

AgriProfit\$

Benchmarks for Alberta Cattlemen

Economics & Competitiveness

**Multi-Year
Economic, Productive
& Financial Performance
Of Alberta
Cow/Calf Operations**

(2011-2015)

25-Aug-16

Alberta Agriculture
and Forestry



Overview

This AgriProfit\$ Cost & Returns Report presents a multi-year summary of the economic, productive, and financial performance of Alberta cow/calf producers. The research was undertaken through the Alberta Ministry of Agriculture and Forestry AgriProfit\$ Business Analysis & Research program with the cooperation of producers across the Province.

The report consist 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 5 years.

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If you have any questions about the underlying assumptions or interpretation of this report, please contact:

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| Table 1. Economic Performance Indicators (\$/Lb Weaned) | | | | | | |
|--|---------------------|-------------|-------------|-------------|-------------|-------------------------|
| | 2011 | 2012 | 2013 | 2014 | 2015 | Average of Years |
| Average Farm Size (wintered cows) | 212 | 198 | 205 | 217 | 190 | 205 |
| | \$/Lb Weaned | | | | | |
| (A) | | | | | | |
| 1. Weaned Calves | 1.49 | 1.43 | 1.56 | 2.72 | 2.53 | 1.95 |
| 6. Cull Cows/Open Heifers | 0.27 | 0.32 | 0.27 | 0.55 | 0.51 | 0.38 |
| 7. Bulls | 0.03 | 0.05 | 0.04 | 0.08 | 0.06 | 0.05 |
| 8. Bred Cows/Bred Heifers | 0.04 | 0.03 | 0.04 | 0.02 | 0.04 | 0.03 |
| 9. Miscellaneous Receipts | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10. Government Programs | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| 11. Inventory Adjustment | 0.36 | 0.17 | 0.17 | 0.17 | 0.03 | 0.19 |
| 12. Less: Cattle Purchases | 0.51 | 0.55 | 0.57 | 0.88 | 1.48 | 0.79 |
| Value of Production | 1.69 | 1.45 | 1.52 | 2.65 | 1.70 | 1.82 |
| (B) | | | | | | |
| 1. Winter Feed | 0.41 | 0.53 | 0.51 | 0.61 | 0.57 | 0.53 |
| 2. Bedding | 0.02 | 0.02 | 0.04 | 0.02 | 0.03 | 0.03 |
| 3. Pasture | 0.49 | 0.44 | 0.36 | 0.51 | 0.43 | 0.45 |
| 4. Veterinary & Medicine | 0.03 | 0.04 | 0.04 | 0.04 | 0.05 | 0.04 |
| 5. Breeding Fees/Bull Rental | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| 6. Trucking & Marketing Charges | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.03 |
| 7. Fuel | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 |
| 8. Repairs - Machine | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 |
| 9. Repairs - Corrals & Buildings | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 |
| 10. Utilities & Miscellaneous Expenses | 0.02 | 0.03 | 0.03 | 0.03 | 0.05 | 0.03 |
| 11. Custom Work & Specialized Labour | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| 12. Operating Interest Paid | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| 13. Paid Labour & Benefits | 0.03 | 0.03 | 0.01 | 0.02 | 0.03 | 0.02 |
| 14. Unpaid Labour | 0.06 | 0.06 | 0.07 | 0.07 | 0.07 | 0.07 |
| Variable Costs | 1.16 | 1.24 | 1.16 | 1.43 | 1.37 | 1.27 |
| (C) | | | | | | |
| 1. Share/Lease Cattle Payments | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.01 |
| 2. Taxes, Water Rates, Lic. & Insurance | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| 3. a) Equipment & Building Depreciation | 0.05 | 0.07 | 0.06 | 0.06 | 0.09 | 0.07 |
| b) Lease Payments | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| 4. Paid Capital Interest | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 |
| Total Capital Costs | 0.08 | 0.10 | 0.11 | 0.09 | 0.12 | 0.10 |
| (D) Cash Costs (B+C-B14-C3a) | 1.12 | 1.21 | 1.15 | 1.38 | 1.33 | 1.24 |
| (E) Total Production Costs (B+C) | 1.24 | 1.34 | 1.27 | 1.52 | 1.48 | 1.37 |
| (F) Gross Margin (A-D) | 0.57 | 0.24 | 0.37 | 1.27 | 0.37 | 0.58 |
| Return to Unpaid Labour (A-E+B14) | 0.51 | 0.17 | 0.31 | 1.21 | 0.28 | 0.52 |
| Return to Investment (A-E+C4) | 0.46 | 0.12 | 0.25 | 1.14 | 0.22 | 0.46 |
| Return to Equity (A-E) | 0.45 | 0.11 | 0.24 | 1.14 | 0.21 | 0.45 |

