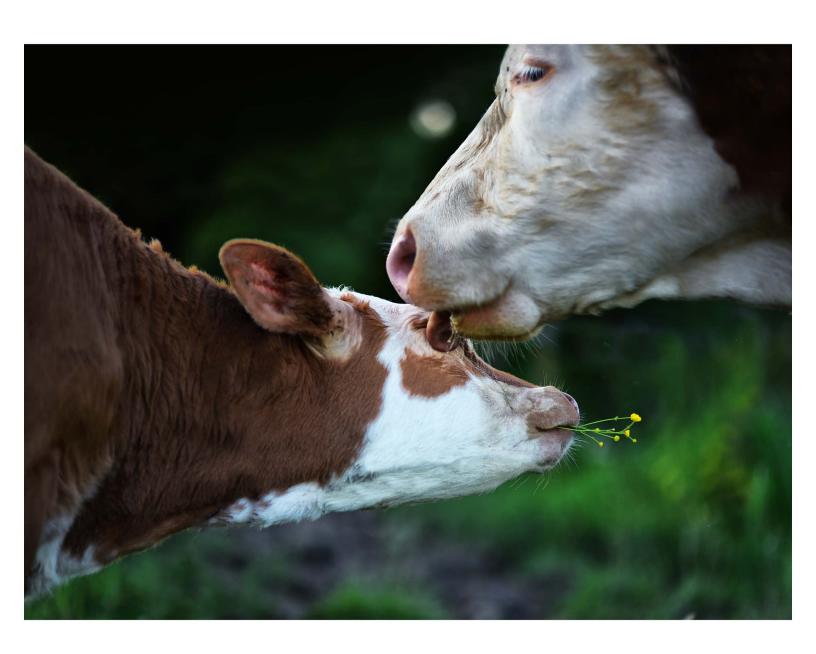
AgriProfit\$

2016–2020 Economic, productive and financial performance of Alberta cow/calf operations





Agriculture, Forestry and Rural Economic Development, Government of Alberta

Anatoliy Oginskyy Senior Production Economist Phone: 780-427-5390 anatoliy.oginskyy@gov.ab.ca

Ann Boyda Livestock Economist Phone: 780-422-4088 ann.boyda@gov.ab.ca

Economics Section Intergovernmental and Trade Relations Branch #300, 7000-113 Street Edmonton, Alberta T6H 5T6 Fax: 780-427-5220

For more information regarding this content visit: alberta.ca/about-agriprofits

 $\label{thm:constraints} This publication is available online at $$ $ \underline{\text{https://open.alberta.ca/publications/agriprofit-economic-production-and-financial-performance-of-alberta-cow-calf-operations} $$ $ \underline{\text{https://open.alberta.ca/publications/agriprofit-economic-production-and-financial-performance-of-alberta-cow-calf-operations} $$ $ \underline{\text{https://open.alberta.ca/publications/agriprofit-economic-production-and-financial-performance-of-alberta-cow-calf-operations} $$ $ \underline{\text{https://open.alberta-cow-calf-operations}} $$ $ \underline{\text{https:$

This publication is issued under the Open Government Licence – Alberta (http://open.alberta.ca/licence).

AgriProfit\$ 2016-2020 Economic, Productive and Financial Performance of Alberta Cow/Calf Operations | Agriculture, Forestry and Rural Economic Development

© 2022 Government of Alberta | January, 2022 |

Multi-Year Cow/Calf Performance | AgriProfit\$ Business Analysis

Contents

Overview	4
Table 1: Economic Performance Indicators (\$/Lb Weaned)	
Table 2. Economic Performance Indicators (\$/Cow Wintered)	
·	7
Figure 1. Revenues, Costs and Net Returns	7
Figure 2. Cow/Calf Enterprise Unit Costs This a Plant AP () This is a positive of the cost of t	_
Table 3. Physical Performance Indicators	
Figure 3. Physical Performance	g
Figure 4. Winter Feed Use	g
Table 4. Financial Performance Indicators	
Figure 5. Profitability	11
Figure 6. Selected Financial Ratios	11
Glossary	12

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 the Alberta Ministry of Agriculture, Forestry and Rural Economic Development 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 on 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)

