

## Farm Characteristics

CA-SK-10

<b>Farm Description</b>	A cow-calf operation with 140 cows, utilizing predominantly homegrown feed.
<b>Winter Feeding Ration (lbs/cow/day as fed)</b>	134 days on hay (35 lb) and barley grain (5 lb)
<b>Retained Ownership/Replacement Ration (lb/head/day as fed)</b>	Replacement heifers: 134 days on hay (20 lb) and barley grain (3 lb)
<b>Disclaimer:</b>	This benchmark is based on 4 farms of data; outliers were excluded as required.

Environment	
Average Annual Temperature	3.5° C
Average Annual Precipitation (mm)	150-200 mm
Ecoregion	Mixed Grassland
Stocking Rate (Animal Unit days per acre)	17
Fertilize Hay (yes/no)	No
Fertilize Pasture (yes/no)	No
Typical Hay Yield (tonnes/acre)	0.9
Grassland Acres (owned+rented)	3,022
Crop Acres (includes hay) (owned+rented)	460
Bush and other acres	0

## Physical Performance Indicators

Breed	Angus
Cow:Bull Ratio	23:1
Bull Culling Rate (%)	17%
Mature Cow Weight (lb)	1,300
Heifer Retention for a steady herd (%)	11%
Cow Death Loss (%)	1.6%
Cow Culling Rate (%)	9.3%
Calves alive after 24hr/100 Cows exposed	87
Calf Death Loss (%) 24 hr to weaning	3%
Calves weaned per 100 cows exposed	84
Total Liveweight Sold per Cow (lb)	533
Weaning Weight (lb)	533
205 day adjusted Weaning Weight (lb)	566
Average Daily Gain pre-weaning (lb)	2.32
Weaning Weight as % of Cow Weight	41%

## Production System

Herd size	140
Days on field feeding (e.g. swath grazing)	0
Days supplemented on pasture	0
Days on full winter feed	134
Calving Start date	April 06
Weaning date	November 01
Sale date	November 01
Retained ownership	Replacements
% of feed purchased	13.7%
% of land in crops	13%
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)

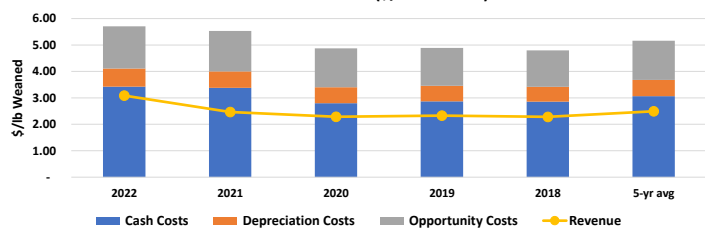
Whole Farm Profitability = Market returns (+ coupled payments) (+ decoupled payments) - whole-farm costs +/- changes in inventory +/- capital gains/losses.

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

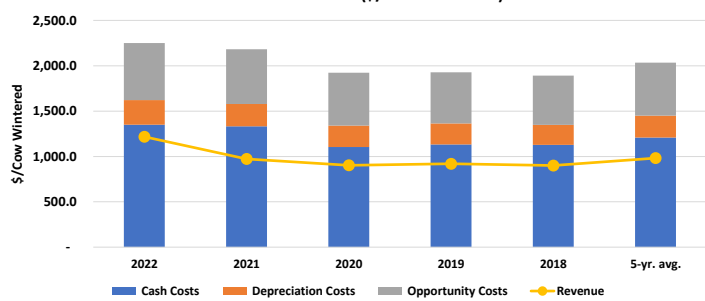
Revenue = sales of calves, cull cows, breeding stock, government payments and other revenue applicable to the specific enterprise

NOTE: Feed costs are based on cost of production if homegrown.