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

| Table 2. Economic Performance Indicators (\$/Cow Wintered) | | | | | | |
|--|------------------------|---------------|---------------|-----------------|---------------|------------------|
| | 2011 | 2012 | 2013 | 2014 | 2015 | Average of Years |
| Average Farm Size (wintered cows) | 212 | 198 | 205 | 217 | 190 | 205 |
| | \$/Cow Wintered | | | | | |
| (A) | | | | | | |
| 1. Weaned Calves | 787.49 | 715.59 | 843.54 | 1,465.08 | 1,350.33 | 1,033.57 |
| 6. Cull Cows/Open Heifers | 142.54 | 158.91 | 147.13 | 296.40 | 272.13 | 203.44 |
| 7. Bulls | 16.56 | 25.87 | 20.33 | 42.32 | 32.47 | 27.55 |
| 8. Bred Cows/Bred Heifers | 23.30 | 16.14 | 20.56 | 9.88 | 19.34 | 17.78 |
| 9. Miscellaneous Receipts | 0.73 | 0.12 | 0.59 | 0.00 | 1.21 | 0.52 |
| 10. Government Programs | 0.00 | 0.00 | 0.12 | 0.29 | 6.02 | 1.21 |
| 11. Inventory Adjustment | 192.97 | 87.01 | 94.14 | 93.07 | 18.04 | 98.84 |
| 12. Less: Cattle Purchases | 270.74 | 274.66 | 306.12 | 475.53 | 791.90 | 419.15 |
| Value of Production | 892.85 | 728.99 | 820.29 | 1,431.51 | 907.63 | 967.36 |
| (B) | | | | | | |
| 1. Winter Feed | 214.75 | 265.77 | 274.04 | 330.47 | 307.40 | 278.36 |
| 2. Bedding | 10.95 | 11.67 | 19.25 | 10.26 | 16.48 | 13.64 |
| 3. Pasture | 259.39 | 218.16 | 194.82 | 273.70 | 232.04 | 236.40 |
| 4. Veterinary & Medicine | 16.83 | 18.49 | 20.66 | 22.93 | 26.55 | 21.03 |
| 5. Breeding Fees/Bull Rental | 1.14 | 0.73 | 0.45 | 0.00 | 3.41 | 1.10 |
| 6. Trucking & Marketing Charges | 11.68 | 12.15 | 15.31 | 16.67 | 21.03 | 15.30 |
| 7. Fuel | 13.65 | 13.95 | 16.08 | 19.62 | 14.08 | 15.54 |
| 8. Repairs - Machine | 10.43 | 11.47 | 12.26 | 15.04 | 11.90 | 12.25 |
| 9. Repairs - Corrals & Buildings | 5.33 | 4.41 | 8.97 | 6.45 | 10.54 | 7.09 |
| 10. Utilities & Miscellaneous Expenses | 13.09 | 15.33 | 18.47 | 18.44 | 26.41 | 18.22 |
| 11. Custom Work & Specialized Labour | 4.47 | 5.75 | 3.28 | 6.20 | 7.86 | 5.48 |
| 12. Operating Interest Paid | 2.63 | 1.01 | 0.63 | 1.28 | 2.78 | 1.65 |
| 13. Paid Labour & Benefits | 15.95 | 13.26 | 7.90 | 10.85 | 14.38 | 12.44 |
| 14. Unpaid Labour | 32.79 | 31.47 | 35.16 | 38.14 | 34.95 | 34.55 |
| Variable Costs | 613.08 | 623.61 | 627.29 | 770.04 | 729.79 | 673.87 |
| (C) | | | | | | |
| 1. Share/Lease Cattle Payments | 2.27 | 1.99 | 11.59 | 0.00 | 3.19 | 3.77 |
| 2. Taxes, Water Rates, Lic. & Insurance | 6.56 | 7.95 | 9.57 | 8.63 | 10.16 | 8.54 |
| 3. a) Equipment & Building Depreciation | 29.02 | 34.94 | 33.47 | 34.11 | 46.52 | 35.40 |
| b) Lease Payments | 0.42 | 1.00 | 3.01 | 2.66 | 0.31 | 1.51 |
| 4. Paid Capital Interest | 4.58 | 3.70 | 3.47 | 2.23 | 3.51 | 3.49 |
| Total Capital Costs | 42.84 | 49.57 | 61.12 | 47.63 | 63.69 | 52.71 |
| (D) Cash Costs (B+C-B14-C3a) | 594.11 | 606.78 | 619.77 | 745.42 | 712.01 | 656.63 |
| (E) Total Production Costs (B+C) | 655.92 | 673.18 | 688.40 | 817.67 | 793.48 | 726.58 |
| (F) | | | | | | |
| Gross Margin (A-D) | 298.74 | 122.21 | 200.52 | 686.08 | 195.62 | 310.72 |
| Return to Unpaid Labour (A-E+B14) | 269.71 | 87.27 | 167.05 | 651.98 | 149.09 | 275.33 |
| Return to Investment (A-E+C4) | 241.50 | 59.50 | 135.36 | 616.06 | 117.65 | 244.26 |
| Return to Equity (A-E) | 236.92 | 55.80 | 131.89 | 613.83 | 114.15 | 240.78 |

