

Farm Characteristics

CA-MT-4

Farm Description	A cow-calf operation producing home-grown feed.
Winter Feeding Ration (lbs/cow/day as fed)	230 days on haylage (53 lb).
Retained Ownership/Replacement Ration (lb/head/day as fed)	Replacement heifers: 90 days with cows and fed haylage (12 lb), and 140 days on haylage (25 lb).
Disclaimer:	This benchmark is based on 3 farms of data; outliers were excluded as required.

Environment	
Average Annual Temperature	5°C
Average Annual Precipitation (mm)	1100-1400mm
Ecoregion	Upland Ecoregion
Stocking Rate (Animal Unit days per acre)	90
Fertilize Hay (yes/no)	yes
Fertilize Pasture (yes/no)	no
Typical Hay Yield (tonnes/acre)	N/A
Grassland Acres (owned+rented)	153
Crop Acres (includes hay) (owned+rented)	215
Bush and other acres	0

Physical Performance Indicators	
Breed	Simmental
Breed	Charolais, Angus
Cow:Bull Ratio	19:1
Bull Culling Rate (%)	22%
Mature Cow Weight (lb)	1,450
Heifer Retention for a steady herd (%)	15%
Cow Death Loss (%)	1.0%
Cow Culling Rate (%)	14.0%
Calves alive after 24hr/100 Cows exposed	94
Calf Death Loss (%) 24 hr to weaning	2%
Calves weaned per 100 cows exposed	90
Total Liveweight Sold per Cow (lb)	680
Weaning Weight (lb)	584
205 day adjusted Weaning Weight (lb)	542
Average Daily Gain pre-weaning (lb)	2.26
Weaning Weight as % of Cow Weight	40%

Production System	
Herd size	60
Days on field feeding (e.g. swath grazing)	0
Days supplemented on pasture	0
Days on full winter feed	230
Calving Start date	June 01
Weaning date	January 12
Sale date	January 13
Retained ownership	Replacements
% of feed purchased	1.3%
% of land in crops	58%
Annual sales Retained Cattle (head)	0
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)

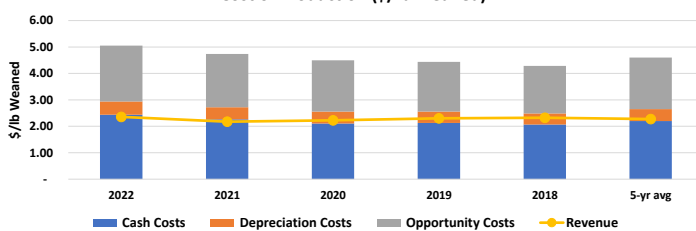
Whole Farm Profitability = Market returns (+ coupled payments) (+ decoupled payments) - whole-farm costs +/- changes in inventory +/- capital gains/losses.

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

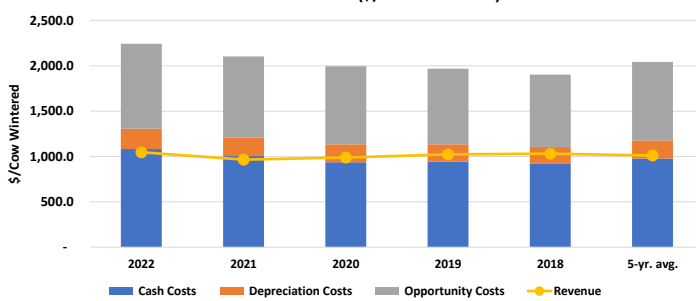
Revenue = sales of calves, cull cows, breeding stock, government payments and other revenue applicable to the specific enterprise

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

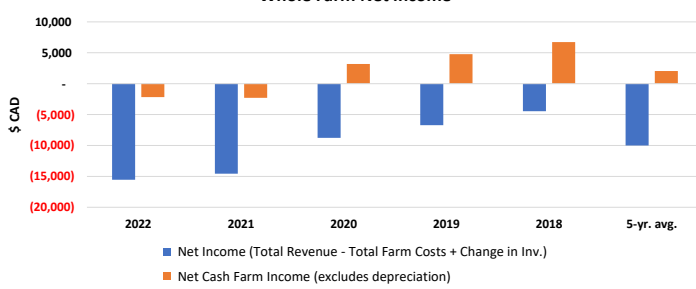
Cost of Production (\$/lb Weaned)



