

Farm Characteristics

CA-AB-13

Farm Description	A cow-calf operation with 155 head of beef cows, producing predominantly homegrown feed, sell at weaning.
Winter Feeding Ration (lbs/cow/day as fed)	60 days of swath grazing followed by 182 days on hay (34 lb) and greenfeed (7 lb)
Retained Ownership/Replacement Ration (lb/head/day as fed)	Replacements heifers: 203 days on hay (22 lb) and greenfeed (2.5 lb)
Disclaimer:	This benchmark is based on 3 farms of data; outliers were excluded as required.

Environment	
Average Annual Temperature	1.5° C to 2° C
Average Annual Precipitation (mm)	450-600
Ecoregion	Western Alberta Upland
Stocking Rate (Animal Unit days per acre)	28
Fertilize Hay (yes/no)	No
Fertilize Pasture (yes/no)	No
Typical Hay Yield (tonnes/acre)	1.1
Grassland Acres (owned+rented)	1,111
Crop Acres (includes hay) (owned+rented)	719
Bush and other acres	0

Physical Performance Indicators	
Breed	Angus, Simmental
Cow:Bull Ratio	19:1
Bull Culling Rate (%)	13%
Mature Cow Weight (lb)	1,400
Heifer Retention for a steady herd (%)	5%
Cow Death Loss (%)	0.3%
Cow Culling Rate (%)	5.0%
Calves alive after 24hr/100 Cows exposed	93
Calf Death Loss (%) 24 hr to weaning	4%
Calves weaned per 100 cows exposed	89
Total Liveweight Sold per Cow (lb)	578
Weaning Weight (lb)	603
205 day adjusted Weaning Weight (lb)	578
Average Daily Gain pre-weaning (lb)	2.42
Weaning Weight as % of Cow Weight	43%

Production System	
Herd size	155
Days on field feeding (e.g. swath grazing)	60
Days supplemented on pasture	0
Days on full winter feed	182
Calving Start date	March 18
Weaning date	November 02
Sale date	November 02
Retained ownership	Replacements
% of feed purchased	0.8%
% of land in crops	39%
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)

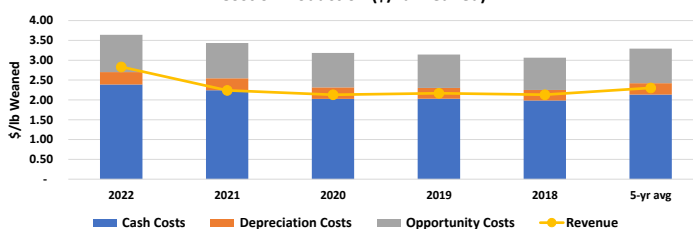
Whole Farm Profitability = Market returns (+ coupled payments) (+ decoupled payments) - whole-farm costs +/- changes in inventory +/- capital gains/losses.

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

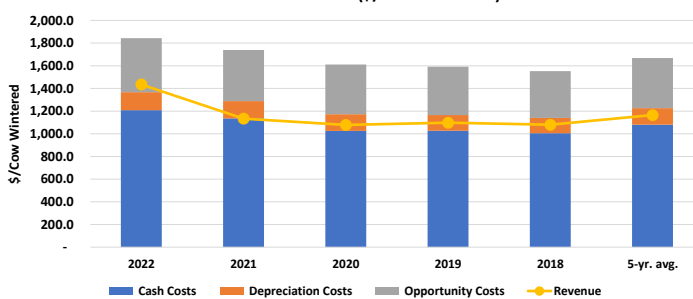
Revenue = sales of calves, cull cows, breeding stock, government payments and other revenue applicable to the specific enterprise

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

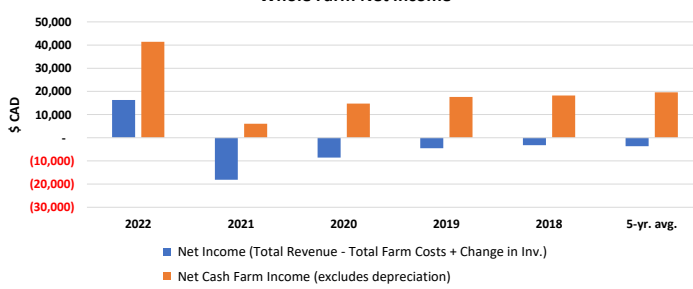
Cost of Production (\$/lb Weaned)



Cost of Production (\$/Cow Wintered)



