

AgriProfit\$

Benchmarks for Alberta Cattlemen

Economics & Competitiveness

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

(2012-2016)

24-Oct-17

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's *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:

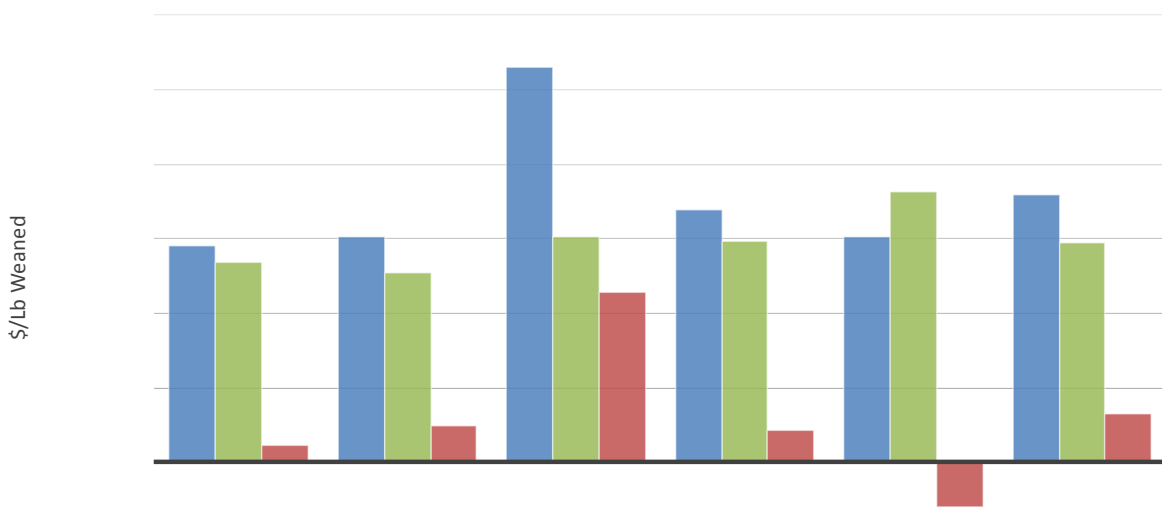
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Table 1. Economic Performance Indicators (\$/Lb Weaned)						
	2012	2013	2014	2015	2016	Average of Years
Average Farm Size (wintered cows)	198	205	217	190	167	197
(A)						
1. Weaned Calves	1.43	1.56	2.72	2.53	1.85	2.04
6. Cull Cows/Open Heifers	0.32	0.27	0.55	0.51	0.39	0.41
7. Bulls	0.05	0.04	0.08	0.06	0.05	0.06
8. Bred Cows/Bred Heifers	0.03	0.04	0.02	0.04	0.11	0.04
9. Miscellaneous Receipts	0.00	0.00	0.00	0.00	0.05	0.01
10. Government Programs	0.00	0.00	0.00	0.01	0.02	0.01
11. Inventory Adjustment	0.17	0.17	0.17	0.03	-0.16	0.09
12. Less: Cattle Purchases	0.55	0.57	0.88	1.48	0.79	0.85
Value of Production	1.45	1.52	2.65	1.70	1.51	1.80
(B)						
1. Winter Feed	0.53	0.51	0.61	0.57	0.74	0.59
2. Bedding	0.02	0.04	0.02	0.03	0.04	0.03
3. Pasture	0.44	0.36	0.51	0.43	0.46	0.44
4. Veterinary & Medicine	0.04	0.04	0.04	0.05	0.06	0.04
5. Breeding Fees/Bull Rental	0.00	0.00	0.00	0.01	0.00	0.00
6. Trucking & Marketing Charges	0.02	0.03	0.03	0.04	0.03	0.03
7. Fuel	0.03	0.03	0.04	0.03	0.04	0.03
8. Repairs - Machine	0.02	0.02	0.03	0.02	0.04	0.03
9. Repairs - Corrals & Buildings	0.01	0.02	0.01	0.02	0.02	0.02
10. Utilities & Miscellaneous Expenses	0.03	0.03	0.03	0.05	0.07	0.04
11. Custom Work & Specialized Labour	0.01	0.01	0.01	0.01	0.00	0.01
12. Operating Interest Paid	0.00	0.00	0.00	0.01	0.01	0.00
13. Paid Labour & Benefits	0.03	0.01	0.02	0.03	0.04	0.03
14. Unpaid Labour	0.06	0.07	0.07	0.07	0.10	0.07
Variable Costs	1.24	1.16	1.43	1.37	1.64	1.36
(C)						
1. Share/Lease Cattle Payments	0.00	0.02	0.00	0.01	0.00	0.01
2. Taxes, Water Rates, Lic. & Insurance	0.02	0.02	0.02	0.02	0.02	0.02
3. a) Equipment & Building Depreciation	0.07	0.06	0.06	0.09	0.13	0.08
b) Lease Payments	0.00	0.01	0.00	0.00	0.01	0.01
4. Paid Capital Interest	0.01	0.01	0.00	0.01	0.01	0.01
Total Capital Costs	0.10	0.11	0.09	0.12	0.17	0.12
(D) Cash Costs (B+C-B14-C3a)	1.21	1.15	1.38	1.33	1.59	1.32
(E) Total Production Costs (B+C)	1.34	1.27	1.52	1.48	1.82	1.48
(F)						
Gross Margin (A-D)	0.24	0.37	1.27	0.37	-0.08	0.47
Return to Unpaid Labour (A-E+B14)	0.17	0.31	1.21	0.28	-0.20	0.39
Return to Investment (A-E+C4)	0.12	0.25	1.14	0.22	-0.29	0.33
Net Return (A-E)	0.11	0.24	1.14	0.21	-0.30	0.32

