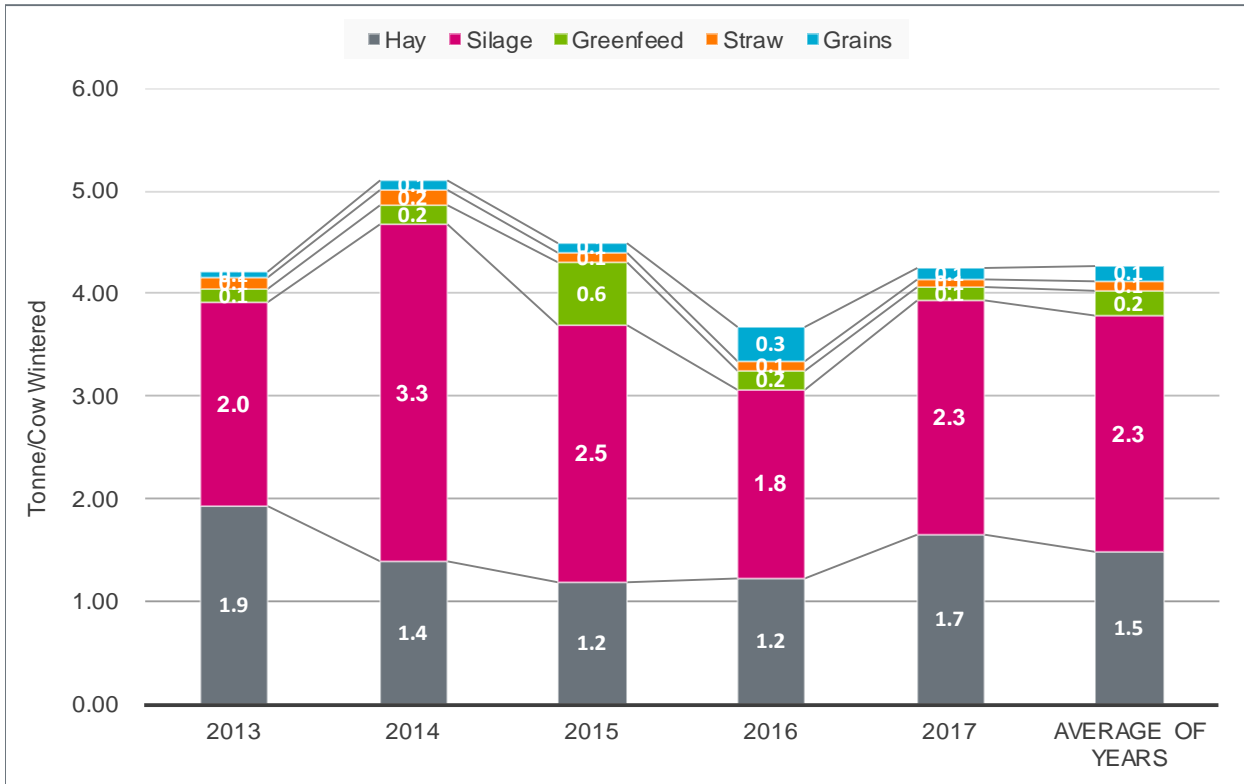


Table 4. Financial Performance Indicators

	2013	2014	2015	2016	2017	Average of Years
<i>ROAD to Profitability</i>						
Risk (Debt to Asset Ratio)	0.10	0.09	0.09	0.14	0.12	0.11
Operating Expense Ratio	0.67	0.35	0.58	0.69	0.60	0.60
Asset Return	0.01	0.09	0.03	0.01	0.03	0.03
Debt Payout to Profitability (\$/Cow Wintered)	7.32	0.99	3.19	14.26	4.12	6.41
	132	614	114	-160	199	140
<i>The "3-Cs"</i>						
Current Ratio	4.41	6.41	5.04	3.67	3.39	4.37
Calif. Working Cap. Ratio	1.43	1.55	1.21	0.89	0.88	1.14
Capital Turnover Ratio	0.08	0.15	0.10	0.09	0.11	0.10
Farm Size (Acres)	2,894	3,101	2,746	2,094	2,091	2,585