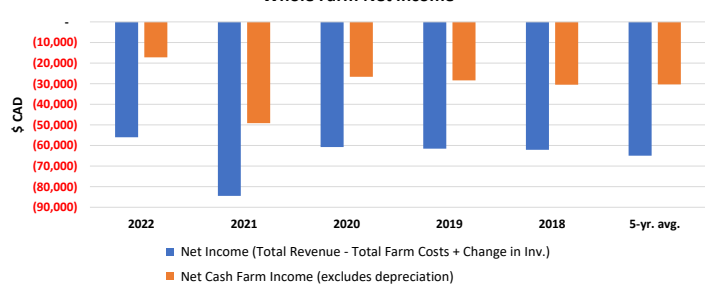
Cost of Production (\$/lb Weaned)



Cost of Production (\$/Cow Wintered)



Whole Farm Net income



# Whole Farm Overview Page

Overview							
Operation Maturity	Medium						
Herd Size	140						
Paid Labour (livestock only) (hours)	657						
Unpaid Labour (livestock only) (hours)	1,867						
Average wages - paid and unpaid (\$/hr)	22.99						
<b>Revenue</b>		<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>5-yr. avg.</b>
<b>Market Revenue</b>	<b>5-yr avg</b>	<b>156,427</b>	<b>122,175</b>	<b>126,347</b>	<b>128,742</b>	<b>126,036</b>	<b>131,945</b>
Cow-Calf	94%	156,427	122,175	126,347	128,742	126,036	131,945
Cash Crops	0%	-	-	-	-	-	-
Retained Ownership	0%	-	-	-	-	-	-
<b>Government Payments</b>	<b>4%</b>	<b>14,000</b>	<b>14,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5,600</b>
<b>Other Farm Revenue †</b>	<b>2%</b>	<b>3,050</b>	<b>3,056</b>	<b>3,051</b>	<b>3,051</b>	<b>3,051</b>	<b>3,052</b>
<b>Total Revenue</b>	<b>100%</b>	<b>173,477</b>	<b>139,231</b>	<b>129,398</b>	<b>131,793</b>	<b>129,087</b>	<b>140,597</b>
Change in Inventory		-	-	-	-	-	-
<b>Expenses</b>		<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>5-yr. avg.</b>
<b>Depreciation</b>		<b>38,773</b>	<b>35,338</b>	<b>34,084</b>	<b>33,146</b>	<b>31,626</b>	<b>34,594</b>
Machinery		25,299	22,739	21,955	21,223	19,997	22,243
Buildings		13,474	12,600	12,129	11,923	11,628	12,351
Quota econ. Accounting		-	-	-	-	-	-
<b>Overhead costs</b>		<b>55,891</b>	<b>47,968</b>	<b>43,227</b>	<b>45,299</b>	<b>44,865</b>	<b>47,450</b>
Land improvement		6,073	5,786	5,618	5,616	5,532	5,725
Machinery Maintenance		10,006	9,893	9,632	9,518	9,365	9,683
Buildings Maintenance		3,216	2,948	2,854	2,889	2,849	2,951
Contract labour		-	-	-	-	-	-
Diesel, Gasoline, Natural Gas		13,932	9,502	6,655	9,311	9,991	9,878
Electricity		4,846	2,939	2,162	2,116	1,939	2,800
Water		-	-	-	-	-	-
Farm insurance		6,975	6,622	6,388	6,197	5,927	6,422
Disability and accident insurance		3,300	3,133	3,022	2,932	2,804	3,038
Farm taxes and duties		4,211	3,998	3,857	3,742	3,578	3,877
Advisor costs		-	-	-	-	-	-
Accountant & legal fees		1,900	1,804	1,740	1,688	1,615	1,749
Phone & utilities		1,367	1,280	1,238	1,229	1,206	1,264
Other overhead costs		67	62	60	60	59	62
<b>Wages, rent and interest payments</b>		<b>79,839</b>	<b>70,029</b>	<b>67,174</b>	<b>68,916</b>	<b>68,714</b>	<b>70,934</b>
Paid Labour		11,989	11,382	10,980	10,652	10,187	11,038
Total land rents		36,100	35,146	34,684	34,363	34,017	34,862
Total Interest on debt		31,751	23,501	21,510	23,901	24,510	25,035
<b>Cow-Calf</b>		<b>43,150</b>	<b>61,496</b>	<b>38,666</b>	<b>37,312</b>	<b>36,983</b>	<b>43,521</b>
Animal purchases		4,125	4,125	4,125	4,125	4,125	4,125
Purchased feed		24,806	44,337	22,355	21,372	21,478	26,870
Other fixed and var. costs *		14,219	13,033	12,186	11,816	11,380	12,527
<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>11,821</b>	<b>8,866</b>	<b>7,007</b>	<b>8,647</b>	<b>9,004</b>	<b>9,069</b>
Seed		-	-	-	-	-	-
Fertilizer		-	-	-	-	-	-
Herbicide		-	-	-	-	-	-
Fungicide & Insecticide		-	-	-	-	-	-
Irrigation		-	-	-	-	-	-
Contract labour		-	-	-	-	-	-
Fuel costs (crop & forage)		8,530	5,784	4,026	5,687	6,100	6,026
Other crop and forage		3,291	3,082	2,982	2,960	2,903	3,043
<b>Total Farm Costs (excludes unpaid labour)</b>		<b>229,475</b>	<b>223,696</b>	<b>190,158</b>	<b>193,321</b>	<b>191,192</b>	<b>205,568</b>
Cash Costs (Total Farm Costs - Depreciation)		190,701	188,358	156,074	160,175	159,567	170,975
Depreciation & Opportunity Costs (including unpaid labour)		81,677	78,242	76,988	76,050	74,530	77,497
Total Economic Costs (cash, depr, opportunity)		272,378	266,600	233,062	236,225	234,096	248,472
<b>Profits</b>		<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>5-yr. avg.</b>
<b>Net Income (Total Revenue - Total Farm Costs + Change in Inv.)</b>		<b>(55,997)</b>	<b>(84,465)</b>	<b>(60,759)</b>	<b>(61,528)</b>	<b>(62,106)</b>	<b>(64,971)</b>
<b>Net Cash Farm Income (excludes depreciation)</b>		<b>(17,224)</b>	<b>(49,133)</b>	<b>(26,676)</b>	<b>(28,383)</b>	<b>(30,481)</b>	<b>(30,379)</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



