

Farm Characteristics	CA-SK-4
Farm Description	A cow-calf operation producing predominantly homegrown feed located in one of the most productive agricultural regions on the prairies
Winter Feeding Ration (lbs/cow/day as fed)	60 days of bale grazing at 3% body weight with 5-10% wasted (45 lb) followed by 60 days of corn grazing and then 45 days of greenfeed (30 lb) + hay (9 lb)
Retained Ownership/Replacement Ration (lb/head/day as fed)	140 days of 10 lb hay, 10 lb greenfeed, 5.5 lb oats
Disclaimer:	This benchmark is based on 5 farms of data; outliers were excluded as required.

Environment	
Average Annual Temperature	1.5°C
Average Annual Precipitation (mm)	400–500 mm
Ecoregion	Aspen Parkland
Stocking Rate (Animal Unit days per acre)	30
Fertilize Hay (yes/no)	Yes
Fertilize Pasture (yes/no)	No
Typical Hay Yield (tonnes/acre)	1.8
Grassland Acres (owned+rented)	1,240
Crop Acres (includes hay) (owned+rented)	229
Bush and other acres	0

Physical Performance Indicators	
Breed	Angus cross, Simmental
Cow:Bull Ratio	25:1
Bull Culling Rate (%)	20%
Mature Cow Weight (lb)	1,500
Heifer Retention for a steady herd (%)	9%
Cow Death Loss (%)	1.0%
Cow Culling Rate (%)	8.0%
Calves alive after 24hr/100 Cows exposed	96
Calf Death Loss (%) 24 hr to weaning	4%
Calves weaned per 100 cows exposed	93
Total Liveweight Sold per Cow (lb)	632
Weaning Weight (lb)	598
205 day adjusted Weaning Weight (lb)	601
Average Daily Gain pre-weaning (lb)	2.52
Weaning Weight as % of Cow Weight	40%

Production System	
Herd size	120
Days on field feeding (e.g. swath grazing)	60
Days supplemented on pasture	60
Days on full winter feed	45
Calving Start date	March 15
Weaning date	October 25
Sale date	October 25
Retained ownership	Replacements
% of feed purchased	5.1%
% of land in crops	16%
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)

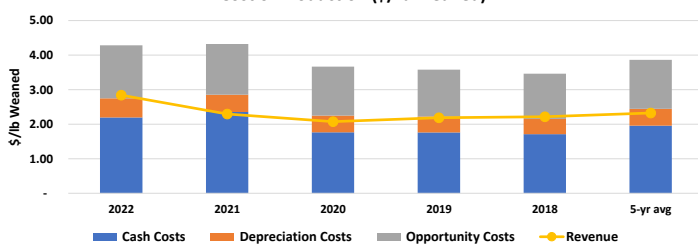
Whole Farm Profitability = Market returns (+ coupled payments) (+ decoupled payments) – whole-farm costs +/- changes in inventory +/- capital gains/losses.

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

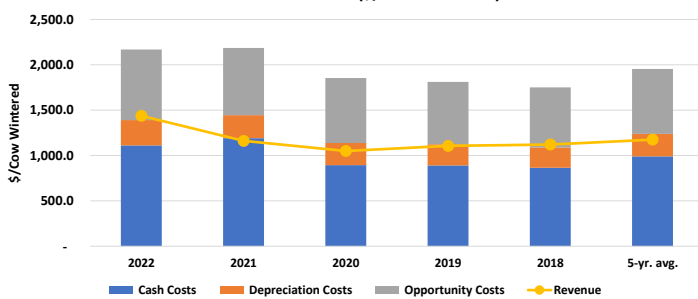
Revenue = sales of calves, cull cows, breeding stock, government payments and other revenue applicable to the specific enterprise

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

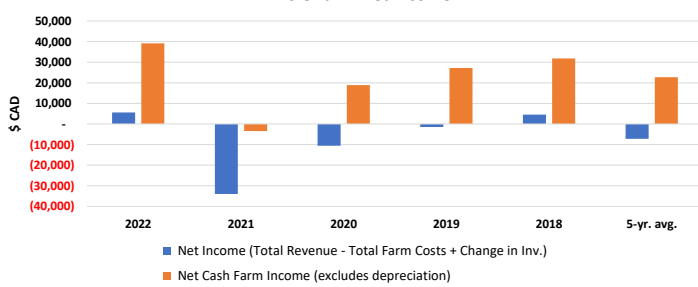
Cost of Production (\$/lb Weaned)



Cost of Production (\$/Cow Wintered)