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

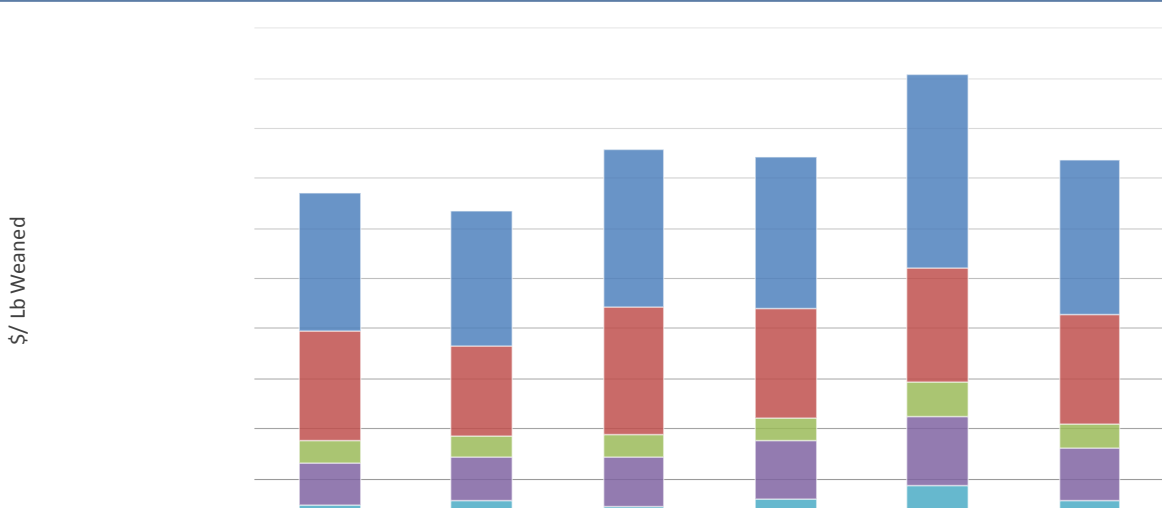
Table 2. Economic Performance Indicators (\$/Cow Wintered)						
	2012	2013	2014	2015	2016	Average of Years
Average Farm Size (wintered cows)	198	205	217	190	167	197
	\$/Cow Wintered					
(A)						
1. Weaned Calves	715.59	843.54	1,465.08	1,350.33	977.86	1,077.37
6. Cull Cows/Open Heifers	158.91	147.13	296.40	272.13	204.95	216.89
7. Bulls	25.87	20.33	42.32	32.47	29.12	30.20
8. Bred Cows/Bred Heifers	16.14	20.56	9.88	19.34	57.93	23.44
9. Miscellaneous Receipts	0.12	0.59	0.00	1.21	24.63	4.59
10. Government Programs	0.00	0.12	0.29	6.02	11.23	3.18
11. Inventory Adjustment	87.01	94.14	93.07	18.04	-83.55	47.27
12. Less: Cattle Purchases	274.66	306.12	475.53	791.90	420.09	451.47
Value of Production	728.99	820.29	1,431.51	907.63	802.08	955.23
(B)						
1. Winter Feed	265.77	274.04	330.47	307.40	390.01	311.22
2. Bedding	11.67	19.25	10.26	16.48	19.00	15.14
3. Pasture	218.16	194.82	273.70	232.04	240.99	232.20
4. Veterinary & Medicine	18.49	20.66	22.93	26.55	30.55	23.56
5. Breeding Fees/Bull Rental	0.73	0.45	0.00	3.41	0.10	0.92
6. Trucking & Marketing Charges	12.15	15.31	16.67	21.03	17.04	16.38
7. Fuel	13.95	16.08	19.62	14.08	20.34	16.77
8. Repairs - Machine	11.47	12.26	15.04	11.90	23.07	14.50
9. Repairs - Corrals & Buildings	4.41	8.97	6.45	10.54	10.74	8.09