			2016	2017	2018	2019	2020	Average of Years
		Average Farm Size (wintered cows)	167	161	214	211	182	188
(A)	1.	Weaned Calves	1.85	2.02	2.09	2.11	1.97	2.01
	2.	Cull Cows/Open Heifers	0.39	0.31	0.36	0.37	0.37	0.36
	3.	Bulls	0.05	0.07	0.05	0.06	0.04	0.06
	4.	Bred Cows/Bred Heifers	0.11	0.14	0.11	0.12	0.12	0.12
	5.	Miscellaneous Receipts	0.05	0.01	0.04	0.02	0.00	0.03
	6.	Government Programs	0.02	0.04	0.01	0.01	0.01	0.02
	7.	Inventory Adjustment	-0.16	0.35	0.33	0.16	0.35	0.21
	8.	Less: Cattle Purchases	0.79	0.64	0.81	0.55	0.85	0.73
		Value of Production	1.51	2.31	2.17	2.30	2.01	2.07
(B)	1.	Winter Feed	0.74	0.71	0.70	0.80	0.70	0.73
	2.	Bedding	0.04	0.05	0.03	0.03	0.03	0.04
	3.	Pasture	0.46	0.52	0.59	0.61	0.56	0.55
	4.	Veterinary & Medicine	0.06	0.08	0.07	0.07	0.06	0.07
	5.	Breeding Fees/Bull Rental	0.00	0.00	0.01	0.01	0.01	0.01
	6.	Trucking & Marketing Charges	0.03	0.03	0.04	0.02	0.04	0.03
	7.	Fuel	0.04	0.04	0.05	0.04	0.03	0.04
	8.	Repairs - Machine	0.04	0.04	0.03	0.04	0.03	0.04
	9.	Repairs - Corrals & Buildings	0.02	0.05	0.03	0.02	0.02	0.03
	10.	Utilities & Miscellaneous Expenses	0.07	0.06	0.06	0.08	0.05	0.07
	11.	Custom Work & Specialized Labour	0.00	0.01	0.02	0.01	0.01	0.01
	12.	Operating Interest Paid	0.01	0.01	0.02	0.02	0.00	0.01
	13.	Paid Labour & Benefits	0.04	0.04	0.03	0.04	0.04	0.04
	14.	Unpaid Labour	0.10	0.12	0.12	0.13	0.10	0.12
		Variable Costs	1.64	1.75	1.80	1.93	1.71	1.77
(C)	1.	Share/Lease Cattle Payments	0.00	0.01	0.01	0.01	0.00	0.00
	2.	Taxes, Water Rates, Lic. & Insurance	0.02	0.03	0.03	0.02	0.02	0.03
	3.	 a) Equipment & Building Depreciation 	0.13	0.12	0.12	0.11	0.11	0.12
		b) Lease Payments	0.01	0.00	0.00	0.01	0.01	0.01
	4.	Paid Capital Interest	0.01	0.01	0.04	0.01	0.02	0.02
		Total Capital Costs	0.17	0.17	0.21	0.16	0.15	0.17
(D)		Cash Costs (B+C-B14-C3a)	1.59	1.69	1.76	1.85	1.66	1.72
(E)		Total Production Costs (B+C)	1.82	1.93	2.01	2.09	1.86	1.95
(E\		Cross Mayrin (A.D.)	-0.08	0.62	0.41	0.45	0.35	0.36
(F)		Gross Margin (A-D)	-0.08 -0.20	0.50	0.41	0.43	0.33	0.30
		Return to Unpaid Labour (A-E+B14)	-0.20 -0.29	0.30 0.39	0.29 0.21	0.34 0.22	0.25 0.16	
		Return to Investment (A-E+C4)						0.14
		Net Return (A-E)	-0.30	0.38	0.17	0.21	0.14	0.12

