

**Farm Characteristics** **CA-BC-3**

<b>Farm Description</b>	A cow-calf operation with 418 head of beef cows, producing predominantly homegrown feed.
<b>Winter Feeding Ration (lbs/cow/day as fed)</b>	60 days supplemented feeding on pasture with protein tubs (0.25 lb intake per head per day), followed by 130 days of full winter feed with mixed grass hay (35 lb)
<b>Retained Ownership/Replacement Ration (lb/head/day as fed)</b>	Replacement heifers: 130 days on mixed grass hay (18 lb) and protein grain mix pellets (3 lb)

**Disclaimer:**

This benchmark is based on 3 farms of data; outliers were excluded as required. Canfax Research Services (CRS) tries to provide quality information, but we make no claims, promises, or guarantees about the accuracy, completeness, or adequacy of the information. CRS does not guarantee and accepts no legal liability arising from or connected to, the accuracy, reliability, or completeness of any material contained in our publications. Reproduction and/or electronic transmission of this publication, in whole or in part, is strictly forbidden without written consent from CRS.

Environment	
Average Annual Temperature	3°C
Average Annual Precipitation (mm)	250-600
	Fraser Plateau
Ecoregion	Ecoregion
Stocking Rate (Animal Unit days per acre)	27
Fertilize Hay (yes/no)	No
Fertilize Pasture (yes/no)	No
Typical Hay Yield (tonnes/acre)	2.1
Grassland Acres (owned+rented)	1,969
Crop Acres (includes hay) (owned+rented)	544
Bush and other acres	0

Physical Performance Indicators	
	Herefords and
Breed	Angus
Cow:Bull Ratio	21:1
Bull Culling Rate (%)	21%
Mature Cow Weight (lb)	1,375
Heifer Retention for a steady herd (%)	14%
Cow Death Loss (%)	2.0%
Cow Culling Rate (%)	11.7%
Calves alive after 24hr/100 Cows exposed	88
Calf Death Loss (%) 24 hr to weaning	2%
Calves weaned per 100 cows exposed	86
Total Liveweight Sold per Cow (lb)	541
Weaning Weight (lb)	497
205 day adjusted Weaning Weight (lb)	493
Average Daily Gain pre-weaning (lb)	1.99
Weaning Weight as % of Cow Weight	36%

Production System	
Herd size	418
Days on field feeding (e.g. swath grazing)	0
Days supplemented on pasture	60
Days on full winter feed	130
Calving Start date	March 13
Weaning date	October 26
Sale date	October 26
Retained ownership	Replacements
% of feed purchased	3.3%
% of land in crops	22%
Annual sales Retained Cattle (head)	N/A
Placement weight (lbs)	N/A
Sale Weight (lbs)	N/A
Days on feed	0
Days on grass	0

**Footnotes:**

Cost of Production: Cash Cost + Depreciation + Opportunity Costs

Cash Costs = Cash cost for purchased feed, fertiliser, seeds, fuel, maintenance, land rents, animal purchases, interest on liabilities, wages paid, veterinary costs plus medicine, water, insurance, accounting, etc (excl. Tax)

