

Farm Characteristics CA-SK-11b

Farm Description	A cow-calf operation with 160 cows, utilizing predominantly homegrown feed.
Winter Feeding Ration (lbs/cow/day as fed)	165 days on barley silage (38 lb), hay (10 lb) and greenfeed (9lb)
Retained Ownership/Replacement Ration (lb/head/day as fed)	Replacements: 213 days on barley silage(30 lb), hay (5 lb) and pellets (4 lb)
Disclaimer:	This benchmark is based on 4 farms of data; outliers were excluded as required.

Environment	
Average Annual Temperature	2.5° C
Average Annual Precipitation (mm)	350-400
Ecoregion	Mixed Grassland
Stocking Rate (Animal Unit days per acre)	28
Fertilize Hay (yes/no)	No
Fertilize Pasture (yes/no)	No
Typical Hay Yield (tonnes/acre)	1.3
Grassland Acres (owned+rented)	2,229
Crop Acres (includes hay) (owned+rented)	342
Bush and other acres	0

Physical Performance Indicators	
Breed	Angus, Simmental, Hereford, Charolais
Cow:Bull Ratio	27:1
Bull Culling Rate (%)	17%
Mature Cow Weight (lb)	1,450
Heifer Retention for a steady herd (%)	10%
Cow Death Loss (%)	1.3%
Cow Culling Rate (%)	9.0%
Calves alive after 24hr/100 Cows exposed	93
Calf Death Loss (%) 24 hr to weaning	2%
Calves weaned per 100 cows exposed	91
Total Liveweight Sold per Cow (lb)	667
Weaning Weight (lb)	629
205 day adjusted Weaning Weight (lb)	581
Average Daily Gain pre-weaning (lb)	2.45
Weaning Weight as % of Cow Weight	43%

Production System	
Herd size	160
Days on field feeding (e.g. swath grazing)	0
Days supplemented on pasture	0
Days on full winter feed	165
Calving Start date	February 13
Weaning date	October 13
Sale date	October 13
Retained ownership	Replacements
% of feed purchased	2.1%
% 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)

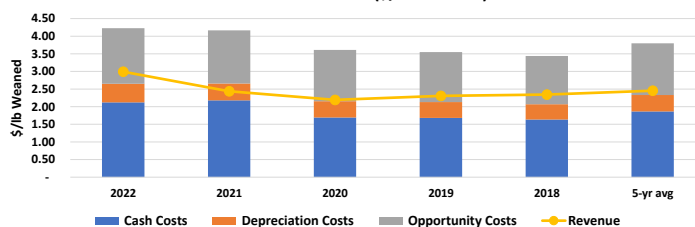
Whole Farm Profitability = Market returns (+ coupled payments) (+ decoupled payments) – whole-farm costs +/- changes in inventory +/- capital gains/losses.

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

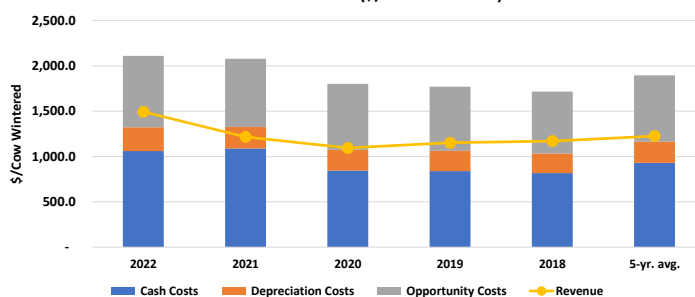
Revenue = sales of calves, cull cows, breeding stock, government payments and other revenue applicable to the specific enterprise

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

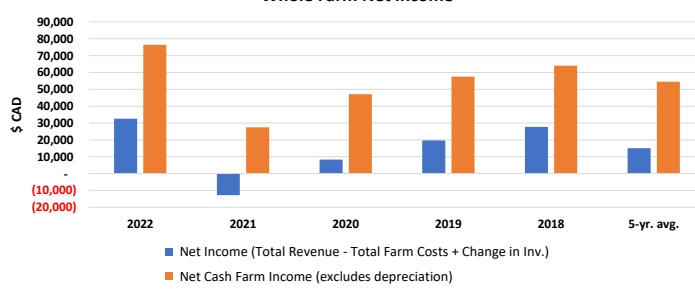
Cost of Production (\$/lb Weaned)



Cost of Production (\$/Cow Wintered)