10. Utilities & Miscellaneous Expenses	15.33	18.47	18.44	26.41	38.52	22.80
11. Custom Work & Specialized Labour	5.75	3.28	6.20	7.86	2.62	5.21
12. Operating Interest Paid	1.01	0.63	1.28	2.78	3.10	1.69
13. Paid Labour & Benefits	13.26	7.90	10.85	14.38	22.20	13.34
14. Unpaid Labour	31.47	35.16	38.14	34.95	51.31	37.79
Variable Costs	623.61	627.29	770.04	729.79	869.58	720.48
(C)						
1. Share/Lease Cattle Payments	1.99	11.59	0.00	3.19	0.04	3.46
2. Taxes, Water Rates, Lic. & Insurance	7.95	9.57	8.63	10.16	12.42	9.64
3. a) Equipment & Building Depreciation	34.94	33.47	34.11	46.52	67.23	42.22
b) Lease Payments	1.00	3.01	2.66	0.31	6.90	2.66
4. Paid Capital Interest	3.70	3.47	2.23	3.51	5.43	3.58
Total Capital Costs	50	61	48	64	92	62
(D) Cash Costs (B+C-B14-C3a)	606.78	619.77	745.42	712.01	843.05	702.03
(E) Total Production Costs (B+C)	673.18	688.40	817.67	793.48	961.58	782.05
(F) Gross Margin (A-D)	122.21	200.52	686.08	195.62	-40.96	253.20
Return to Unpaid Labour (A-E+B14)	87.27	167.05	651.98	149.09	-108.19	210.97
Return to Investment (A-E+C4)	59.50	135.36	616.06	117.65	-154.08	176.76
Net Return (A-E)	55.80	131.89	613.83	114.15	-159.50	173.18

Figure 1. Revenues, Costs & Net Returns



	2012	2013	2014	2015	2016	Average of Years
■ Revenue	1.45	1.52	2.65	1.70	1.51	1.80
■ Total Cost	1.34	1.27	1.52	1.48	1.82	1.48
■ Net Return	0.11	0.24	1.14	0.21	(0.30)	0.32