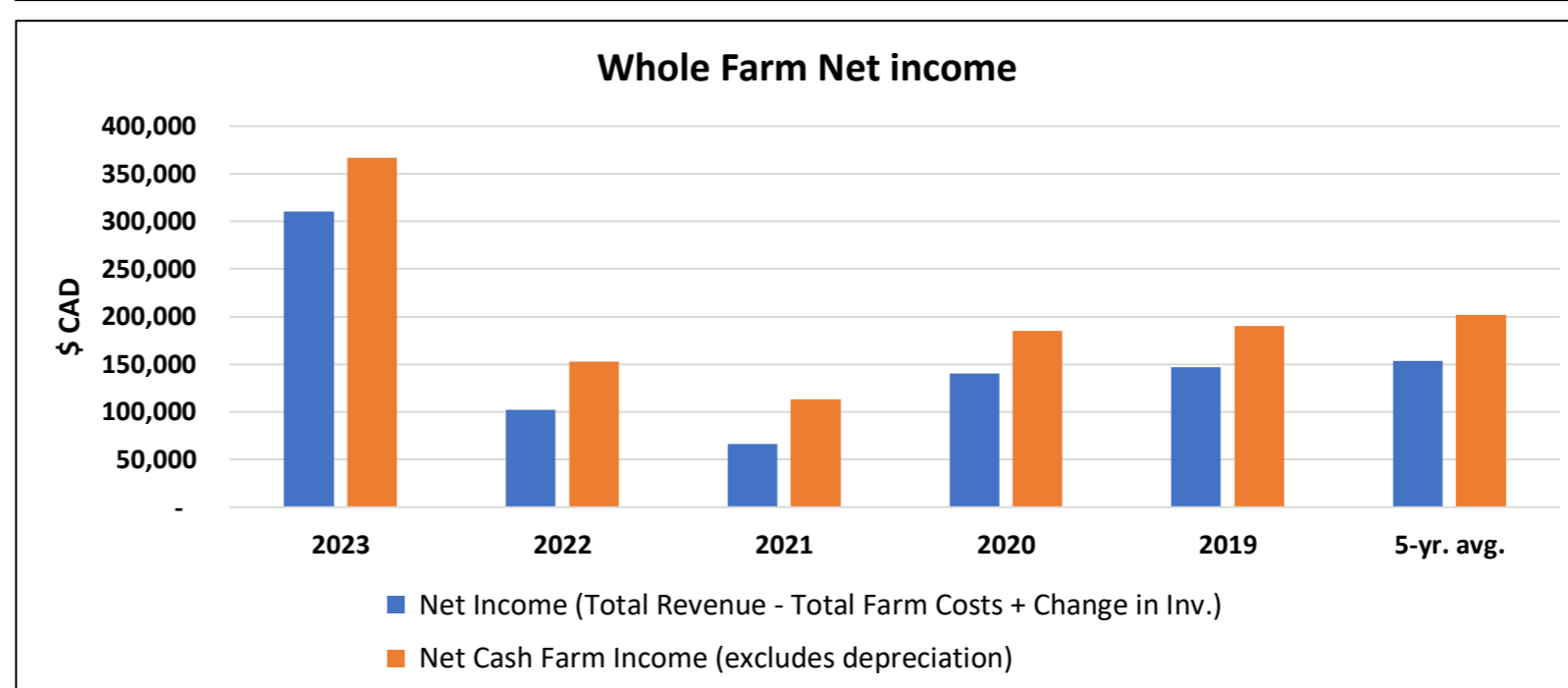
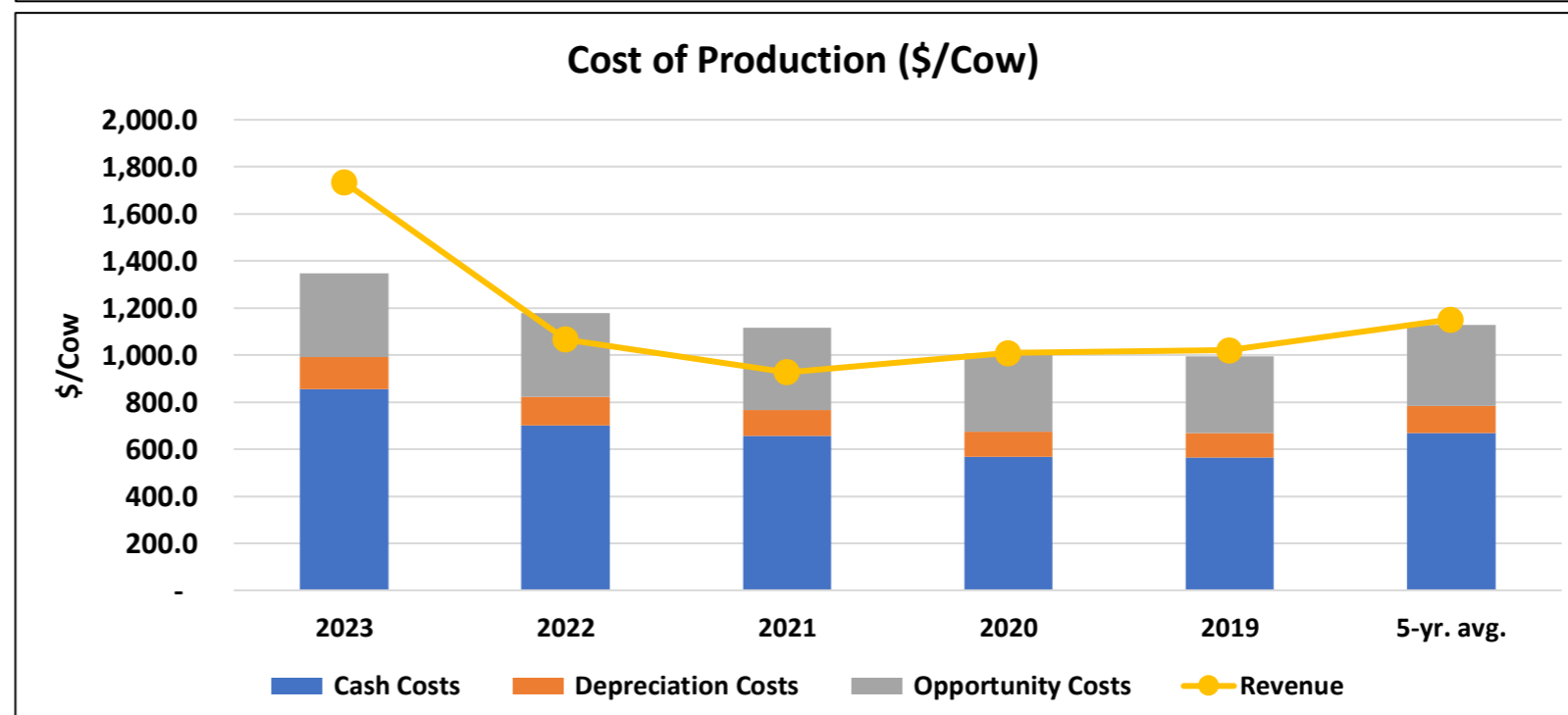
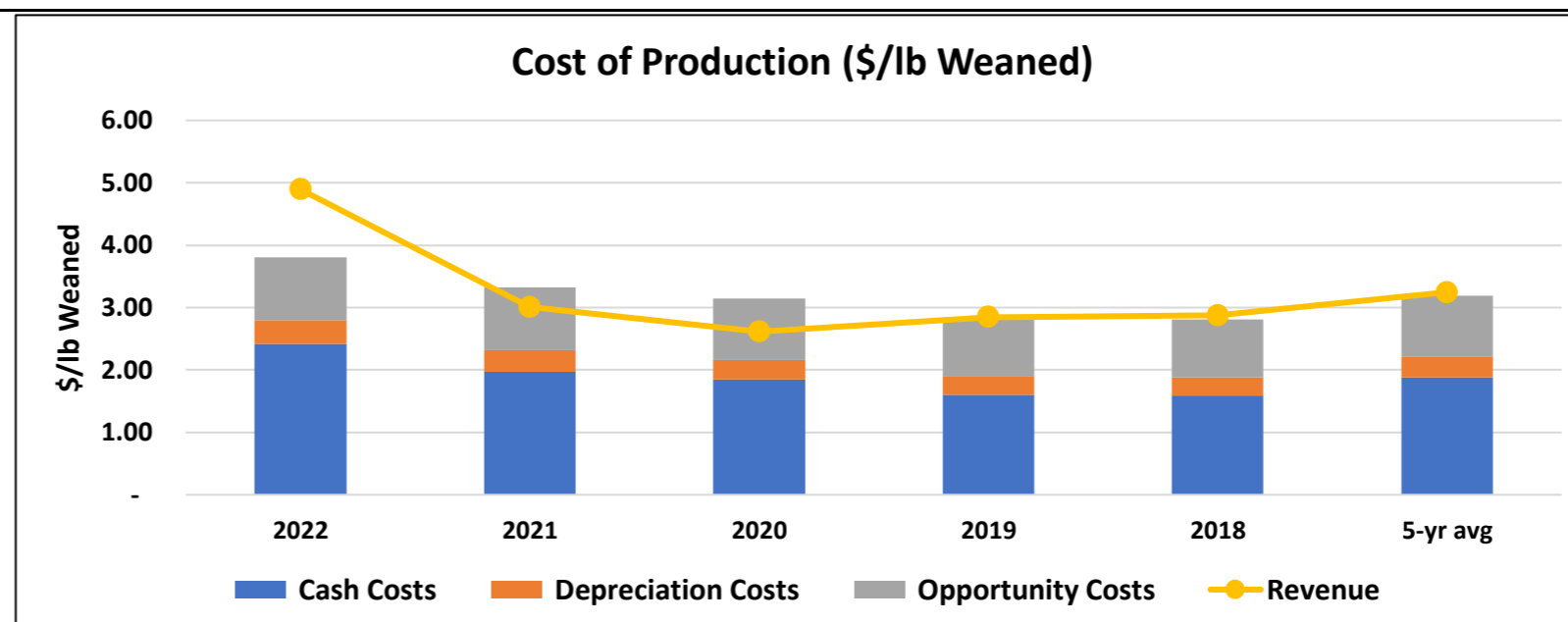
Depreciation = Linear depreciation on machinery and buildings, calculated on replacement values

