

Farm Characteristics	CA-SK-6
Farm Description	A mixed cow-calf and cash crop operation utilizing predominantly homegrown feed in one of the most productive agricultural regions on the prairies.
Winter Feeding Ration (lbs/cow/day as fed)	186 days of predominantly cereal silage (35 lb)* and alfalfa hay (14 lb) fed TMR with custom mineral mix (100 g), with barley grain (4.5 lb) included for 90 days. *Total delivery dependent on dry matter of main silage ingredient (corn, barley, oat)
Retained Ownership/Replacement Ration (lb/head/day as fed)	186 days of predominantly cereal silage (24 lb)*, alfalfa hay (10 lb) and barley grain (4 lb) fed TMR with custom mineral mix (65 g). *Total delivery dependent on dry matter of main silage ingredient (corn, barley, oat)
Disclaimer:	This benchmark is based on 3 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)	29
Fertilize Hay (yes/no)	Yes
Fertilize Pasture (yes/no)	No
Typical Hay Yield (tonnes/acre)	1.8
Grassland Acres (owned+rented)	1,384
Crop Acres (includes hay) (owned+rented)	2,268
Bush and other acres	0

Physical Performance Indicators	
	Angus, Simmental, Charolais
Breed	
Cow:Bull Ratio	24:1
Bull Culling Rate (%)	20%
Mature Cow Weight (lb)	1,480
Heifer Retention for a steady herd (%)	15%
Cow Death Loss (%)	1.3%
Cow Culling Rate (%)	13.5%
Calves alive after 24hr/100 Cows exposed	92
Calf Death Loss (%) 24 hr to weaning	3%
Calves weaned per 100 cows exposed	89
Total Liveweight Sold per Cow (lb)	730
Weaning Weight (lb)	708
205 day adjusted Weaning Weight (lb)	636
Average Daily Gain pre-weaning (lb)	2.73
Weaning Weight as % of Cow Weight	48%

Production System	
Herd size	135
Days on field feeding (e.g. swath grazing)	0
Days supplemented on pasture	0
Days on full winter feed	186
Calving Start date	February 05
Weaning date	October 05
Sale date	October 15
Retained ownership	Replacements
% of feed purchased	0.5%
% of land in crops	62%
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)

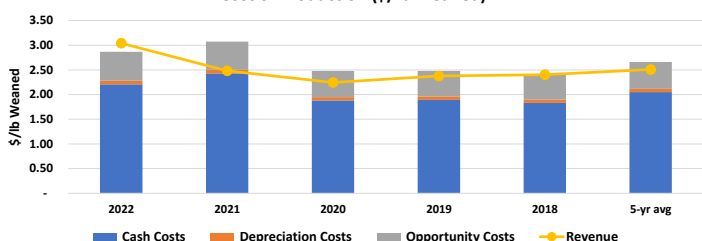
Whole Farm Profitability = Market returns (+ coupled payments) (+ decoupled payments) – whole-farm costs +/- changes in inventory +/- capital gains/losses.

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

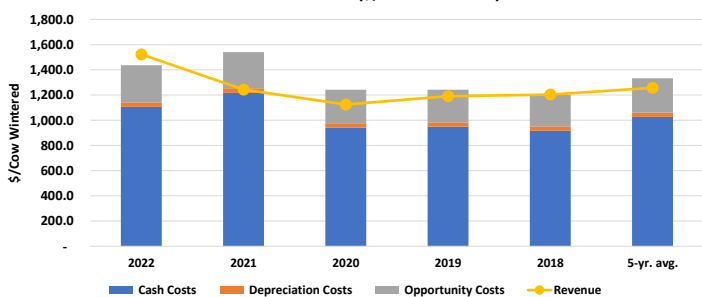
Revenue = sales of calves, cull cows, breeding stock, government payments and other revenue applicable to the specific enterprise

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

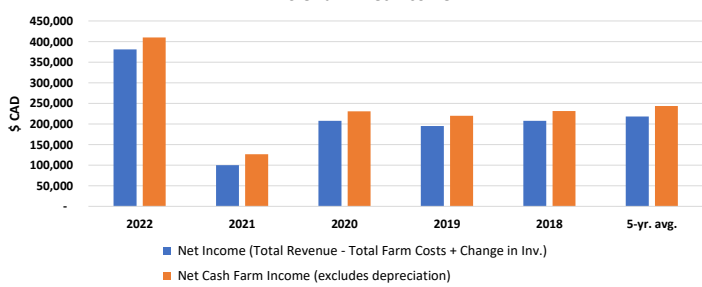
Cost of Production (\$/lb Weaned)



Cost of Production (\$/Cow Wintered)