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

			2016	2017	2018	2019	2020	Average of Years
		Average Farm Size (wintered cows)	167	161	214	211	182	188
					\$/Cow Winter	ed		
(A)	1.	Weaned Calves	977.86	1,057.17	1,016.57	1,083.54	1,049.14	1,038.78
	2	Cull Cows/Open Heifers	204.95	163.60	176.44	192.25	194.77	185.60
	3.	Bulls	29.12	37.79	22.53	33.05	23.91	28.79
	4.	Bred Cows/Bred Heifers	57.93	71.20	52.48	64.15	64.41	61.44
	5.	Miscellaneous Receipts	24.63	6.44	21.59	10.52	1.31	13.09
	6.	Government Programs	11.23	21.11	3.30	3.67	3.78	7.79
	7.	Inventory Adjustment	-83.55	182.95	159.35	81.38	185.44	113.87
	8.	Less: Cattle Purchases	420.09	334.25	393.80	284.50	452.94	374.54
		Value of Production	802.08	1,206.01	1,058.47	1,184.06	1,069.82	1,074.81
(B)	1.	Winter Feed	390.01	373.02	342.43	413.53	375.24	377.10
	2.	Bedding	19.00	25.31	12.42	17.79	17.78	17.89
	3.	Pasture	240.99	270.45	287.78	316.02	300.91	286.36
	4.	Veterinary & Medicine	30.55	39.74	32.01	36.39	32.85	34.26
	5.	Breeding Fees/Bull Rental	0.10	1.50	2.53	3.25	6.85	2.96
	6.	Trucking & Marketing Charges	17.04	16.61	17.33	12.32	20.31	16.62
	7.	Fuel	20.34	19.59	24.58	20.76	14.60	20.31
	8.	Repairs - Machine	23.07	22.62	15.44	18.28	16.56	18.70
	9.	Repairs - Corrals & Buildings	10.74	24.53	14.48	11.21	12.38	14.53
	10.	Utilities & Miscellaneous Expenses	38.52	32.88	31.25	40.71	27.31	33.99
	11.	Custom Work & Specialized Labour	2.62	4.63	8.14	6.09	7.06	6.02
	12.	Operating Interest Paid	3.10	3.23	9.97	9.64	2.30	6.20
	13.	Paid Labour & Benefits	22.20	20.20	17.02	18.86	23.95	20.10
	14.	Unpaid Labour	51.31	62.01	59.64	67.05	55.48	59.62
		Variable Costs	869.58	916.34	875.01	991.91	913.59	914.67
(C)	1.	Share/Lease Cattle Payments	0.04	4.59	2.58	4.42	0.00	2.46
	2.	Taxes, Water Rates, Lic. & Insurance	12.42	17.60	16.64	11.23	12.56	14.18
	3.	a) Equipment & Building Depreciation	67.23	61.18	60.04	56.74	56.22	59.88
		b) Lease Payments	6.90	1.48	0.65	5.28	3.01	3.23
	4.	Paid Capital Interest	5.43	5.77	21.45	6.69	8.47	10.51
		Total Capital Costs	92.01	90.63	101.36	84.36	80.26	90.25
(D)		Cash Costs (B+C-B14-C3a)	843.05	883.77	856.69	952.48	882.15	885.42
(E)		Total Production Costs (B+C)	961.58	1,006.97	976.37	1,076.27	993.85	1,004.93
		,						
(F)		Gross Margin (A-D)	-40.96	322.24	201.78	231.58	187.67	189.39
		Return to Unpaid Labour (A- E+B14)	- 108.19	261.06	141.74	174.84	131.45	129.51
		Return to Investment (A-E+C4)	- 154.08	204.81	103.55	114.47	84.43	80.39
		Net Return (A-E)	- 159.50	199.04	82.10	107.79	75.96	69.89