Debt to Assets = Total Liabilities / Total Assets	Current Ratio = Current Assets / Current Liabilities
Operating Expense Ratio = Operating Expenses / Value of Production	Calif. Working Cap. Ratio = Working Capital / Total Expenses
Return on Assets = Return on Assets / Total Farm Assets	Capital Turnover = Value of Production / Total Farm Assets
Payout = Total Liabilities / Net Farm Income	Farm Size = Total Acres in crops, forages & grazing
Profitability = Net Farm Income	

Figure 5. Profitability

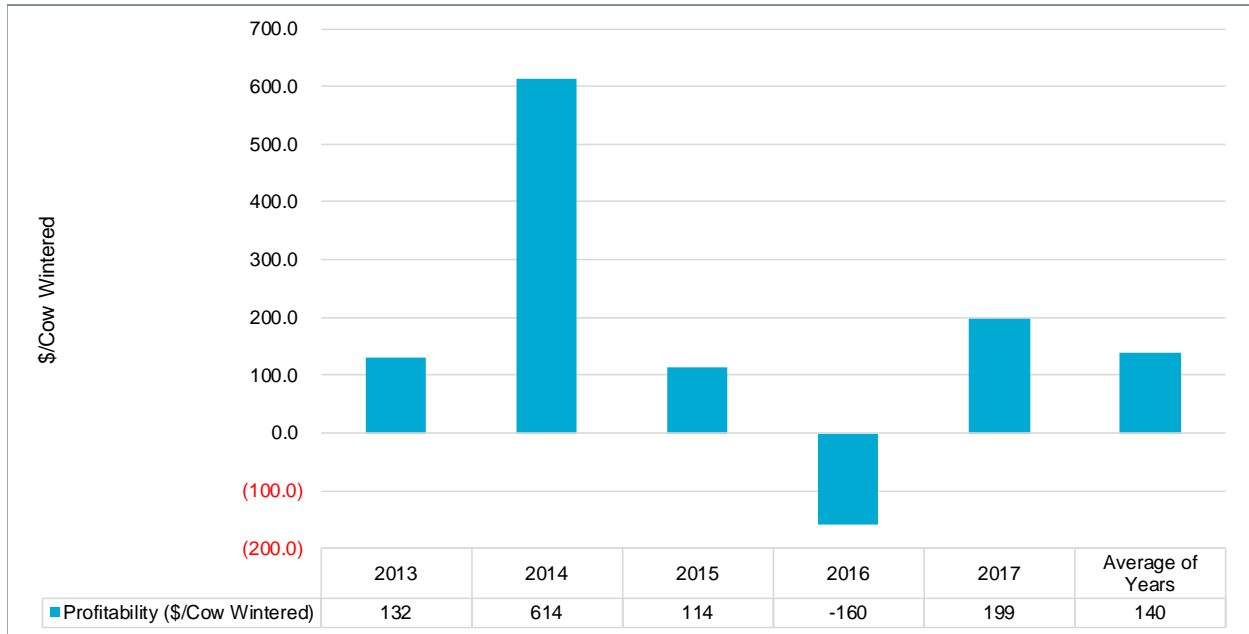
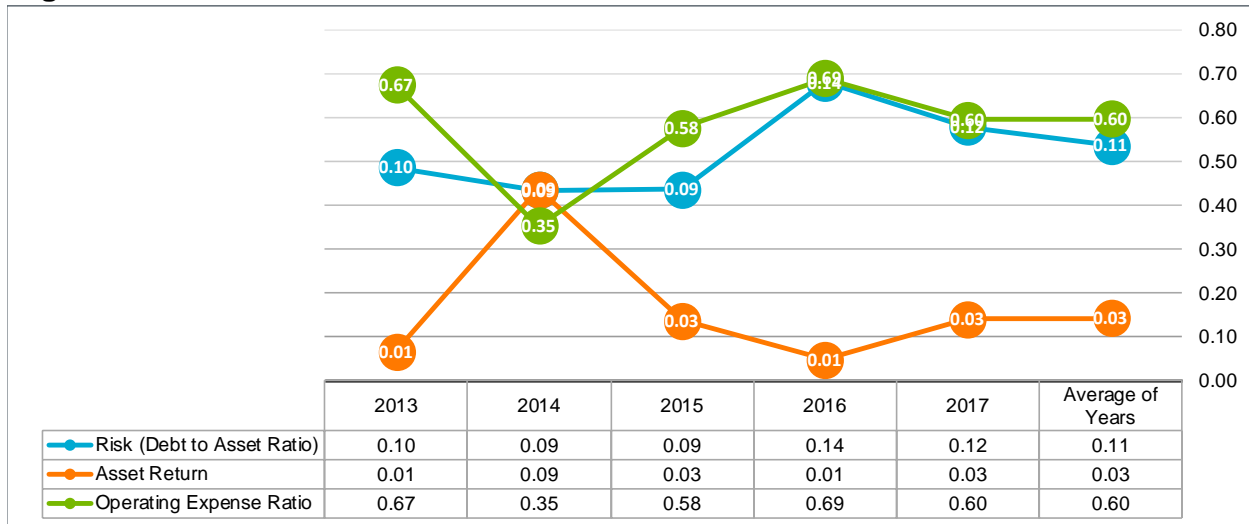