Whole Farm Net income



Whole Farm Overview Page

Overview							
Operation Maturity	Start-up						
Herd Size	120						N/A
Paid Labour (livestock only) (hours)	-						
Unpaid Labour (livestock only) (hours)	2,846						
Average wages - paid and unpaid (\$/hr)	27.30						
Revenue		2022	2021	2020	2019	2018	5-yr. avg.
Market Revenue	5-yr avg	160,532	127,437	126,135	135,305	136,589	137,200
Cow-Calf	96%	160,532	127,437	125,991	132,789	134,560	136,262
Cash Crops	1%	-	-	144	2,515	2,029	938
Retained Ownership	0%	-	-	-	-	-	-
Government Payments	3%	12,000	12,000	-	-	-	4,800
Other Farm Revenue †	0%	-	-	-	-	-	-
Total Revenue	100%	172,532	139,437	126,135	135,305	136,589	142,000
Change in Inventory		-	-	-	-	-	-
Expenses		2022	2021	2020	2019	2018	5-yr. avg.
Depreciation		33,575	30,525	29,447	28,607	27,236	29,878
Machinery		23,968	21,542	20,800	20,107	18,945	21,073
Buildings		9,606	8,983	8,647	8,500	8,290	8,805
Quota econ. Accounting		-	-	-	-	-	-
Overhead costs		36,283	31,712	29,335	29,050	28,085	30,893
Land improvement		3,515	3,620	3,413	3,426	3,375	3,470
Machinery Maintenance		1,299	1,361	1,250	1,244	1,224	1,276
Buildings Maintenance		8,619	7,902	7,650	7,748	7,642	7,912
Contract labour		-	-	-	-	-	-
Diesel, Gasoline, Natural Gas		93	63	44	63	67	66
Electricity		8,159	4,949	3,641	3,563	3,266	4,715
Water		-	-	-	-	-	-
Farm insurance		5,470	5,194	5,010	4,860	4,648	5,037
Disability and accident insurance		287	272	263	255	244	264
Farm taxes and duties		3,079	2,923	2,820	2,736	2,616	2,835
Advisor costs		243	231	223	216	206	224
Accountant & legal fees		2,257	2,142	2,067	2,005	1,917	2,078
Phone & utilities		2,600	2,435	2,356	2,339	2,294	2,405
Other overhead costs		662	620	600	596	584	612
Wages, rent and interest payments		40,503	36,432	35,794	36,669	35,495	36,979
Paid Labour		-	-	-	-	-	-
Total land rents		20,405	19,372	18,871	18,523	18,148	19,064
Total Interest on debt		20,098	17,060	16,923	18,146	17,347	17,915
Cow-Calf		24,831	46,936	16,861	16,414	16,196	24,248
Animal purchases		5,500	5,500	5,500	5,500	5,500	5,500
Purchased feed		11,484	34,294	4,649	4,132	4,072	11,726
Other fixed and var. costs *		7,847	7,142	6,713	6,783	6,624	7,021
Retained Ownership		-	-	-	-	-	-
Animal purchases		-	-	-	-	-	-
Purchased feed		-	-	-	-	-	-
Other fixed and var. costs *		-	-	-	-	-	-
Crop and forage		31,785	27,831	25,288	26,019	25,056	27,196
Seed		6,598	6,797	6,456	6,870	6,382	6,621
Fertilizer		19,076	15,417	13,444	13,937	13,571	15,089
Herbicide		4,028	3,648	3,484	3,327	3,262	3,550
Fungicide & Insecticide		-	-	-	-	-	-
Irrigation		-	-	-	-	-	-
Contract labour		295	295	284	276	264	283
Fuel costs (crop & forage)		-	-	-	-	-	-
Other crop and forage		1,788	1,674	1,620	1,608	1,577	1,653
Total Farm Costs (excludes unpaid labour)		166,976	173,436	136,726	136,759	132,068	149,193
Cash Costs (Total Farm Costs - Depreciation)		133,402	142,911	107,278	108,152	104,832	119,315
Depreciation & Opportunity Costs (including unpaid labour)		111,266	108,217	107,139	106,299	104,927	107,570
Total Economic Costs (cash, depr, opportunity)		244,668	251,128	214,418	214,450	209,759	226,885
Profits		2022	2021	2020	2019	2018	5-yr. avg.
Net Income (Total Revenue - Total Farm Costs + Change in Inv.)		5,555	(33,999)	(10,591)	(1,454)	4,522	(7,193)
Net Cash Farm Income (excludes depreciation)		39,130	(3,474)	18,857	27,153	31,758	22,685