Whole Farm Net income



Whole Farm Overview Page

Overview							
Operation Maturity	Medium						
Herd Size	160						
Paid Labour (livestock only) (hours)	183			Beef Animals Sold from Retained Ownership	N/A		
Unpaid Labour (livestock only) (hours)	2,920						
Average wages - paid and unpaid (\$/hr)	26.24						
Revenue		2022	2021	2020	2019	2018	5-yr. avg.
Market Revenue	5-yr avg	222,792	178,552	175,054	184,205	187,191	189,559
Cow-Calf	92%	222,792	178,552	175,054	184,205	187,191	189,559
Cash Crops	0%	-	-	-	-	-	-
Retained Ownership	0%	-	-	-	-	-	-
Government Payments	3%	16,000	16,000	-	-	-	6,400
Other Farm Revenue †	5%	10,001	10,001	10,002	10,015	10,033	10,010
Total Revenue	100%	248,793	204,552	185,055	194,220	197,223	205,969
Change in Inventory		-	-	-	-	-	-
Expenses		2022	2021	2020	2019	2018	5-yr. avg.
Depreciation		43,844	40,233	38,785	37,828	36,309	39,400
Machinery		21,063	18,931	18,279	17,670	16,649	18,519
Buildings		22,780	21,302	20,506	20,158	19,660	20,881
Quota econ. Accounting		-	-	-	-	-	-
Overhead costs		55,215	49,165	45,591	45,923	45,031	48,185
Land improvement		4,374	4,167	4,046	4,045	3,984	4,123
Machinery Maintenance		10,736	10,614	10,334	10,212	10,047	10,389
Buildings Maintenance		2,407	2,206	2,136	2,162	2,132	2,209
Contract labour		4,434	4,210	4,061	3,940	3,768	4,082
Diesel, Gasoline, Natural Gas		7,868	5,779	4,358	5,426	5,849	5,856
Electricity		5,466	3,315	2,439	2,387	2,188	3,159
Water		-	-	-	-	-	-
Farm insurance		7,025	6,670	6,434	6,242	5,969	6,468
Disability and accident insurance		1,323	1,256	1,212	1,176	1,124	1,218
Farm taxes and duties		5,825	5,530	5,335	5,176	4,950	5,363
Advisor costs		-	-	-	-	-	-
Accountant & legal fees		1,900	1,804	1,740	1,688	1,615	1,749
Phone & utilities		3,133	2,934	2,839	2,818	2,764	2,898
Other overhead costs		725	679	657	652	640	671
Wages, rent and interest payments		45,424	39,071	33,519	31,460	29,795	35,854
Paid Labour		5,176	4,914	4,741	4,599	4,399	4,766
Total land rents		20,407	19,229	18,658	18,262	17,834	18,878
Total Interest on debt		19,840	14,927	10,121	8,599	7,562	12,210
Cow-Calf		37,649	59,030	32,093	30,343	29,830	37,789
Animal purchases		6,533	6,533	6,533	6,533	6,533	6,533
Purchased feed		15,480	38,150	12,196	11,065	11,094	17,597
Other fixed and var. costs *		15,636	14,347	13,364	12,744	12,203	13,659
Retained Ownership		-	-	-	-	-	-
Animal purchases		-	-	-	-	-	-
Purchased feed		-	-	-	-	-	-
Other fixed and var. costs *		-	-	-	-	-	-
Crop and forage		34,111	29,834	26,788	28,987	28,567	29,657
Seed		7,297	7,518	7,140	7,786	7,293	7,407
Fertilizer		14,043	12,219	11,198	11,457	11,275	12,038
Herbicide		1,813	1,642	1,568	1,497	1,468	1,598
Fungicide & Insecticide		616	616	616	616	616	616
Irrigation		-	-	-	-	-	-
Contract labour		400	380	367	356	340	369
Fuel costs (crop & forage)		7,160	4,855	3,379	4,773	5,120	5,057
Other crop and forage		2,782	2,605	2,520	2,502	2,454	2,573
Total Farm Costs (excludes unpaid labour)		216,242	217,333	176,777	174,541	169,531	190,885
Cash Costs (Total Farm Costs - Depreciation)		172,398	177,100	137,991	136,713	133,222	151,485
Depreciation & Opportunity Costs (including unpaid labour)		120,471	116,860	115,413	114,455	112,936	116,027
Total Economic Costs (cash, depr, opportunity)		292,869	293,960	253,404	251,168	246,158	267,512
Profits		2022	2021	2020	2019	2018	5-yr. avg.
Net Income (Total Revenue - Total Farm Costs + Change in Inv.)		32,551	(12,780)	8,279	19,679	27,692	15,084
Net Cash Farm Income (excludes depreciation)		76,393	27,452	47,063	57,492	63,968	54,474