Figure 1. Revenues, Costs & Net Returns

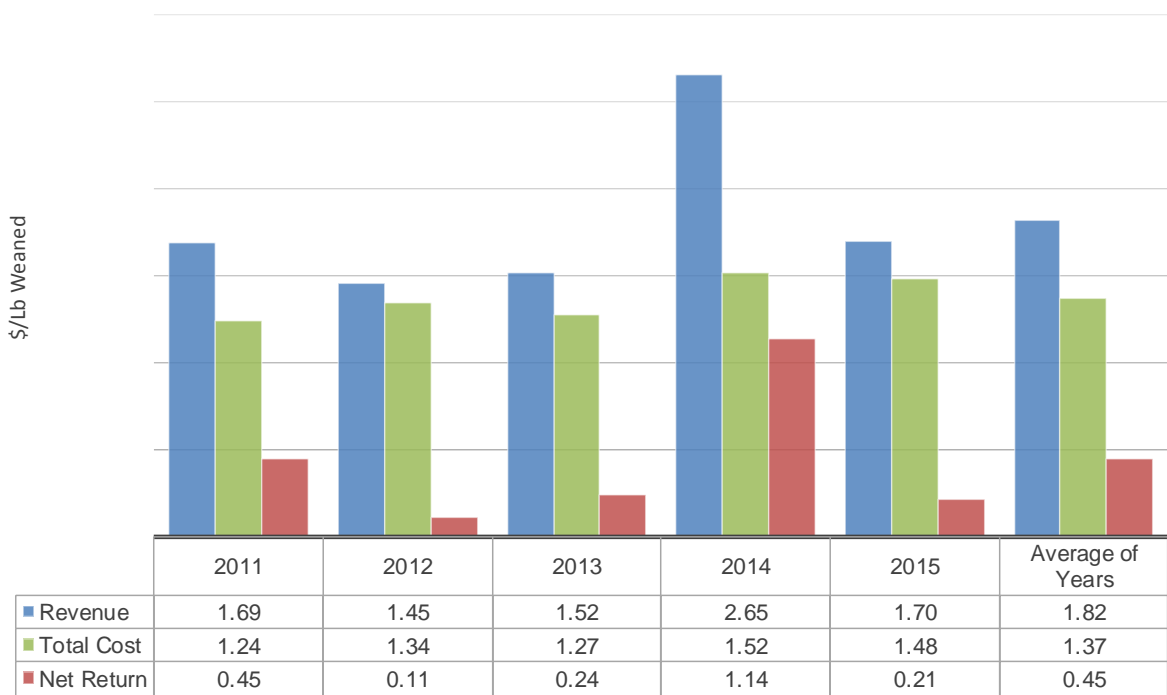