Opportunity Costs = Calculated cost for using own production factors like labour (family working hours \* wage for qualified local labour, land (own land \* regional land rents) and capital (non-land equity \* long-term government bonds interest rate)

Whole Farm Profitability = Market returns (+ coupled payments) (+ decoupled payments) – whole-farm costs +/- changes in inventory +/- capital gains/losses.

Whole Farm Net Income = Whole farm profitability + depreciation + changes in inventory + capital gains/losses. Known as: 'Net farm income' (Agri Profits, 2018)

Revenue = sales of calves, cull cows, breeding stock, government payments and other revenue applicable to the specific enterprise



## Whole Farm Overview Page

Overview							
Operation Maturity	Medium						
Herd Size	418	Beef Animals Sold from Retained Ownership		N/A			
Paid Labour (livestock only) (hours)	3,632						
Unpaid Labour (livestock only) (hours)	2,288						
Average wages - paid and unpaid (\$/hr)	19.68						
Revenue		2023	2022	2021	2020	2019	5-yr. avg.
<b>Market Revenue</b>	<b>5-yr avg</b>	<b>655,730</b>	<b>445,803</b>	<b>372,335</b>	<b>421,615</b>	<b>426,476</b>	<b>464,392</b>
Cow-Calf	97%	655,730	445,803	372,335	421,615	426,476	464,392
Cash Crops	0%	-	-	-	-	-	-
Retained Ownership	0%	-	-	-	-	-	-
<b>Government Payments</b>	<b>3%</b>	<b>68,970</b>	<b>-</b>	<b>14,878</b>	<b>-</b>	<b>-</b>	<b>16,770</b>
<b>Other Farm Revenue †</b>	<b>0%</b>	<b>151</b>	<b>24</b>	<b>8</b>	<b>25</b>	<b>40</b>	<b>50</b>
<b>Total Revenue</b>	<b>100%</b>	<b>724,851</b>	<b>445,827</b>	<b>387,221</b>	<b>421,640</b>	<b>426,517</b>	<b>481,211</b>
Change in Inventory		-	-	-	-	-	-
Expenses		2023	2022	2021	2020	2019	5-yr. avg.
<b>Depreciation</b>		<b>57,059</b>	<b>50,870</b>	<b>46,283</b>	<b>44,647</b>	<b>43,386</b>	<b>48,449</b>
Machinery		40,708	35,391	31,808	30,712	29,689	33,662
Buildings		16,351	15,479	14,475	13,934	13,697	14,787
Quota econ. Accounting		-	-	-	-	-	-
<b>Overhead costs</b>		<b>119,449</b>	<b>123,663</b>	<b>97,223</b>	<b>87,007</b>	<b>92,417</b>	<b>103,952</b>
Land improvement		7,536	7,113	6,265	6,019	6,005	6,588
Machinery Maintenance		29,910	28,039	24,053	23,275	23,011	25,658
Buildings Maintenance		6,303	5,992	5,423	5,173	5,208	5,620
Contract labour		-	-	-	-	-	-
Diesel, Gasoline, Natural Gas		36,692	45,009	26,962	19,512	25,779	30,791
Electricity		6,651	4,601	2,790	2,053	2,008	3,621
Water		-	-	-	-	-	-