Whole Farm Net income



Whole Farm Overview Page

Overview							
Operation Maturity	Medium						
Herd Size	155						
Paid Labour (livestock only) (hours)	72						
Unpaid Labour (livestock only) (hours)	2,517						
Average wages - paid and unpaid (\$/hr)	15.78						
Revenue		2022	2021	2020	2019	2018	5-yr. avg.
Market Revenue	5-yr avg	205,926	161,170	167,129	170,084	167,335	174,329
Cow-Calf	91%	205,926	161,170	167,129	170,084	167,335	174,329
Cash Crops	0%	-	-	-	-	-	-
Retained Ownership	0%	-	-	-	-	-	-
Government Payments	3%	16,430	14,570	-	-	-	6,200
Other Farm Revenue †	5%	10,074	10,074	10,074	10,074	10,074	10,074
Total Revenue	100%	232,430	185,814	177,202	180,157	177,409	190,603
Change in Inventory		-	-	-	-	-	-
Expenses		2022	2021	2020	2019	2018	5-yr. avg.
Depreciation		25,123	24,145	23,327	22,115	21,440	23,230
Machinery		21,437	20,698	20,008	18,852	18,258	19,851
Buildings		3,686	3,447	3,319	3,262	3,181	3,379
Quota econ. Accounting		-	-	-	-	-	-
Overhead costs		64,480	55,028	51,620	51,649	50,566	54,668
Land improvement		11,454	10,336	10,336	10,336	10,336	10,560
Machinery Maintenance		8,974	8,502	8,363	8,219	7,880	8,388
Buildings Maintenance		4,723	4,050	3,810	3,864	3,787	4,047
Contract labour		1,459	1,386	1,386	1,386	1,386	1,400
Diesel, Gasoline, Natural Gas		7,784	5,421	4,449	5,078	5,353	5,617
Electricity		9,622	5,840	4,294	4,201	3,851	5,562
Water		-	-	-	-	-	-
Farm insurance		6,031	5,726	5,524	5,359	5,125	5,553
Disability and accident insurance		3,519	3,340	3,222	3,126	2,990	3,240
Farm taxes and duties		4,847	4,602	4,439	4,307	4,119	4,463
Advisor costs		868	824	795	771	738	799
Accountant & legal fees		-	-	-	-	-	-
Phone & utilities		3,097	2,901	2,901	2,901	2,901	2,940
Other overhead costs		2,101	2,101	2,101	2,101	2,101	2,101
Wages, rent and interest payments		69,563	64,309	62,071	62,456	61,163	63,912
Paid Labour		1,250	1,187	1,145	1,111	1,063	1,151
Total land rents		38,297	36,987	36,531	35,816	35,434	36,613
Total Interest on debt		30,016	26,135	24,395	25,529	24,666	26,148
Cow-Calf		26,528	32,571	22,238	21,173	21,089	24,720
Animal purchases		4,250	4,250	4,250	4,250	4,250	4,250
Purchased feed		9,510	16,763	6,916	5,876	5,989	9,011
Other fixed and var. costs *		12,769	11,558	11,072	11,047	10,851	11,459
Retained Ownership		-	-	-	-	-	-
Animal purchases		-	-	-	-	-	-
Purchased feed		-	-	-	-	-	-
Other fixed and var. costs *		-	-	-	-	-	-
Crop and forage		30,456	27,873	26,515	27,288	26,339	27,694
Seed		11,197	10,598	10,147	10,799	10,032	10,554
Fertilizer		11,241	9,781	8,964	9,170	9,025	9,636
Herbicide		2,204	1,996	1,907	1,821	1,785	1,943
Fungicide & Insecticide		-	-	-	-	-	-
Irrigation		-	-	-	-	-	-
Contract labour		4,085	3,878	3,878	3,878	3,878	3,919
Fuel costs (crop & forage)		-	-	-	-	-	-
Other crop and forage		1,730	1,620	1,620	1,620	1,620	1,642
Total Farm Costs (excludes unpaid labour)		216,150	203,926	185,771	184,681	180,597	194,225
Cash Costs (Total Farm Costs - Depreciation)		191,027	179,781	162,444	162,566	159,157	170,995
Depreciation & Opportunity Costs (including unpaid labour)		64,846	63,868	63,049	61,837	61,162	62,952
Total Economic Costs (cash, depr, opportunity)		255,873	243,649	225,494	224,403	220,319	233,947
Profits		2022	2021	2020	2019	2018	5-yr. avg.
Net Income (Total Revenue - Total Farm Costs + Change in Inv.)		16,280	(18,112)	(8,569)	(4,523)	(3,188)	(3,622)
Net Cash Farm Income (excludes depreciation)		41,403	6,033	14,758	17,591	18,252	19,607