Cost of Production (\$/Cow Wintered)



Whole Farm Net income



Whole Farm Overview Page

Overview							
Operation Maturity	Medium						
Herd Size	60	Beef Animals Sold from Retained Ownership					
Paid Labour (livestock only) (hours)	100						
Unpaid Labour (livestock only) (hours)	2,159						
Average wages - paid and unpaid (\$/hr)	20.01						
Revenue		2022	2021	2020	2019	2018	5-yr. avg.
Market Revenue	5-yr avg	62,768	57,928	59,295	61,366	61,849	60,641
Cow-Calf	100%	62,768	57,928	59,295	61,366	61,849	60,641
Cash Crops	0%	-	-	-	-	-	-
Retained Ownership	0%	-	-	-	-	-	-
Government Payments	0%	-	-	-	-	-	-
Other Farm Revenue †	0%	-	-	-	-	-	-
Total Revenue	100%	62,768	57,928	59,295	61,366	61,849	60,641
Change in Inventory		-	-	-	-	-	-
Expenses		2022	2021	2020	2019	2018	5-yr. avg.
Depreciation		13,383	12,267	11,959	11,468	11,173	12,050
Machinery		6,803	6,114	5,911	5,569	5,394	5,958
Buildings		6,580	6,153	6,048	5,899	5,780	6,092
Quota econ. Accounting		-	-	-	-	-	-
Overhead costs		27,390	23,805	21,938	22,581	22,123	23,567
Land improvement		470	437	413	415	408	429
Machinery Maintenance		6,050	5,976	5,752	5,714	5,616	5,821
Buildings Maintenance		4,251	3,734	3,470	3,525	3,459	3,688
Contract labour		-	-	-	-	-	-
Diesel, Gasoline, Natural Gas		4,996	2,972	1,940	2,711	2,792	3,082
Electricity		1,346	984	992	1,035	973	1,066
Water		-	-	-	-	-	-
Farm insurance		1,576	1,497	1,444	1,401	1,340	1,451
Disability and accident insurance		653	620	598	580	555	601
Farm taxes and duties		1,129	1,072	1,034	1,003	959	1,039
Advisor costs		-	-	-	-	-	-
Accountant & legal fees		2,535	2,407	2,322	2,253	2,154	2,334
Phone & utilities		3,259	3,052	2,953	2,932	2,876	3,014
Other overhead costs		1,125	1,054	1,020	1,012	993	1,041
Wages, rent and interest payments		8,392	7,636	7,542	7,597	7,135	7,660
Paid Labour		1,685	1,600	1,543	1,497	1,432	1,552
Total land rents		1,745	1,564	1,460	1,443	1,321	1,507
Total Interest on debt		4,962	4,472	4,538	4,656	4,381	4,602
Cow-Calf		10,830	9,680	9,025	8,535	8,454	9,305
Animal purchases		3,417	3,417	3,417	3,417	3,417	3,417
Purchased feed		4,900	4,058	3,508	3,062	3,067	3,719
Other fixed and var. costs *		2,513	2,205	2,101	2,057	1,971	2,169
Retained Ownership		-	-	-	-	-	-
Animal purchases		-	-	-	-	-	-
Purchased feed		-	-	-	-	-	-
Other fixed and var. costs *		-	-	-	-	-	-
Crop and forage		18,324	19,097	17,596	17,891	17,409	18,064
Seed		1,597	1,541	1,474	1,502	1,361	1,495
Fertilizer		10,299	11,537	10,299	10,608	10,377	10,624
Herbicide		-	-	-	-	-	-
Fungicide & Insecticide		-	-	-	-	-	-
Irrigation		-	-	-	-	-	-
Contract labour		-	-	-	-	-	-
Fuel costs (crop & forage)		-	-	-	-	-	-
Other crop and forage		6,427	6,019	5,824	5,781	5,671	5,945
Total Farm Costs (excludes unpaid labour)		78,319	72,485	68,060	68,072	66,295	70,646
Cash Costs (Total Farm Costs - Depreciation)		64,936	60,218	56,101	56,604	55,122	58,596
Depreciation & Opportunity Costs (including unpaid labour)		56,596	55,481	55,172	54,682	54,387	55,264
Total Economic Costs (cash, depr, opportunity)		121,533	115,699	111,273	111,286	109,508	113,860
Profits		2022	2021	2020	2019	2018	5-yr. avg.
Net Income (Total Revenue - Total Farm Costs + Change in Inv.)		(15,551)	(14,557)	(8,764)	(6,706)	(4,446)	(10,005)
Net Cash Farm Income (excludes depreciation)		(2,168)	(2,290)	3,194	4,762	6,727	2,045