<b>Cow-Calf Enterprise (\$/Cow Wintered)</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>5 yr. avg.</b>
Cows Wintered *	140	140	140	140	140	140
Average male and female calf price (\$/head)	1,315	1,019	1,061	1,076	1,053	1,105
<b>REVENUE</b>						
Cow Calf	1,217	973	902	920	900	982
Cull animals and slaughter receipts	132	109	109	114	112	115
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	985	763	793	805	788	827
Government payments	100.0	100.0	-	-	-	40.0
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	1,217	973	902	920	900	982
<b>VARIABLE COSTS</b>						
Animal purchases	29.5	29.5	29.5	29.5	29.5	29
Feed (purchase feed, fertiliser, seed, pesticides)	244.1	380.0	221.1	213.9	213.7	255
Machinery (maintenance, depreciation, contractor)	247.4	227.4	220.3	214.5	204.8	223
Fuel, energy, lubricants, water	192.5	128.0	90.3	120.4	126.8	132
Vet & medicine	32.0	29.7	27.2	24.1	22.2	27
Other inputs cow calf enterprise	80.0	73.1	69.2	69.6	68.2	72
Labour						
Paid Labour	84.0	79.3	76.6	74.3	71.0	77
Unpaid Labour	375.7	354.8	342.6	332.5	317.8	345
Total Variable Costs	1,285.1	1,301.8	1,076.7	1,078.7	1,053.9	1,159
<b>CAPITAL COSTS</b>						
Insurance, taxes	115.0	108.8	105.0	101.9	97.4	106
Buildings (maintenance, depreciation)	116.9	108.4	104.5	103.4	101.0	107
Land Cost	-	-	-	-	-	-
Rented Land	257.9	251.0	247.7	245.5	243.0	249
Own Land	251.1	239.5	233.9	230.0	225.8	236
Capital Costs	-	-	-	-	-	-
Liabilities	222.8	164.2	150.0	166.8	170.9	175
Own capital	2.1	8.2	5.0	2.0	0.0	3
Total Capital Costs	965.7	880.1	846.2	849.5	838.1	876
<b>COSTS</b>						
Cash Costs	1,350.3	1,333.1	1,103.7	1,132.4	1,127.9	1,209
Depreciation Costs	271.7	246.3	237.7	231.3	220.6	241
Opportunity Costs	628.9	602.5	581.5	564.5	543.6	584
Total Production Costs	2,250.8	2,181.9	1,922.8	1,928.2	1,892.1	2,035
<b>Profits</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>5-yr. avg.</b>
Short-term profit (cash costs)	(133.0)	(360.4)	(201.2)	(212.9)	(227.6)	(227)
Medium-term profit (cash + depreciation)	(404.6)	(606.7)	(438.9)	(444.1)	(448.2)	(469)
Long-term profit (cash + depreciation + opportunity)	(1,033.5)	(1,209.2)	(1,020.4)	(1,008.6)	(991.8)	(1,053)