† 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 Wintered)	2022	2021	2020	2019	2018	5 yr. avg.
Cows Wintered *	120	120	120	120	120	120
Average male and female calf price (\$/head)	1,444	1,150	1,132	1,186	1,208	1,224
REVENUE						
Cow Calf	1,438	1,162	1,050	1,107	1,121	1,176
Cull animals and slaughter receipts	108	83	87	98	93	94
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	1,230	979	963	1,009	1,029	1,042
Government payments	100.0	100.0	-	-	-	40.0
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	1,438	1,162	1,050	1,107	1,121	1,176
VARIABLE COSTS						
Animal purchases	45.8	45.8	45.8	45.8	45.8	46
Feed (purchase feed, fertiliser, seed, pesticides)	387.4	545.4	275.5	276.5	267.9	351
Machinery (maintenance, depreciation, contractor)	213.0	193.3	185.9	176.9	167.8	187
Fuel, energy, lubricants, water	68.8	41.8	30.7	29.6	27.4	40
Vet & medicine	30.6	29.0	28.0	27.2	26.0	28
Other inputs cow calf enterprise	82.8	75.7	71.6	71.5	70.3	74
Labour						
Paid Labour	-	-	-	-	-	-
Unpaid Labour	651.9	619.0	596.4	568.5	545.8	596
Total Variable Costs	1,480.4	1,550.0	1,233.9	1,196.1	1,150.9	1,322
CAPITAL COSTS						
Insurance, taxes	73.6	69.9	67.4	64.3	61.7	67
Buildings (maintenance, depreciation)	151.9	140.7	135.7	132.9	130.8	138
Land Cost	-	-	-	-	-	-
Rented Land	170.0	161.4	157.1	151.9	149.3	158
Own Land	125.1	122.1	120.5	117.7	117.0	120
Capital Costs	-	-	-	-	-	-
Liabilities	167.5	142.2	140.9	148.4	142.4	148
Own capital	0.0	0.0	0.0	0.0	0.0	0
Total Capital Costs	688.2	636.3	621.5	615.1	601.1	632
COSTS						
Cash Costs	1,111.7	1,190.9	893.4	891.1	865.7	991
Depreciation Costs	279.8	254.4	245.1	234.0	223.6	247
Opportunity Costs	777.1	741.1	716.9	686.2	662.7	717
Total Production Costs	2,168.5	2,186.4	1,855.4	1,811.2	1,752.0	1,955
Profits						
Short-term profit (cash costs)	326.1	(29.0)	156.6	215.5	255.6	185
Medium-term profit (cash + depreciation)	46.3	(283.3)	(88.6)	(18.4)	32.0	(62)
Long-term profit (cash + depreciation + opportunity)	(730.8)	(1,024.4)	(805.5)	(704.6)	(630.7)	(779)

*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\$.

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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.



Cow-Calf Enterprise (\$/lb Weaned)	2022	2021	2020	2019	2018	5 yr. avg.
Pounds Weaned	60,743	60,743	60,743	60,743	60,743	60,743
Average male and female weaning weight (lbs)	598	598	598	598	598	
Average male and female calf price at weaning (\$/lb)	2.41	1.92	1.89	1.98	2.02	2.05
REVENUE						
Cow Calf Operation	2.84	2.30	2.07	2.19	2.22	2.32
Cull animals and slaughter receipts	0.21	0.16	0.17	0.19	0.18	0.18
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	2.43	1.93	1.90	1.99	2.03	2.06
Government payments	0.20	0.20	-	-	-	0.08
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	2.84	2.30	2.07	2.19	2.22	2.32
VARIABLE COSTS						
Animal purchases	0.09	0.09	0.09	0.09	0.09	0.09
Feed (purchase feed, fertiliser, seed, pesticides)	0.77	1.08	0.54	0.55	0.53	0.69
Machinery (maintenance, depreciation, contractor)	0.42	0.38	0.37	0.35	0.33	0.37
Fuel, energy, lubricants, water	0.14	0.08	0.06	0.06	0.05	0.08
Vet & medicine	0.06	0.06	0.06	0.05	0.05	0.06
Other inputs cow calf enterprise	0.16	0.15	0.14	0.14	0.14	0.15
Labour						
Paid Labour	-	-	-	-	-	-
Unpaid Labour	1.29	1.22	1.18	1.12	1.08	1.18
Total Variable Costs	2.9	3.1	2.4	2.4	2.3	2.6
CAPITAL COSTS						
Insurance, taxes	0.15	0.14	0.13	0.13	0.12	0.13
Buildings (maintenance, depreciation)	0.30	0.28	0.27	0.26	0.26	0.27
Land Cost						
Rented Land	0.34	0.32	0.31	0.30	0.29	0.31
Owned Land	0.25	0.24	0.24	0.23	0.23	0.24
Capital Costs						
Liabilities	0.33	0.28	0.28	0.29	0.28	0.29
Own capital	0.00	0.00	0.00	0.00	0.00	0.00
Total Capital Costs	1.4	1.3	1.2	1.2	1.2	1.2
COSTS						
Cash Costs	2.20	2.35	1.76	1.76	1.71	1.96
Depreciation Costs	0.55	0.50	0.48	0.46	0.44	0.49
Opportunity Costs	1.54	1.46	1.42	1.36	1.31	1.42
Total Production Costs	4.28	4.32	3.67	3.58	3.46	3.86
Profits	2022	2021	2020	2019	2018	5-yr. avg.
Short-term profit (cash costs)	0.64	(0.06)	0.31	0.43	0.50	0.37
Medium-term profit (cash + depreciation)	0.09	(0.56)	(0.17)	(0.04)	0.06	(0.12)
Long-term profit (cash + depreciation + opportunity)	(1.44)	(2.02)	(1.59)	(1.39)	(1.25)	(1.54)

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