Whole Farm Net income



Whole Farm Overview Page

Overview							
Operation Maturity	Medium						
Herd Size	135						
Paid Labour (livestock only) (hours)	513			Beef Animals Sold from Retained Ownership	N/A		
Unpaid Labour (livestock only) (hours)	567						
Average wages - paid and unpaid (\$/hr)	21.09						
Revenue		2022	2021	2020	2019	2018	5-yr. avg.
Market Revenue	5-yr avg	1,157,887	811,808	847,499	859,500	845,584	904,456
Cow-Calf	18%	192,229	154,358	151,880	160,755	162,540	164,352
Cash Crops	80%	965,658	657,449	695,619	698,745	683,044	740,103
Retained Ownership	0%	-	-	-	-	-	-
Government Payments	1%	13,500	13,500	-	-	-	5,400
Other Farm Revenue †	1%	11,025	11,000	11,001	11,000	11,008	11,007
Total Revenue	100%	1,182,412	836,308	858,500	870,500	856,592	920,862
Change in Inventory		-	-	2,638	-	-	528
Expenses		2022	2021	2020	2019	2018	5-yr. avg.
Depreciation		28,952	26,527	25,575	24,927	23,895	25,975
Machinery		15,028	13,507	13,042	12,607	11,879	13,213
Buildings		13,923	13,019	12,533	12,320	12,016	12,762
Quota econ. Accounting		-	-	-	-	-	-
Overhead costs		109,860	94,915	83,823	88,591	87,831	93,004
Land improvement		4,344	4,474	4,218	4,234	4,171	4,288
Machinery Maintenance		14,788	15,498	14,234	14,167	13,938	14,525
Buildings Maintenance		2,930	2,687	2,601	2,634	2,598	2,690
Contract labour		8,222	8,222	7,931	7,694	7,359	7,886
Diesel, Gasoline, Natural Gas		32,336	22,307	15,813	21,872	23,486	23,163
Electricity		8,930	5,416	3,985	3,899	3,574	5,161
Water		-	-	-	-	-	-
Farm insurance		7,818	7,422	7,160	6,946	6,643	7,198
Disability and accident insurance		1,446	1,373	1,325	1,285	1,229	1,332
Farm taxes and duties		7,888	7,489	7,224	7,009	6,703	7,263
Advisor costs		4,800	4,558	4,397	4,265	4,079	4,420
Accountant & legal fees		11,710	11,118	10,725	10,405	9,951	10,782
Phone & utilities		4,068	3,810	3,686	3,659	3,589	3,762
Other overhead costs		579	543	525	521	511	536
Wages, rent and interest payments		161,355	155,475	157,029	150,021	133,461	151,468
Paid Labour		29,385	27,898	26,912	26,109	24,970	27,055
Total land rents		92,170	83,923	79,922	77,151	74,156	81,464
Total Interest on debt		39,801	43,654	50,195	46,761	34,335	42,949
Cow-Calf		35,583	59,749	31,719	30,382	29,640	37,414
Animal purchases		4,733	4,733	4,733	4,733	4,733	4,733
Purchased feed		7,199	34,112	7,990	6,698	6,768	12,553
Other fixed and var. costs *		23,651	20,904	18,995	18,951	18,139	20,128
Retained Ownership		-	-	-	-	-	-
Animal purchases		-	-	-	-	-	-
Purchased feed		-	-	-	-	-	-
Other fixed and var. costs *		-	-	-	-	-	-
Crop and forage		465,759	399,720	355,335	381,667	374,277	395,352
Seed		95,278	98,153	93,224	99,211	92,161	95,605
Fertilizer		177,388	143,358	125,014	129,598	126,192	140,310
Herbicide		46,871	42,451	40,544	38,720	37,962	41,309
Fungicide & Insecticide		27,763	27,763	27,763	27,763	27,763	27,763
Irrigation		-	-	-	-	-	-
Contract labour		-	-	-	-	-	-
Fuel costs (crop & forage)		88,777	60,198	41,895	59,677	64,011	62,911
Other crop and forage		29,683	27,798	26,895	26,699	26,188	27,453
Total Farm Costs (excludes unpaid labour)		801,508	736,387	653,480	675,589	649,105	703,214
Cash Costs (Total Farm Costs - Depreciation)		772,557	709,860	627,905	650,661	625,210	677,239
Depreciation & Opportunity Costs (including unpaid labour)		40,909	38,484	37,533	36,885	35,853	37,933
Total Economic Costs (cash, depr, opportunity)		813,466	748,344	665,438	687,547	661,062	715,172
Profits		2022	2021	2020	2019	2018	5-yr. avg.
Net Income (Total Revenue - Total Farm Costs + Change in Inv.)		380,904	99,921	207,657	194,912	207,487	218,176
Net Cash Farm Income (excludes depreciation)		409,830	126,448	230,594	219,839	231,374	243,617