Figure 1. Revenues, Costs and Net Returns



Figure 2. Cow/Calf Enterprise Unit Costs

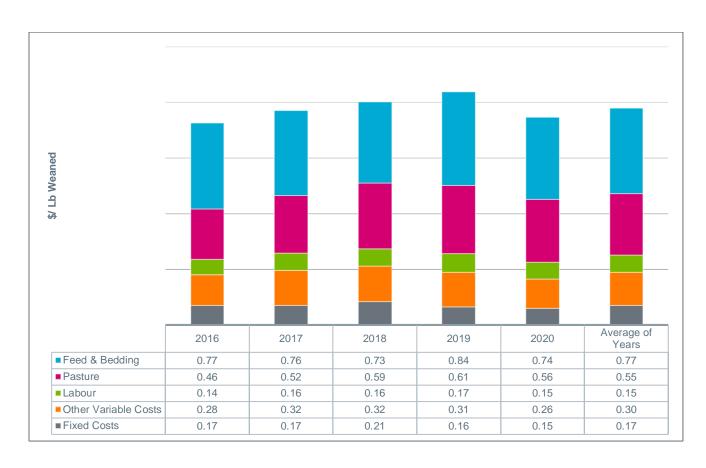


Table 3. Physical Performance Indicators

	2016	2017	2018	2019	2020	Average of Years
BREEDING SEASON INFORMATION						
Start of Breeding Period	6/17/15	7/15/16	6/22/17	7/18/18	6/15/19	
- no. of days	83	112	93	83	87	91
Length of Calving Period (days)	93	90	92	95	105	95
FEMALES EXPOSED	187	176	231	246	215	215
+ Bred Females Purchased	3	4	9	2	3	4
- Bred Females Sold	8	6	8	7	6	7
- Open Cows Culled	16	15	21	29	21	21
- Open Females Kept Back to be Re-Bred	1	2	2	2	9	3
- Cow Deaths Prior Calving	2	2	2	3	3	2
COWS/HEIFERS CALVED	163	154	207	208	181	186
+ Set of Twins	3	2	3	3	3	3
- Calves Born Dead / Aborted	7	7	8	6	7	7
LIVEBIRTHS	159	149	202	204	177	182
- Pasture Loss (after 24 hours)	6	4	5	7	5	5
+ Baby Calves Purchased	0	0	0	0	1	0
- Baby Calves Sold	1	1	5	4	2	3
CALVES WEANED	153	144	193	194	172	175
OF FOTER FEEDING REPEARANCE						
SELECTED FEEDING PERFORMANCE	175	186	162	153	172	168
Days on Feed	3.7	4.2	3.5	4.0	3.6	
Winter Feed Use Total as Fed (tonne AF/cow)						3.8
a) Hay	1.2	1.7	1.5	1.2	1.5	1.4
b) Silage	1.8	2.3	1.6	2.4	1.7	2.0
c) Greenfeed	0.2	0.1	0.2	0.2	0.2	0.2
d) Straw (feed)	0.1	0.1	0.1	0.1	0.1	0.1
e) Grains	0.3	0.1	0.1	0.1	0.1	0.1
PHYSICAL PERFORMANCE INDICATORS						
Conception Rate (%)	90	89	89	86	85	88
Calving Rate (%)	98	97	98	98	98	98
Weaning Rate (%)	96	97	95	95	97	96
Calf Crop (%)	84	83	83	81	81	82
Females Calved in First 2 Cycles (%)	89	87	88	89	83	87
Pounds Weaned / Cow Exposed	488	484	449	449	456	462
Pounds Weaned / Cow Wintered	539	535	529	522	487	523
Wean Weight as a % of Cow Weight	40	40	37	39	40	39
Weight per Day of Age (lb)	2.3	2.3	2.3	2.3	2.1	2.3
Mature Cow Weight (lb)	1,373	1,389	1,364	1,306	1,328	1,350