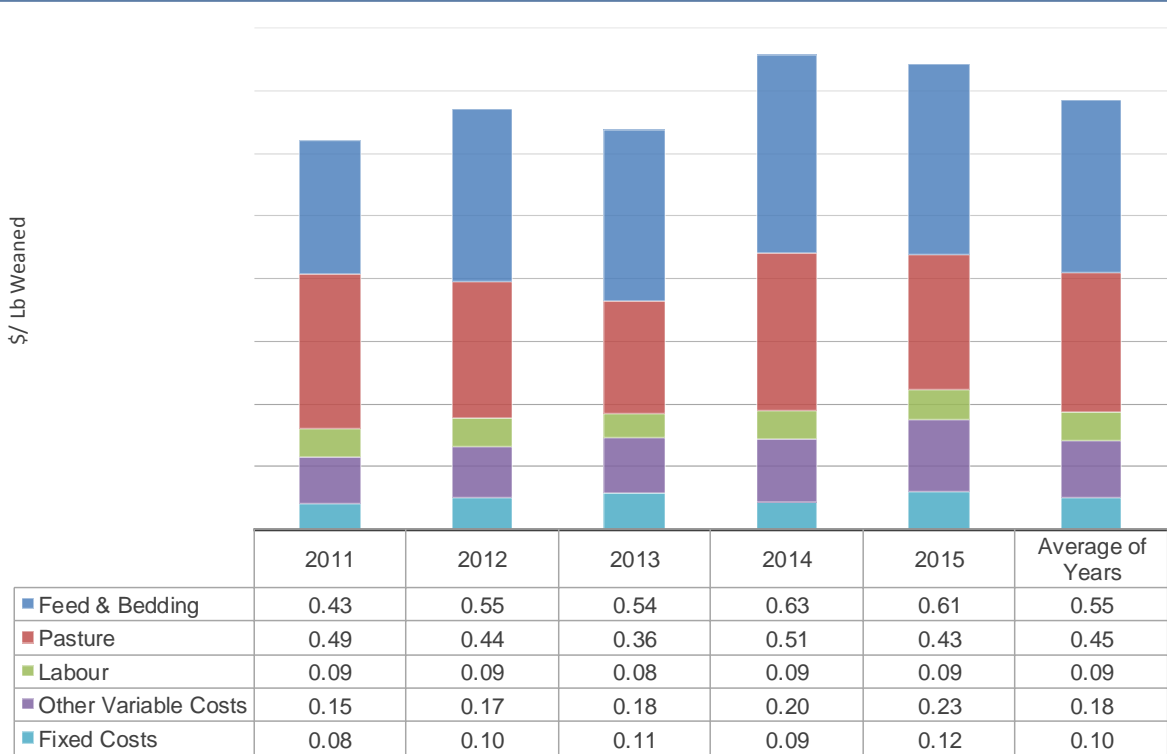