Figure 2. Cow/Calf Enterprise Unit Costs



	2012	2013	2014	2015	2016	Average of Years
■ Feed & Bedding	0.55	0.54	0.63	0.61	0.77	0.62
■ Pasture	0.44	0.36	0.51	0.43	0.46	0.44
■ Labour	0.09	0.08	0.09	0.09	0.14	0.10
■ Other Variable Costs	0.17	0.18	0.20	0.23	0.28	0.21
■ Fixed Costs	0.10	0.11	0.09	0.12	0.17	0.12

Table 3. Physical Performance Indicators

	2012	2013	2014	2015	2016	Average of Years
BREEDING SEASON INFORMATION						
Start of Breeding Period	7/6/11	6/19/12	6/30/13	6/27/14	6/17/15	NA
- no. of days	85	97	69	76	83	93
Length of Calving Period (days)	96	95	95	99	93	96
<i>FEMALES EXPOSED</i>	216	230	247	216	187	214
+ Bred Females Purchased	5	5	11	1	3	4
- Bred Females Sold	12	8	4	14	8	10
- Open Cows Culled	20	22	33	18	16	20
- Open Females Kept Back to be Re-Bred	3	2	2	1	1	2
- Cow Deaths Prior Calving	2	1	3	3	2	2
<i>COWS/HEIFERS CALVED</i>	184	202	216	182	163	189
+ Set of Twins	3	4	5	3	3	3
- Calves Born Dead / Aborted	7	7	7	6	7	7
<i>LIVEBIRTHS</i>	180	199	214	179	159	181
- Pasture Loss (after 24 hours)	7	6	8	5	6	6
+ Baby Calves Purchased	0	0	1	2	0	1
- Baby Calves Sold	0	0	1	1	1	0
<i>CALVES WEANED</i>	172	192	207	176	153	170
SELECTED FEEDING PERFORMANCE						
Days on Feed	160	176	170	182	175	179
Winter Feed Use Total as Fed (tonne AF/cow)	4.6	4.2	5.1	4.5	3.7	4.3
a) Hay	1.5	1.9	1.4	1.2	1.2	1.4
b) Silage	2.8	2.0	3.3	2.5	1.8	2.4
c) Greenfeed	0.1	0.1	0.2	0.6	0.2	0.2
d) Straw (feed)	0.1	0.1	0.2	0.1	0.1	0.1
e) Grains	0.1	0.1	0.1	0.1	0.3	0.2
PHYSICAL PERFORMANCE INDICATORS						
Conception Rate (%)	88	89	85	89	90	91
Calving Rate (%)	98	98	99	98	98	96
Weaning Rate (%)	96	97	97	98	96	94
Calf Crop (%)	83	85	81	86	84	81
Females Calved in First 2 Cycles (%)	83	86	88	86	89	86
Pounds Weaned / Cow Exposed	470	489	461	500	488	484
Wean Weight as a % of Cow Weight	42	44	42	44	40	39
Weight per Day of Age (lb)	2.6	1.9	2.3	1.9	2.3	2.6
Mature Cow Weight (lb)	1,403	1,369	1,398	1,366	1,373	1,381