Farm insurance		13,104	13,535	12,850	12,396	12,026	12,782
Disability and accident insurance		-	-	-	-	-	-
Farm taxes and duties		2,957	3,055	2,900	2,798	2,714	2,885
Advisor costs		-	-	-	-	-	-
Accountant & legal fees		3,569	3,687	3,500	3,376	3,276	3,481
Phone & utilities		1,143	1,100	1,030	997	989	1,052
Other overhead costs		11,585	11,534	11,450	11,410	11,401	11,476
<b>Wages, rent and interest payments</b>		<b>75,858</b>	<b>79,136</b>	<b>76,403</b>	<b>72,914</b>	<b>70,192</b>	<b>74,901</b>
Paid Labour		68,874	71,139	67,540	65,153	63,208	67,183
Total land rents		1,576	1,576	1,576	1,576	1,576	1,576
Total Interest on debt		5,408	6,421	7,287	6,185	5,408	6,142
<b>Cow-Calf</b>		<b>157,723</b>	<b>85,413</b>	<b>96,454</b>	<b>72,849</b>	<b>69,365</b>	<b>96,361</b>
Animal purchases		17,800	17,800	17,800	17,800	17,800	17,800
Purchased feed		109,573	37,072	52,181	30,541	27,215	51,316
Other fixed and var. costs *		30,350	30,541	26,473	24,508	24,350	27,244
<b>Retained Ownership</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Animal purchases		-	-	-	-	-	-
Purchased feed		-	-	-	-	-	-
Other fixed and var. costs *		-	-	-	-	-	-
<b>Crop and forage</b>		<b>4,667</b>	<b>4,436</b>	<b>4,204</b>	<b>4,057</b>	<b>4,010</b>	<b>4,275</b>
Seed		3,411	3,228	3,072	2,962	2,923	3,119
Fertilizer		-	-	-	-	-	-
Herbicide		-	-	-	-	-	-
Fungicide & Insecticide		-	-	-	-	-	-
Irrigation		-	-	-	-	-	-
Contract labour		-	-	-	-	-	-
Fuel costs (crop & forage)		-	-	-	-	-	-
Other crop and forage		1,256	1,209	1,132	1,095	1,087	1,156
<b>Total Farm Costs (excludes unpaid labour)</b>		<b>414,756</b>	<b>343,519</b>	<b>320,567</b>	<b>281,473</b>	<b>279,371</b>	<b>327,937</b>
Cash Costs (Total Farm Costs - Depreciation)		357,697	292,649	274,284	236,826	235,985	279,488
Depreciation & Opportunity Costs (including unpaid labour)		102,093	95,904	91,317	89,681	88,420	93,483
Total Economic Costs (cash, depr, opportunity)		459,790	388,553	365,602	326,507	324,405	372,971
Profits		2023	2022	2021	2020	2019	5-yr. avg.
<b>Net Income (Total Revenue - Total Farm Costs + Change in Inv.)</b>		<b>310,096</b>	<b>102,308</b>	<b>66,654</b>	<b>140,167</b>	<b>147,146</b>	<b>153,274</b>
<b>Net Cash Farm Income (excludes depreciation)</b>		<b>367,003</b>	<b>153,154</b>	<b>112,929</b>	<b>184,789</b>	<b>190,491</b>	<b>201,673</b>

† Other Farm Revenue includes: Other enterprises, capital gains and losses as well as calculated interest on savings based on the models previous year profits.