† 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 *	160	160	160	160	160	160
Average male and female calf price (\$/head)	1,495	1,199	1,172	1,231	1,258	1,271
REVENUE						
Cow Calf	1,492	1,216	1,094	1,151	1,170	1,225
Cull animals and slaughter receipts	192	155	155	165	161	166
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	1,200	961	940	986	1,009	1,019
Government payments	100.0	100.0	-	-	-	40.0
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	1,492	1,216	1,094	1,151	1,170	1,225
VARIABLE COSTS						
Animal purchases	40.8	40.8	40.8	40.8	40.8	41
Feed (purchase feed, fertiliser, seed, pesticides)	290.0	418.2	245.5	243.5	238.6	287
Machinery (maintenance, depreciation, contractor)	219.2	202.2	195.5	190.9	182.9	198
Fuel, energy, lubricants, water	124.5	84.2	61.3	76.1	79.7	85
Vet & medicine	41.7	38.6	35.2	30.8	28.2	35
Other inputs cow calf enterprise	87.7	80.5	76.7	76.9	75.5	79
Labour						
Paid Labour	31.0	29.1	28.0	27.3	26.1	28
Unpaid Labour	468.7	440.3	424.3	412.7	395.0	428
Total Variable Costs	1,303.6	1,333.8	1,107.4	1,099.1	1,066.8	1,182
CAPITAL COSTS						
Insurance, taxes	89.1	84.1	81.1	78.8	75.4	82
Buildings (maintenance, depreciation)	150.7	139.1	133.9	132.3	129.3	137
Land Cost	-	-	-	-	-	-
Rented Land	127.5	120.2	116.6	114.1	111.5	118
Own Land	198.5	190.6	186.8	184.1	181.2	188
Capital Costs	-	-	-	-	-	-
Liabilities	119.0	88.7	59.8	51.0	44.9	73
Own capital	119.9	120.6	114.9	110.4	105.8	114
Total Capital Costs	804.8	743.4	693.1	670.7	648.0	712
COSTS						
Cash Costs	1,059.0	1,087.6	845.2	838.4	817.4	930
Depreciation Costs	262.3	238.1	229.3	224.2	215.4	234
Opportunity Costs	787.1	751.5	726.0	707.2	682.1	731
Total Production Costs	2,108.4	2,077.2	1,800.5	1,769.9	1,714.9	1,894
Profits						
Short-term profit (cash costs)	433.4	128.3	248.9	312.9	352.5	295
Medium-term profit (cash + depreciation)	171.2	(109.8)	19.6	88.6	137.1	61
Long-term profit (cash + depreciation + opportunity)	(615.9)	(861.3)	(706.4)	(618.6)	(544.9)	(669)

*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.



Cow-Calf Enterprise (\$/lb Weaned)	2022	2021	2020	2019	2018	5 yr. avg.
Pounds Weaned	79,804	79,804	79,804	79,804	79,804	79,804
Average male and female weaning weight (lbs)	629	629	629	629	629	
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	2.99	2.44	2.19	2.31	2.35	2.46
Cull animals and slaughter receipts	0.39	0.31	0.31	0.33	0.32	0.33
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	2.41	1.93	1.88	1.98	2.02	2.04
Government payments	0.20	0.20	-	-	-	0.08
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	2.99	2.44	2.19	2.31	2.35	2.46
VARIABLE COSTS						
Animal purchases	0.08	0.08	0.08	0.08	0.08	0.08
Feed (purchase feed, fertiliser, seed, pesticides)	0.58	0.84	0.49	0.49	0.48	0.58
Machinery (maintenance, depreciation, contractor)	0.44	0.41	0.39	0.38	0.37	0.40
Fuel, energy, lubricants, water	0.25	0.17	0.12	0.15	0.16	0.17
Vet & medicine	0.08	0.08	0.07	0.06	0.06	0.07
Other inputs cow calf enterprise	0.18	0.16	0.15	0.15	0.15	0.16
Labour						
Paid Labour	0.06	0.06	0.06	0.05	0.05	0.06
Unpaid Labour	0.94	0.88	0.85	0.83	0.79	0.86
Total Variable Costs	2.6	2.7	2.2	2.2	2.1	2.4
CAPITAL COSTS						
Insurance, taxes	0.18	0.17	0.16	0.16	0.15	0.16
Buildings (maintenance, depreciation)	0.30	0.28	0.27	0.27	0.26	0.27
Land Cost						
Rented Land	0.26	0.24	0.23	0.23	0.22	0.24
Owned Land	0.40	0.38	0.37	0.37	0.36	0.38
Capital Costs						
Liabilities	0.24	0.18	0.12	0.10	0.09	0.15
Own capital	0.24	0.24	0.23	0.22	0.21	0.23
Total Capital Costs	1.6	1.5	1.4	1.3	1.3	1.4
COSTS						
Cash Costs	2.12	2.18	1.69	1.68	1.64	1.86
Depreciation Costs	0.53	0.48	0.46	0.45	0.43	0.47
Opportunity Costs	1.58	1.51	1.46	1.42	1.37	1.47
Total Production Costs	4.23	4.16	3.61	3.55	3.44	3.80
Profits	2022	2021	2020	2019	2018	5-yr. avg.
Short-term profit (cash costs)	0.87	0.26	0.50	0.63	0.71	0.59
Medium-term profit (cash + depreciation)	0.34	(0.22)	0.04	0.18	0.27	0.12
Long-term profit (cash + depreciation + opportunity)	(1.23)	(1.73)	(1.42)	(1.24)	(1.09)	(1.34)

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