Figure 3. Physical Performance



Figure 4. Winter Feed Use

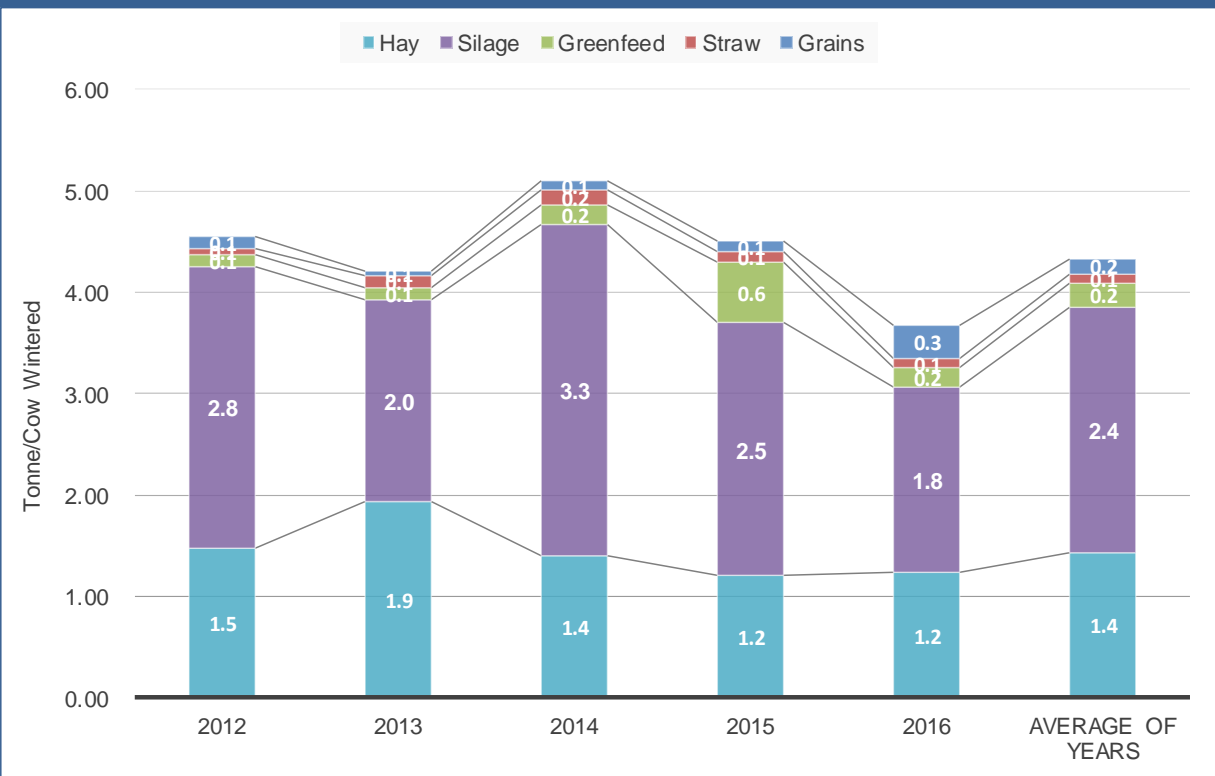


Table 4. Financial Performance Indicators

	2012	2013	2014	2015	2016	Average of Years
<u>ROAD to Profitability</u>						
Risk (Debt to Asset Ratio)	0.13	0.10	0.09	0.09	0.14	0.11
Operating Expense Ratio	0.62	0.67	0.35	0.58	0.69	0.83
Asset Return	0.02	0.01	0.09	0.03	0.01	0.03
Debt Payout to Profitability (\$/Cow Wintered)	5.40	7.32	0.99	3.19	14.26	4.14
	56	132	614	114	-160	173
<u>The "3-C's"</u>						
Current Ratio	3.45	4.41	6.41	5.04	3.67	4.25
Calif. Working Cap. Ratio	1.10	1.43	1.55	1.21	0.89	1.16
Capital Turnover Ratio	0.11	0.08	0.15	0.10	0.09	0.07
Farm Size (Acres)	2,837	2,894	3,101	2,746	2,094	2,658