Figure 6. Selected Financial Ratios



Glossary

Definitions & Explanations to Accompany the Cow/Calf Enterprise Overview

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

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

- cull & 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 & 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).

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) & is treated as a “cash” cost.

Labour Costs – a sum of paid & 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.

Depreciation & Capital Lease Payments – sum of depreciation & mach./equip’t/bldg. lease payments on assets allocated to the cow/calf enterprise.

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

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

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

Contribution Margin – VOP less Variable Costs.

Gross Margin – VOP less Total Cash Costs.

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

Net Return – VOP less Total Production Costs.

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

Breeding Performance Rates

(adjusted for sales & purchases of bred cattle)

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

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

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

Calved in first two Cycles (%) - $\frac{\# \text{ Calved Cycle 1 \& 2}}{\text{Total Calved}}$

Lbs. Weaned/Cow Exposed - $\frac{\text{Total Lbs. Weaned}}{\# \text{ Females Exposed}}$

Lbs. Weaned/Cow Wintered - $\frac{\text{Total Lbs. Weaned}}{\# \text{ Opening Inventory of Bred Cows \& Heifers}}$

Weaned Wt. as % of Cow Wt. - $\frac{\text{Avg. Lbs. Weaned}}{\text{Avg. Mature Cow Wt.}}$
(adjusting bred heifer wts.)

Weight per day of Age (Lbs.) – $\frac{\text{Avg. Lbs. Weaned}}{\text{Wtd Avg Wean Age}}$

Cows Wintered – Opening Inventory of Bred Cows & Heifers

Cows/Bulls - # Cows & Heifers Exposed / # Bulls Used

Labour Hours/Cow – Total Labour Hrs / Cows Wintered

AUMs/Cow Wintered – $\frac{\text{Total Enterprise AUMs}}{\text{Cows Wintered}}$

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

Tonnes fed per Cow – $\frac{\text{Tonnes Total Feed (As-Fed)}}{\# \text{ Cows Wintered}}$

Dry Matter – $\frac{\text{Tonnes Total Feed (Dry Matter)}}{\# \text{ Cows Wintered}}$

GOLD Indicators

Growth (Wean wt.) – $\frac{\text{Total Lbs. Weaned}}{\# \text{ Calves Weaned}}$

Open Cows (%) – $\frac{\# \text{ Open Cows \& Heifers}}{\# \text{ Exposed Females}}$

Length of Calving Period – Days from first to last calf

Death Loss of Calves (%) - $\frac{\# \text{ Calves Died}}{\text{Live Births}}$