Figure 2. Cow/Calf Enterprise Unit Costs



| Table 3. Physical Performance Indicators | | | | | | |
|---|-------------|-------------|-------------|-------------|-------------|-------------------------|
| | 2011 | 2012 | 2013 | 2014 | 2015 | Average of Years |
| BREEDING SEASON INFORMATION | | | | | | |
| Start of Breeding Period | 6/26/10 | 7/6/11 | 6/19/12 | 6/30/13 | 6/24/14 | 6/27/12 |
| - no. of days | 92 | 85 | 97 | 69 | 76 | 84 |
| Length of Calving Period (days) | 88 | 96 | 95 | 95 | 99 | 93 |
| <i>FEMALES EXPOSED</i> | 236 | 216 | 230 | 247 | 216 | 228 |
| + Bred Females Purchased | 11 | 5 | 5 | 11 | 1 | 7 |
| - Bred Females Sold | 7 | 12 | 8 | 4 | 14 | 10 |
| - Open Cows Culled | 23 | 20 | 22 | 33 | 18 | 22 |
| - Open Females Kept Back to be Re-Bred | 4 | 3 | 2 | 2 | 1 | 3 |
| - Cow Deaths Prior Calving | 3 | 2 | 1 | 3 | 3 | 2 |
| <i>COWS/HEIFERS CALVED</i> | 210 | 184 | 202 | 216 | 182 | 198 |
| + Set of Twins | 3 | 3 | 4 | 5 | 3 | 3 |
| - Calves Born Dead / Aborted | 8 | 7 | 7 | 7 | 6 | 7 |
| <i>LIVEBIRTHS</i> | 206 | 180 | 199 | 214 | 179 | 194 |
| - Pasture Loss (after 24 hours) | 7 | 7 | 6 | 8 | 5 | 7 |
| + Baby Calves Purchased | 0 | 0 | 0 | 1 | 2 | 1 |
| - Baby Calves Sold | 1 | 0 | 0 | 1 | 1 | 0 |
| <i>CALVES WEANED</i> | 198 | 172 | 192 | 207 | 176 | 188 |
| SELECTED FEEDING PERFORMANCE | | | | | | |
| Days on Feed | 139 | 160 | 176 | 170 | 182 | 160 |
| Winter Feed Use Total as Fed (tonne AF/cow) | 3.6 | 4.6 | 4.2 | 5.1 | 4.5 | 4.2 |
| a) Hay | 1.4 | 1.5 | 1.9 | 1.4 | 1.2 | 1.5 |
| b) Silage | 1.7 | 2.8 | 2.0 | 3.3 | 2.5 | 2.3 |
| c) Greenfeed | 0.2 | 0.1 | 0.1 | 0.2 | 0.6 | 0.3 |
| d) Straw (feed) | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 |
| e) Grains | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| PHYSICAL PERFORMANCE INDICATORS | | | | | | |
| Conception Rate (%) | 87 | 88 | 89 | 85 | 89 | 88 |
| Calving Rate (%) | 98 | 98 | 98 | 99 | 98 | 98 |
| Weaning Rate (%) | 96 | 96 | 97 | 97 | 98 | 97 |
| Calf Crop (%) | 82 | 83 | 85 | 81 | 86 | 83 |
| Females Calved in First 2 Cycles (%) | 84 | 83 | 86 | 88 | 87 | 85 |
| Pounds Weaned / Cow Exposed | 492 | 470 | 489 | 461 | 500 | 485 |
| Wean Weight as a % of Cow Weight | 45 | 42 | 44 | 42 | 44 | 44 |
| Weight per Day of Age (lb) | 2.5 | 2.6 | 1.9 | 2.3 | 1.9 | 2.4 |
| Mature Cow Weight (lb) | 1,375 | 1,403 | 1,369 | 1,398 | 1,366 | 1,381 |