Figure 3. Physical Performance

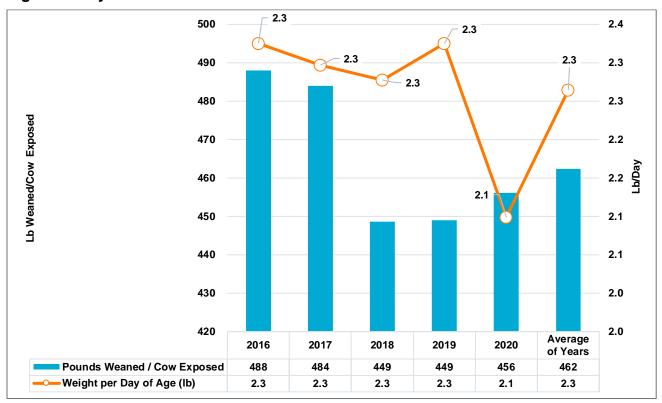


Figure 4. Winter Feed Use

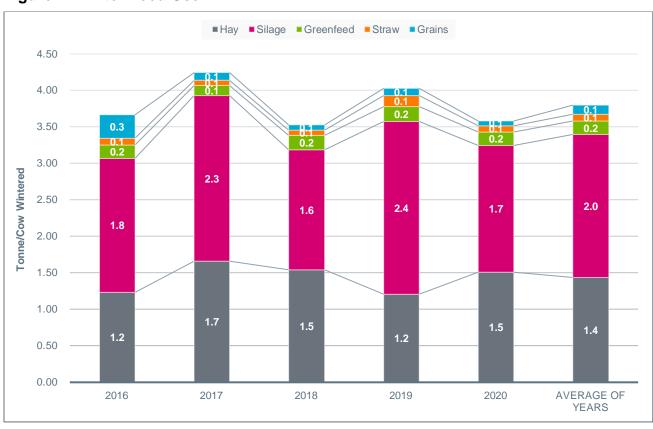


Table 4. Financial Performance Indicators

	2016	2017	2018	2019	2020	Average of Years		
ROAD to Profitability								
Risk (Debt to Asset Ratio)	0.14	0.12	0.13	0.09	0.10	0.11		
Operating Expense Ratio	0.69	0.60	0.63	0.54	0.68	0.62		
Asset Return	0.01	0.03	0.02	0.03	0.01	0.02		
Debt Payout	14.26	4.12	8.10	3.24	7.80	7.22		
to								
Profitability (\$/Cow Wintered)	-160	199	82	108	76	70		
The "3-C's"								
Current Ratio	3.67	3.39	2.67	3.39	4.21	3.40		
Calif. Working Cap. Ratio	0.89	0.88	0.85	1.14	1.03	0.96		
Capital Turnover Ratio	0.09	0.11	0.08	0.08	0.08	0.09		
Farm Size (Acres)	2,094	2,091	3,082	3,959	3,775	3,000		
Debt to Assets = Total Liabilities / Total Asse	Current Ratio = Current Assets / Current Liabilities							
				Calif. Working Cap. Ratio = Working Capital / Total Expenses				
				Capital Turnover = Value of Production / Total Farm Assets				
return envisore return envisore, return ennvisore				Farm Size = Total Acres in crops, forages & grazing				
Debt Payout = Total Liabilities / Net Farm Income				(includes all acres owned, rented & leased)				

Figure 5. Profitability

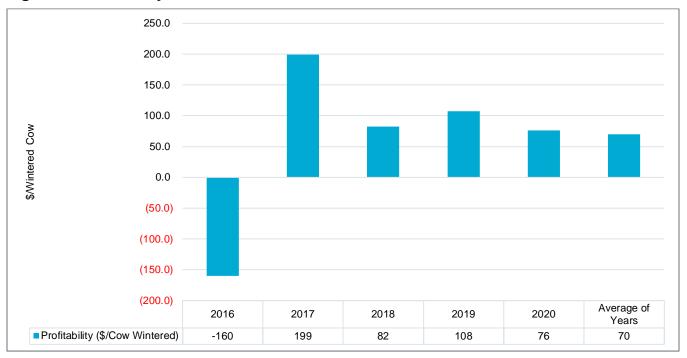
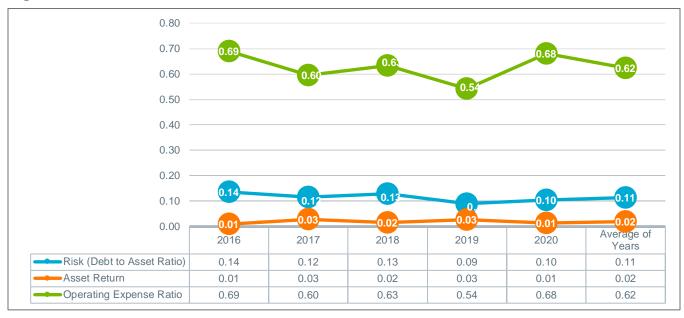


Figure 6. Selected Financial Ratios



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.

<u>Value of Production (VOP)</u> – 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).

<u>Winter Feed Costs</u> – 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).

<u>Pasture Costs</u> – 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.

<u>Labour Costs</u> – 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.

<u>Depreciation & Capital Lease Payments</u> – sum of depreciation & machinery/equipment/building 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.

<u>Investment</u> – 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 (%) - # Calved Cycle 1 & 2 / Total Calved

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

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

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

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

Cows Wintered – Opening Inventory of Bred Cows & Heifers

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

<u>Labour Hours/Cow</u> – Total Labour Hrs / CowsWintered

<u>AUMs/Cow Wintered</u> – Total Enterprise AUMs / Cows Wintered

<u>Days on Feed</u> – 365 Days less length of grazing period in days

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

Dry Matter - Tonnes Total Feed (Dry Matter) / # Cows Wintered

GOLD Indicators:

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

Open Cows (%) - # Open Cows & Heifers / # Exposed Females

Length of Calving Period – Days from first to last calf

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