\*Other fixed and var. costs includes: veterinary, medicine, maintenance and spare parts, and other/miscellaneous



Cow-Calf Enterprise (\$/Cow)	2023	2022	2021	2020	2019	5 yr. avg.
No. of Cows*	418	418	418	418	418	418
Average male and female calf price (\$/head)	1,822	1,220	1,030	1,172	1,182	1,285
<b>REVENUE</b>						
Cow Calf	1,734	1,067	926	1,009	1,020	1,151
Cull animals and slaughter receipts	264	187	149	162	166	186
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	1,305	880	742	847	854	925
Government payments	165.0	-	35.6	-	-	40.1
Other returns	-	-	-	-	-	-
<b>Total Cow-Calf Revenue</b>	<b>1,734</b>	<b>1,067</b>	<b>926</b>	<b>1,009</b>	<b>1,020</b>	<b>1,151</b>
<b>VARIABLE COSTS</b>						
Animal purchases	42.6	42.6	42.6	42.6	42.6	43
Feed (purchase feed, fertiliser, seed, pesticides)	291.3	116.3	149.9	97.2	89.1	149
Machinery (maintenance, depreciation, contractor)	168.9	151.7	133.6	129.2	126.1	142
Fuel, energy, lubricants, water	112.4	126.4	75.8	54.9	69.7	88
Vet & medicine	24.0	24.8	23.5	22.7	22.0	23
Other inputs cow calf enterprise	78.8	79.6	73.4	70.4	70.5	75
Labour						
Paid Labour	164.8	170.2	161.6	155.9	151.2	161
Unpaid Labour	111.7	115.3	109.5	105.6	102.5	109
<b>Total Variable Costs</b>	<b>994.6</b>	<b>827.0</b>	<b>769.9</b>	<b>678.4</b>	<b>673.6</b>	<b>789</b>
<b>CAPITAL COSTS</b>						
Insurance, taxes	38.4	39.7	37.7	36.3	35.3	37
Buildings (maintenance, depreciation)	54.2	51.4	47.6	45.7	45.2	49
Land Cost	-	-	-	-	-	-
Rented Land	3.8	3.8	3.8	3.8	3.8	4
Own Land	188.0	184.5	180.2	171.8	168.4	179
Capital Costs	-	-	-	-	-	-
Liabilities	12.9	15.4	17.4	14.8	12.9	15
Own capital	55.8	57.1	58.6	57.0	55.1	57
<b>Total Capital Costs</b>	<b>353.2</b>	<b>351.8</b>	<b>345.2</b>	<b>329.4</b>	<b>320.8</b>	<b>340</b>
<b>COSTS</b>						
Cash Costs	855.7	700.1	656.2	566.6	564.6	669
Depreciation Costs	136.5	121.7	110.7	106.8	103.8	116
Opportunity Costs	355.5	356.9	348.2	334.4	326.0	344
<b>Total Production Costs</b>	<b>1,347.7</b>	<b>1,178.7</b>	<b>1,115.1</b>	<b>1,007.8</b>	<b>994.4</b>	<b>1,129</b>
<b>Profits</b>						
	<b>2023</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>5-yr. avg.</b>
<b>Short-term profit (cash costs)</b>	878.0	366.4	270.2	442.1	455.7	482
<b>Medium-term profit (cash + depreciation)</b>	741.5	244.7	159.4	335.3	351.9	367
<b>Long-term profit (cash + depreciation + opportunity)</b>	386.0	(112.2)	(188.8)	0.8	25.9	22

\*Model Maintains a stable herd size

Costs and revenue are reported for a calendar (e.g. January to December). It reflects revenue and expenses that a producer experiences over that period. Producers who want a cash flow analysis typically use a calendar or agricultural year. This method is often preferred by lenders when getting evaluated for a line of credit or a loan. The model maintains a stable herd, retention rates were adjusted to ensure that.

#### Cash Costs

Cash costs are the outlays over the course of the year, including machine repairs, paid labour, costs of feed production, and purchased feed. CDN COP Network bases cash costs on actual costs of production. Agri Profit\$ uses the market value for some cash costs, including feed.