\*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.

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.



<b>Cow-Calf Enterprise (\$/lb Weaned)</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>5 yr. avg.</b>
<b>Pounds Weaned</b>	55,217	55,217	55,217	55,217	55,217	55,217
Average male and female weaning weight (lbs)	533	533	533	533	533	
Average male and female calf price at weaning (\$/lb)	2.47	1.91	1.99	2.02	1.97	2.07
<b>REVENUE</b>						
Cow Calf Operation	3.09	2.47	2.29	2.33	2.28	2.49
Cull animals and slaughter receipts	0.33	0.28	0.28	0.29	0.28	0.29
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	2.50	1.94	2.01	2.04	2.00	2.10
Government payments	0.25	0.25	-	-	-	0.10
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	3.09	2.47	2.29	2.33	2.28	2.49
<b>VARIABLE COSTS</b>						
Animal purchases	0.07	0.07	0.07	0.07	0.07	0.07
Feed (purchase feed, fertiliser, seed, pesticides)	0.62	0.96	0.56	0.54	0.54	0.65
Machinery (maintenance, depreciation, contractor)	0.63	0.58	0.56	0.54	0.52	0.57
Fuel, energy, lubricants, water	0.49	0.32	0.23	0.31	0.32	0.33
Vet & medicine	0.08	0.08	0.07	0.06	0.06	0.07
Other inputs cow calf enterprise	0.20	0.19	0.18	0.18	0.17	0.18
Labour						
Paid Labour	0.21	0.20	0.19	0.19	0.18	0.20
Unpaid Labour	0.95	0.90	0.87	0.84	0.81	0.87
Total Variable Costs	3.3	3.3	2.7	2.7	2.7	2.9
<b>CAPITAL COSTS</b>						
Insurance, taxes	0.29	0.28	0.27	0.26	0.25	0.27
Buildings (maintenance, depreciation)	0.30	0.27	0.26	0.26	0.26	0.27
Land Cost						
Rented Land	0.65	0.64	0.63	0.62	0.62	0.63
Owned Land	0.64	0.61	0.59	0.58	0.57	0.60
Capital Costs						
Liabilities	0.56	0.42	0.38	0.42	0.43	0.44
Own capital	0.01	0.02	0.01	0.01	0.00	0.01
Total Capital Costs	2.4	2.2	2.1	2.2	2.1	2.2
<b>COSTS</b>						
Cash Costs	3.42	3.38	2.80	2.87	2.86	3.07
Depreciation Costs	0.69	0.62	0.60	0.59	0.56	0.61
Opportunity Costs	1.59	1.53	1.47	1.43	1.38	1.48
Total Production Costs	5.71	5.53	4.88	4.89	4.80	5.16
<b>Profits</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>5-yr. avg.</b>
Short-term profit (cash costs)	(0.34)	(0.91)	(0.51)	(0.54)	(0.58)	(0.58)
Medium-term profit (cash + depreciation)	(1.03)	(1.54)	(1.11)	(1.13)	(1.14)	(1.19)
Long-term profit (cash + depreciation + opportunity)	(2.62)	(3.07)	(2.59)	(2.56)	(2.51)	(2.67)

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#### Unit Reported

Open 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.