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

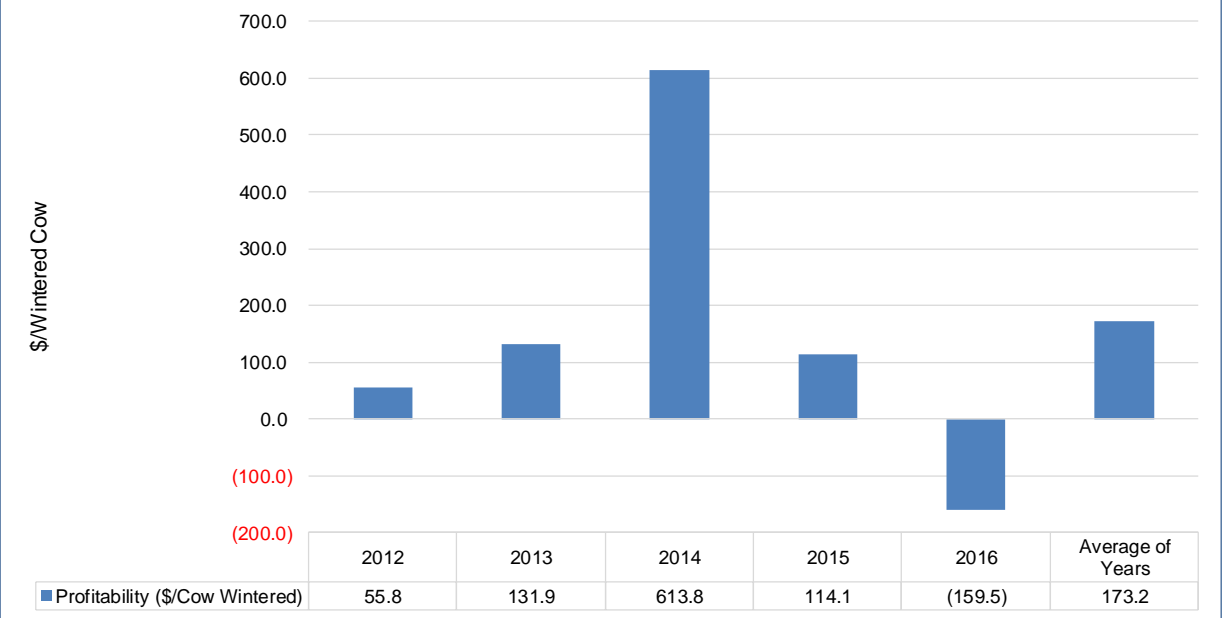
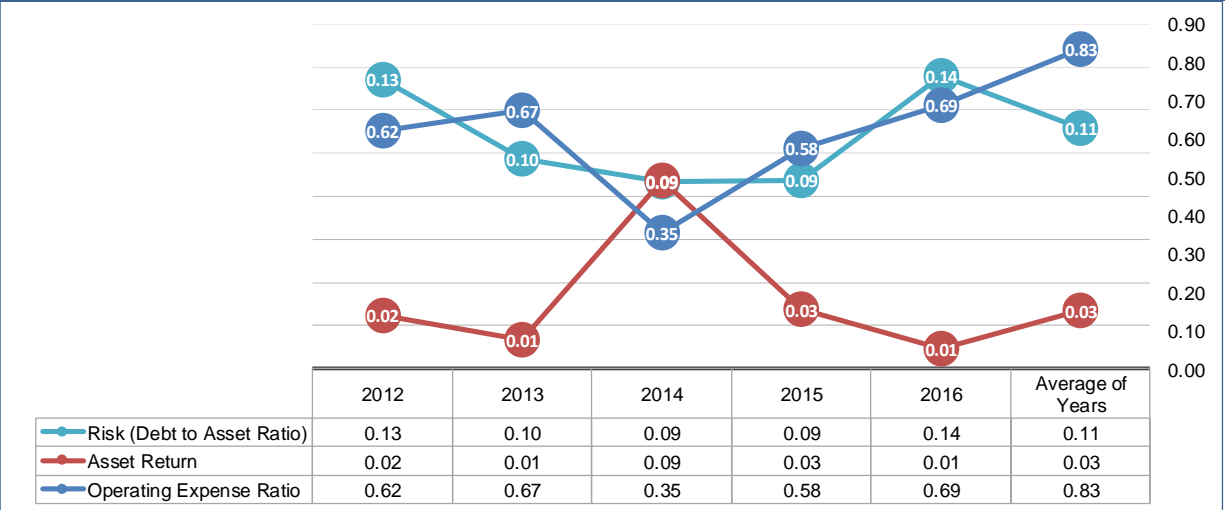


Figure 6. Selected Financial Ratios



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

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

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

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

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 1st to last calf

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