The cost of producing the feed on-farm and the purchased feed costs as used in that year to reflect the experience and situation of producers. Production inputs, land and any purchased feeds utilized that year are included. Rations for each type of animal and inventories are used to calculate total feed requirements. Any shortfall in production are assumed to be purchased at market value. Feed rations and yields are provided "as fed" to balance the model. Below are the included costs for feed production:

**Feed:** Calculated as feed cost (purchase feed + fertilizer, seed and pesticides for own feed production) + machinery cost (machinery maintenance + depreciation + contractor) + fuel, energy, lubricants and water + land cost (land rents paid + opportunity cost own land)

**Land:** separated into owned and rented land, includes both crop and pastureland. Land costs = Rents paid + calculated land rents for own land (opportunity cost).

By using the cost of land, the advantage that mature operations have is clearly shown as their cost structure is lower when land has been fully paid off.

#### Allocation

Generic allocation uses percent revenues from each commodity to cover overheads and utilizes accounting data for the overhead costs. This takes the approach that overheads and fixed costs will be covered by something grown on the farm and recognizes that there are commodity price cycles where grains and livestock tend to be opposite. It is not so much concerned about each enterprise paying their way as that all overheads are covered by the mix of commodities grown. It should be recognized that as commodity prices fluctuate and revenues to each enterprise fluctuate, the shifting shares will change the cost structure for each enterprise from year to year.

#### Depreciation

Depreciation on buildings and machinery is a non-cash cost that reveals the ability of the farm to continue operating if an asset needs replacement.

Differences in depreciation costs between AgriProfit\$ and the CDN COP Network primarily comes from the use of specific (AgriProfit\$) versus generic (CDN COP Network) allocation. Where generic allocation results in machinery depreciation used for feed production to show up in the cow-calf enterprise as that is where revenue is generated. In contrast, specific allocation removes that cost and since feed is treated at market value, machinery depreciation for feed production is treated as a cash cost. This results in the CDN COP Network typically having lower cash costs and higher depreciation costs than what is reported in AgriProfit\$.

#### Opportunity Costs

Opportunity costs are the non-cash costs that reveal the opportunity of using different resources. These costs can include Unpaid labour, renting out land, the opportunity of selling or buying feed production, and return to own capital.

**Land:** The Opportunity costs of land are the rents for new contracts if the farm rents out owned land. It reflects the future cost of renting land. If the producers' profits of utilizing the land outweigh the profits of renting the land, utilizing owned land for production should be preferred and vice-versa.

**Labour:** The opportunity costs of labour are the calculated wage for family labour, either off-farm salary or farm manager salary. It is important to note that the opportunity cost of labour reflects the income you can receive for the same type of labour.

**Capital:** The opportunity cost of capital is the interest rate for long-term government bonds multiplied by the equity without land (values of machines, buildings, livestock, circulating capital, less total loans). If the producers' return on capital through farm and ranch production of an enterprise is greater than investing elsewhere then, continuous production should be preferred.

#### Unit Reported

Often cow-calf COP is expressed as dollars per cow wintered (\$/cow wintered) which adjusts the calf price per head for the number of calves sold per 100 cows. When evaluating overall cost structure to identify areas for improvement, or comparing to a benchmark, this is sufficient.