Figure 3. Physical Performance

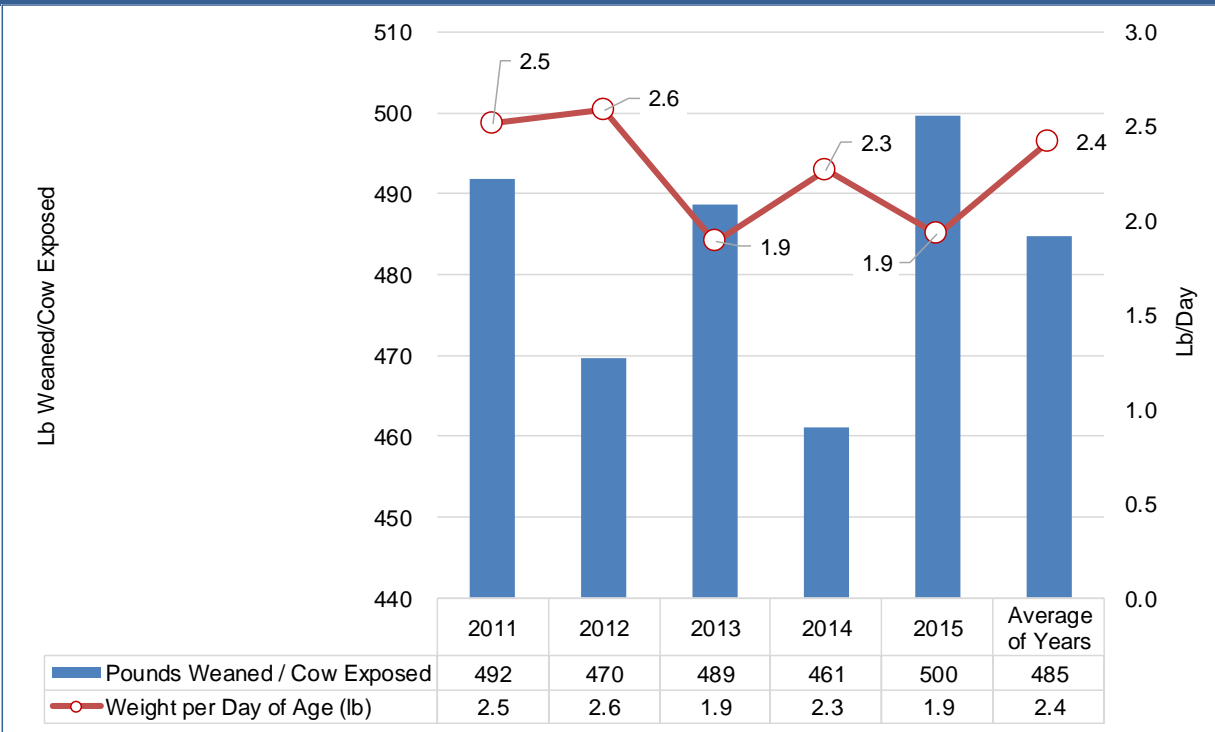


Figure 4. Winter Feed Use

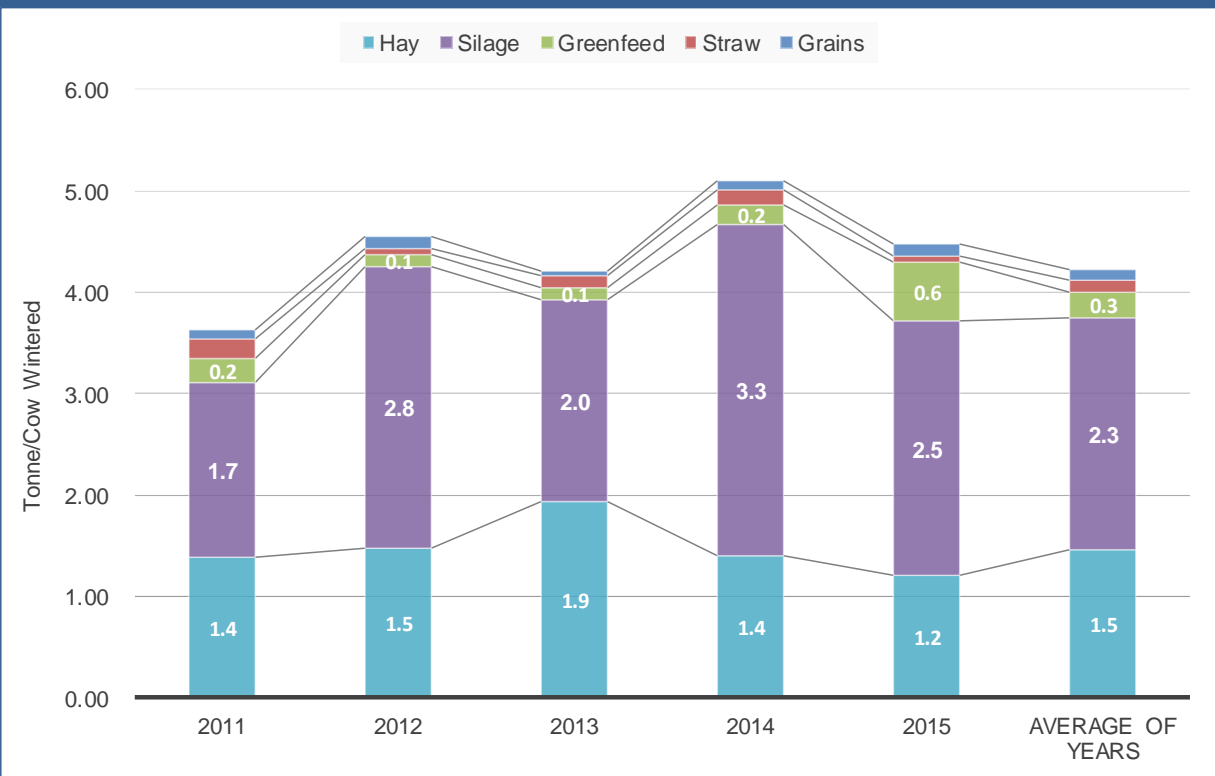


Table 4. Financial Performance Indicators

| | 2011 | 2012 | 2013 | 2014 | 2015 | Average of Years |
|-------------------------------------|-------|-------|-------|-------|-------|------------------|
| <u>ROAD to Profitability</u> | | | | | | |
| Risk (Debt to Asset Ratio) | 0.15 | 0.13 | 0.10 | 0.09 | 0.09 | 0.11 |
| Operating Expense Ratio | 0.51 | 0.62 | 0.67 | 0.35 | 0.58 | 0.54 |
| Asset Return | 0.06 | 0.02 | 0.01 | 0.09 | 0.03 | 0.04 |
| Debt Payout | 2.63 | 5.40 | 7.32 | 0.99 | 3.19 | 2.85 |
| to | | | | | | |
| Profitability (\$/Cow Wintered) | 237 | 56 | 132 | 614 | 114 | 241 |
| <u>The "3-C's"</u> | | | | | | |
| Current Ratio | 2.28 | 3.45 | 4.41 | 6.41 | 5.04 | 4.17 |
| Calif. Working Cap. Ratio | 1.14 | 1.10 | 1.43 | 1.55 | 1.21 | 1.23 |
| Capital Turnover Ratio | 0.15 | 0.11 | 0.08 | 0.15 | 0.10 | 0.12 |
| Farm Size (Acres) | 4,870 | 2,837 | 2,894 | 3,101 | 2,746 | 3,530 |

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)