† 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 *	155	155	155	155	155	155
Average male and female calf price (\$/head)	1,487	1,158	1,205	1,224	1,202	1,255
REVENUE						
Cow Calf	1,435	1,134	1,078	1,097	1,080	1,165
Cull animals and slaughter receipts	73	62	62	64	65	65
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	1,256	978	1,016	1,033	1,015	1,059
Government payments	106.0	94.0	-	-	-	40.0
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	1,435	1,134	1,078	1,097	1,080	1,165
VARIABLE COSTS						
Animal purchases	27.4	27.4	27.4	27.4	27.4	27
Feed (purchase feed, fertiliser, seed, pesticides)	305.4	329.6	257.4	255.6	250.2	280
Machinery (maintenance, depreciation, contractor)	232.0	222.3	217.0	208.6	202.6	217
Fuel, energy, lubricants, water	107.1	68.4	53.2	56.5	56.0	68
Vet & medicine	31.5	29.9	28.9	28.0	26.8	29
Other inputs cow calf enterprise	88.2	80.0	77.8	78.4	78.1	81
Labour						
Paid Labour	7.7	7.2	7.0	6.8	6.5	7
Unpaid Labour	246.8	231.3	223.6	217.1	207.5	225
Total Variable Costs	1,046.0	996.2	892.2	878.5	855.1	934
CAPITAL COSTS						
Insurance, taxes	90.0	84.7	81.9	79.5	76.0	82
Buildings (maintenance, depreciation)	45.0	40.1	38.2	38.2	37.3	40
Land Cost	-	-	-	-	-	-
Rented Land	247.1	238.6	235.7	231.1	228.6	236
Own Land	222.8	213.7	210.5	205.5	202.9	211
Capital Costs	-	-	-	-	-	-
Liabilities	185.3	159.5	148.4	155.5	150.1	160
Own capital	7.3	6.8	4.7	3.3	2.0	5
Total Capital Costs	797.5	743.5	719.4	713.0	696.9	734
COSTS						
Cash Costs	1,208.5	1,135.9	1,025.9	1,026.5	1,004.8	1,080
Depreciation Costs	158.0	152.0	146.9	139.1	134.8	146
Opportunity Costs	476.9	451.8	438.8	426.0	412.4	441
Total Production Costs	1,843.5	1,739.7	1,611.6	1,591.5	1,552.0	1,668
Profits						
	2022	2021	2020	2019	2018	5-yr. avg.
Short-term profit (cash costs)	226.0	(2.1)	52.3	70.8	74.8	84
Medium-term profit (cash + depreciation)	68.0	(154.1)	(94.5)	(68.3)	(60.0)	(62)
Long-term profit (cash + depreciation + opportunity)	(408.9)	(605.9)	(533.3)	(494.2)	(472.4)	(503)

*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	78,486	78,486	78,486	78,486	78,486	78,486
Average male and female weaning weight (lbs)	603	603	603	603	603	
Average male and female calf price at weaning (\$/lb)	2.47	1.92	2.00	2.03	1.99	2.08
REVENUE						
Cow Calf Operation	2.83	2.24	2.13	2.17	2.13	2.30
Cull animals and slaughter receipts	0.14	0.12	0.12	0.13	0.13	0.13
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	2.48	1.93	2.01	2.04	2.00	2.09
Government payments	0.21	0.19	-	-	-	0.08
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	2.83	2.24	2.13	2.17	2.13	2.30
VARIABLE COSTS						
Animal purchases	0.05	0.05	0.05	0.05	0.05	0.05
Feed (purchase feed, fertiliser, seed, pesticides)	0.60	0.65	0.51	0.50	0.49	0.55
Machinery (maintenance, depreciation, contractor)	0.46	0.44	0.43	0.41	0.40	0.43
Fuel, energy, lubricants, water	0.21	0.14	0.11	0.11	0.11	0.13
Vet & medicine	0.06	0.06	0.06	0.06	0.05	0.06
Other inputs cow calf enterprise	0.17	0.16	0.15	0.15	0.15	0.16
Labour						
Paid Labour	0.02	0.01	0.01	0.01	0.01	0.01
Unpaid Labour	0.49	0.46	0.44	0.43	0.41	0.44
Total Variable Costs	2.1	2.0	1.8	1.7	1.7	1.8
CAPITAL COSTS						
Insurance, taxes	0.18	0.17	0.16	0.16	0.15	0.16
Buildings (maintenance, depreciation)	0.09	0.08	0.08	0.08	0.07	0.08
Land Cost						
Rented Land	0.49	0.47	0.47	0.46	0.45	0.47
Owned Land	0.44	0.42	0.42	0.41	0.40	0.42
Capital Costs						
Liabilities	0.37	0.31	0.29	0.31	0.30	0.32
Own capital	0.01	0.01	0.01	0.01	0.00	0.01
Total Capital Costs	1.6	1.5	1.4	1.4	1.4	1.4
COSTS						
Cash Costs	2.39	2.24	2.03	2.03	1.98	2.13
Depreciation Costs	0.31	0.30	0.29	0.27	0.27	0.29
Opportunity Costs	0.94	0.89	0.87	0.84	0.81	0.87
Total Production Costs	3.64	3.44	3.18	3.14	3.07	3.29
Profits	2022	2021	2020	2019	2018	5-yr. avg.
Short-term profit (cash costs)	0.45	(0.00)	0.10	0.14	0.15	0.17
Medium-term profit (cash + depreciation)	0.13	(0.30)	(0.19)	(0.13)	(0.12)	(0.12)
Long-term profit (cash + depreciation + opportunity)	(0.81)	(1.20)	(1.05)	(0.98)	(0.93)	(0.99)

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