Cow-Calf Enterprise (\$/lb Weaned)	2023	2022	2021	2020	2019	5 yr. avg.
<b>Pounds Weaned</b>	148,117	148,117	148,117	148,117	148,117	148,117
Average male and female weaning weight (lbs)	497	497	497	497	497	
Average male and female calf price at weaning (\$/lb)	3.67	2.46	2.07	2.36	2.38	2.59
<b>REVENUE</b>						
Cow Calf Operation	4.89	3.01	2.61	2.85	2.88	3.25
Cull animals and slaughter receipts	0.74	0.53	0.42	0.46	0.47	0.52
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	3.68	2.48	2.09	2.39	2.41	2.61
Government payments	0.47	-	0.10	-	-	0.11
Other returns	-	-	-	-	-	-
<b>Total Cow-Calf Revenue</b>	<b>4.89</b>	<b>3.01</b>	<b>2.61</b>	<b>2.85</b>	<b>2.88</b>	<b>3.25</b>
<b>VARIABLE COSTS</b>						
Animal purchases	0.12	0.12	0.12	0.12	0.12	0.12
Feed (purchase feed, fertiliser, seed, pesticides)	0.82	0.33	0.42	0.27	0.25	0.42
Machinery (maintenance, depreciation, contractor)	0.48	0.43	0.38	0.36	0.36	0.40
Fuel, energy, lubricants, water	0.32	0.36	0.21	0.15	0.20	0.25
Vet & medicine	0.07	0.07	0.07	0.06	0.06	0.07
Other inputs cow calf enterprise	0.22	0.22	0.21	0.20	0.20	0.21
Labour						
Paid Labour	0.46	0.48	0.46	0.44	0.43	0.45
Unpaid Labour	0.32	0.33	0.31	0.30	0.29	0.31
<b>Total Variable Costs</b>	<b>2.8</b>	<b>2.3</b>	<b>2.2</b>	<b>1.9</b>	<b>1.9</b>	<b>2.2</b>
<b>CAPITAL COSTS</b>						
Insurance, taxes	0.11	0.11	0.11	0.10	0.10	0.11
Buildings (maintenance, depreciation)	0.15	0.14	0.13	0.13	0.13	0.14
Land Cost						
Rented Land	0.01	0.01	0.01	0.01	0.01	0.01
Owned Land	0.53	0.52	0.51	0.48	0.48	0.50
Capital Costs						
Liabilities	0.04	0.04	0.05	0.04	0.04	0.04
Own capital	0.16	0.16	0.17	0.16	0.16	0.16
<b>Total Capital Costs</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>0.9</b>	<b>0.9</b>	<b>1.0</b>
<b>COSTS</b>						
Cash Costs	2.41	1.98	1.85	1.60	1.59	1.89
Depreciation Costs	0.39	0.34	0.31	0.30	0.29	0.33
Opportunity Costs	1.00	1.01	0.98	0.94	0.92	0.97
<b>Total Production Costs</b>	<b>3.80</b>	<b>3.33</b>	<b>3.15</b>	<b>2.84</b>	<b>2.81</b>	<b>3.19</b>
<b>Profits</b>						
<b>Short-term profit (cash costs)</b>	<b>2.48</b>	<b>1.03</b>	<b>0.76</b>	<b>1.25</b>	<b>1.29</b>	<b>1.36</b>
<b>Medium-term profit (cash + depreciation)</b>	<b>2.09</b>	<b>0.69</b>	<b>0.45</b>	<b>0.95</b>	<b>0.99</b>	<b>1.03</b>
<b>Long-term profit (cash + depreciation + opportunity)</b>	<b>1.09</b>	<b>(0.32)</b>	<b>(0.53)</b>	<b>0.00</b>	<b>0.07</b>	<b>0.06</b>

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**Land:** The Opportunity costs of land are the rents for new contracts if the farm rents out owned land. It reflects the future cost of renting land. If the producers' profits of utilizing the land outweigh the profits of renting the land, utilizing owned land for production should be preferred and vice-versa.

**Labour:** The opportunity costs of labour are the calculated wage for family labour, either off-farm salary or farm manager salary. It is important to note that the opportunity cost of labour reflects the income you can receive for the same type of labour.

**Capital:** The opportunity cost of capital is the interest rate for long-term government bonds multiplied by the equity without land (values of machines, buildings, livestock, circulating capital, less total loans). If the producers' return on capital through farm and ranch production of an enterprise is greater than investing elsewhere then, continuous production should be preferred.

#### Unit Reported

Often cow-calf COP is expressed as dollars per cow wintered (\$/cow wintered) which adjusts the calf price per head for the number of calves sold per 100 cows. When evaluating overall cost structure to identify areas for improvement, or comparing to a benchmark, this is sufficient.

However, a per unit cost provides producers with their break-even cost, allowing them to compare with posted market prices for their calves' average weight category. This break-even price will depend on the percentage of calves weaned that year from the cow herd. The higher percent weaned, the lower per pound the break-even price will be.