† 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 *	135	135	135	135	135	135
Average male and female calf price (\$/head)	1,682	1,348	1,319	1,386	1,416	1,430
REVENUE						
Cow Calf	1,524	1,243	1,125	1,191	1,204	1,257
Cull animals and slaughter receipts	214	175	178	197	188	191
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	1,209	968	947	994	1,016	1,027
Government payments	100.0	100.0	-	-	-	40.0
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	1,524	1,243	1,125	1,191	1,204	1,257
VARIABLE COSTS						
Animal purchases	35.1	35.1	35.1	35.1	35.1	35
Feed (purchase feed, fertiliser, seed, pesticides)	258.9	434.5	225.8	219.3	214.9	271
Machinery (maintenance, depreciation, contractor)	46.3	51.7	46.8	47.1	46.6	48
Fuel, energy, lubricants, water	140.2	101.1	71.4	97.4	104.3	103
Vet & medicine	36.1	33.3	30.3	26.2	23.9	30
Other inputs cow calf enterprise	149.0	134.0	121.2	125.3	121.7	130
Labour						
Paid Labour	35.8	38.8	35.8	35.7	35.1	36
Unpaid Labour	124.9	135.3	124.8	124.6	122.4	126
Total Variable Costs	826.3	963.8	691.2	710.7	704.1	779
CAPITAL COSTS						
Insurance, taxes	49.4	48.4	46.2	45.2	43.5	47
Buildings (maintenance, depreciation)	20.5	21.8	20.1	20.5	20.5	21
Land Cost	-	-	-	-	-	-
Rented Land	319.4	290.9	277.0	267.4	257.0	282
Own Land	170.0	150.9	141.7	135.3	128.4	145
Capital Costs	-	-	-	-	-	-
Liabilities	51.3	64.9	66.7	64.0	48.3	59
Own capital	0.0	0.0	0.0	0.0	0.0	0
Total Capital Costs	610.7	577.0	551.7	532.2	497.6	554
COSTS						
Cash Costs	1,106.8	1,217.7	942.4	949.0	917.3	1,027
Depreciation Costs	35.3	36.9	34.0	34.1	33.6	35
Opportunity Costs	294.9	286.2	266.5	259.9	250.8	272
Total Production Costs	1,437.0	1,540.8	1,242.9	1,242.9	1,201.7	1,333
Profits						
Short-term profit (cash costs)	417.1	25.7	182.6	241.8	286.7	231
Medium-term profit (cash + depreciation)	381.8	(11.2)	148.6	207.7	253.1	196
Long-term profit (cash + depreciation + opportunity)	86.9	(297.4)	(117.8)	(52.2)	2.3	(76)

*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

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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	67,648	67,648	67,648	67,648	67,648	67,648
Average male and female weaning weight (lbs)	708	708	708	708	708	
Average male and female calf price at weaning (\$/lb)	2.38	1.91	1.86	1.96	2.00	2.02
REVENUE						
Cow Calf Operation	3.04	2.48	2.25	2.38	2.40	2.51
Cull animals and slaughter receipts	0.43	0.35	0.36	0.39	0.38	0.38
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	2.41	1.93	1.89	1.98	2.03	2.05
Government payments	0.20	0.20	-	-	-	0.08
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	3.04	2.48	2.25	2.38	2.40	2.51
VARIABLE COSTS						
Animal purchases	0.07	0.07	0.07	0.07	0.07	0.07
Feed (purchase feed, fertiliser, seed, pesticides)	0.52	0.87	0.45	0.44	0.43	0.54
Machinery (maintenance, depreciation, contractor)	0.09	0.10	0.09	0.09	0.09	0.10
Fuel, energy, lubricants, water	0.28	0.20	0.14	0.19	0.21	0.21
Vet & medicine	0.07	0.07	0.06	0.05	0.05	0.06
Other inputs cow calf enterprise	0.30	0.27	0.24	0.25	0.24	0.26
Labour						
Paid Labour	0.07	0.08	0.07	0.07	0.07	0.07
Unpaid Labour	0.25	0.27	0.25	0.25	0.24	0.25
Total Variable Costs	1.6	1.9	1.4	1.4	1.4	1.6
CAPITAL COSTS						
Insurance, taxes	0.10	0.10	0.09	0.09	0.09	0.09
Buildings (maintenance, depreciation)	0.04	0.04	0.04	0.04	0.04	0.04
Land Cost						
Rented Land	0.64	0.58	0.55	0.53	0.51	0.56
Owned Land	0.34	0.30	0.28	0.27	0.26	0.29
Capital Costs						
Liabilities	0.10	0.13	0.13	0.13	0.10	0.12
Own capital	0.00	0.00	0.00	0.00	0.00	0.00
Total Capital Costs	1.2	1.2	1.1	1.1	1.0	1.1
COSTS						
Cash Costs	2.21	2.43	1.88	1.89	1.83	2.05
Depreciation Costs	0.07	0.07	0.07	0.07	0.07	0.07
Opportunity Costs	0.59	0.57	0.53	0.52	0.50	0.54
Total Production Costs	2.87	3.07	2.48	2.48	2.40	2.66
Profits	2022	2021	2020	2019	2018	5-yr. avg.
Short-term profit (cash costs)	0.83	0.05	0.36	0.48	0.57	0.46
Medium-term profit (cash + depreciation)	0.76	(0.02)	0.30	0.41	0.51	0.39
Long-term profit (cash + depreciation + opportunity)	0.17	(0.59)	(0.24)	(0.10)	0.00	(0.15)

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