Figure 5. Profitability

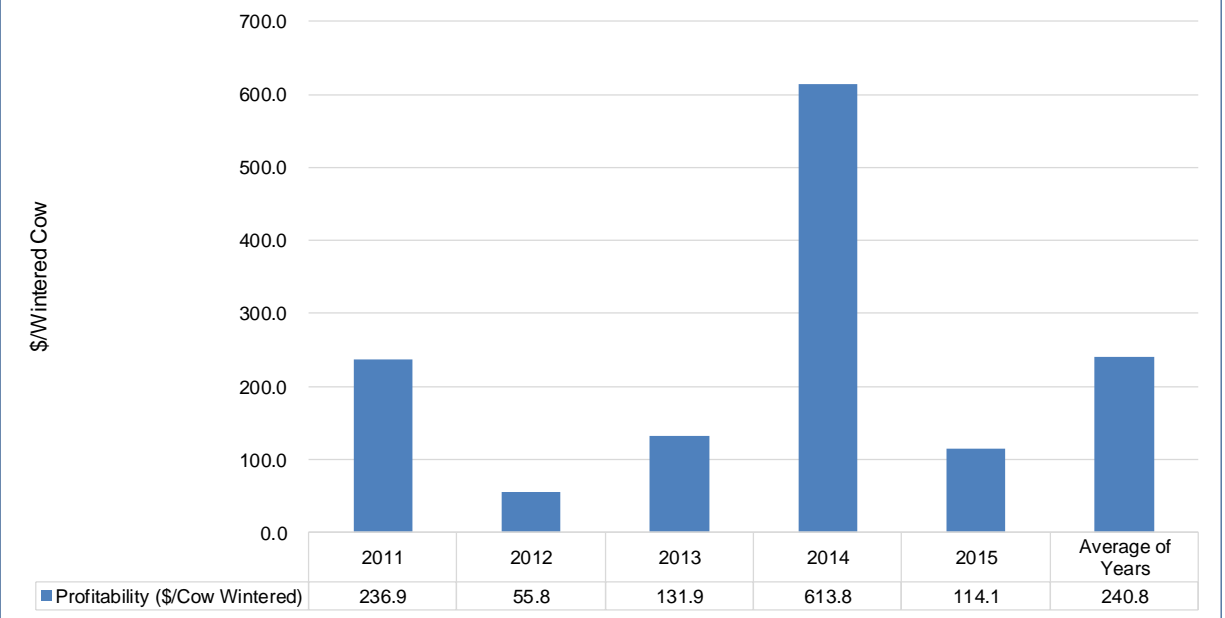
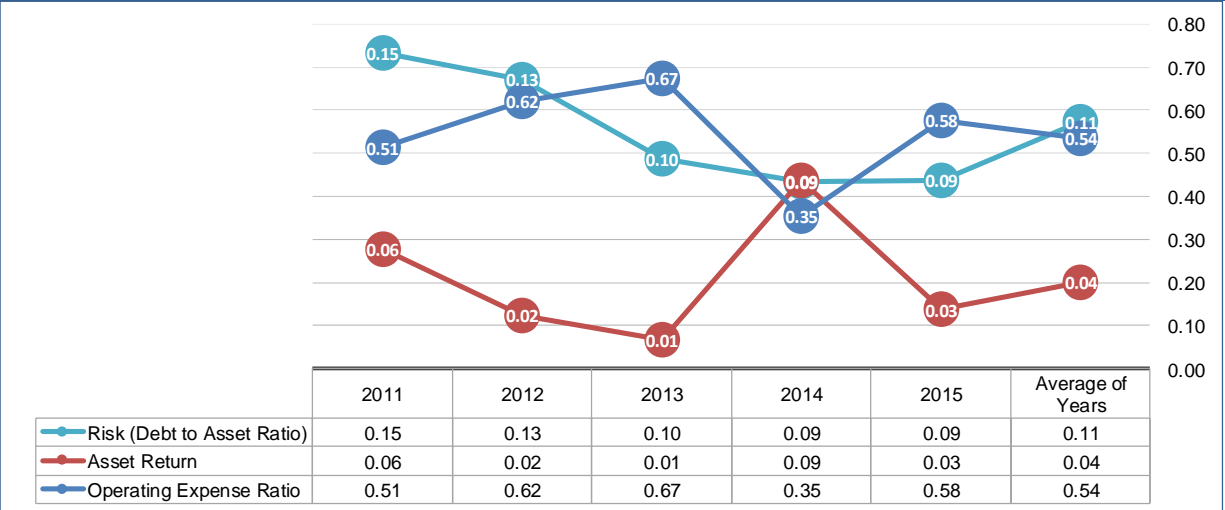


Figure 6. Selected Financial Ratios



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 (eg. 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

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

Return to Equity & Management – 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

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

Weaning Rate (%) - # Weaned / # Exposed

Calved in 1st 2 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 - $\frac{\text{Total Lbs. Weaned}}{\# \text{ Bred Females Exposed}}$

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 – Open Inventory of Bred Cows & Heifers

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

Labour Hours / Cow – Total Labour Hrs / Cows Wintered

AUM's / Cow Wintered – $\frac{\text{Total Enterprise AUM's}}{\# \text{ Cows Wintered}}$

Feeding Season Days – Days Fed (in yard)

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

GOLD Indicators

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

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

Length of Calving Period – Days from 1st to last calf

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