† 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 *	60	60	60	60	60	60
Average male and female calf price (\$/head)	1,113	1,041	1,041	1,078	1,094	1,073
REVENUE						
Cow Calf	1,046	965	988	1,023	1,031	1,011
Cull animals and slaughter receipts	190	161	188	196	191	185
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	857	805	800	826	840	825
Government payments	-	-	-	-	-	-
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	1,046	965	988	1,023	1,031	1,011
VARIABLE COSTS						
Animal purchases	56.9	56.9	56.9	56.9	56.9	57
Feed (purchase feed, fertiliser, seed, pesticides)	394.9	393.2	358.6	356.1	348.1	370
Machinery (maintenance, depreciation, contractor)	214.2	201.5	194.4	188.1	183.5	196
Fuel, energy, lubricants, water	110.0	68.8	52.1	65.8	65.9	72
Vet & medicine	25.5	24.2	23.4	22.7	21.7	24
Other inputs cow calf enterprise	127.4	118.2	113.3	111.6	108.4	116
Labour						
Paid Labour	28.1	26.7	25.7	25.0	23.9	26
Unpaid Labour	833.9	791.8	763.8	741.0	708.6	768
Total Variable Costs	1,791.0	1,681.3	1,588.2	1,567.1	1,517.0	1,629
CAPITAL COSTS						
Insurance, taxes	56.0	53.1	51.3	49.7	47.6	52
Buildings (maintenance, depreciation)	180.5	164.8	158.6	157.1	154.0	163
Land Cost	-	-	-	-	-	-
Rented Land	29.1	26.1	24.3	24.1	22.0	25
Own Land	30.3	28.3	27.1	26.9	25.5	28
Capital Costs	-	-	-	-	-	-
Liabilities	82.7	74.5	75.6	77.6	73.0	77
Own capital	72.4	74.3	69.6	65.9	63.1	69
Total Capital Costs	451.0	421.0	406.6	401.2	385.1	413
COSTS						
Cash Costs	1,082.3	1,003.6	935.0	943.4	918.7	977
Depreciation Costs	223.0	204.5	199.3	191.1	186.2	201
Opportunity Costs	936.7	894.3	860.5	833.7	797.2	864
Total Production Costs	2,242.0	2,102.4	1,994.8	1,968.2	1,902.1	2,042
Profits						
Short-term profit (cash costs)	(36.1)	(38.2)	53.2	79.4	112.1	34
Medium-term profit (cash + depreciation)	(259.2)	(242.6)	(146.1)	(111.8)	(74.1)	(167)
Long-term profit (cash + depreciation + opportunity)	(1,195.8)	(1,136.9)	(1,006.5)	(945.5)	(871.3)	(1,031)

*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	26,628	26,628	26,628	26,628	26,628	26,628
Average male and female weaning weight (lbs)	584	584	584	584	584	
Average male and female calf price at weaning (\$/lb)	1.90	1.78	1.78	1.84	1.87	1.84
REVENUE						
Cow Calf Operation	2.36	2.18	2.23	2.30	2.32	2.28
Cull animals and slaughter receipts	0.43	0.36	0.42	0.44	0.43	0.42
Breeding livestock receipts	-	-	-	-	-	-
Calf Sales and transfer to retained ownership enterprise	1.93	1.81	1.80	1.86	1.89	1.86
Government payments	-	-	-	-	-	-
Other returns	-	-	-	-	-	-
Total Cow-Calf Revenue	2.36	2.18	2.23	2.30	2.32	2.28
VARIABLE COSTS						
Animal purchases	0.13	0.13	0.13	0.13	0.13	0.13
Feed (purchase feed, fertiliser, seed, pesticides)	0.89	0.89	0.81	0.80	0.78	0.83
Machinery (maintenance, depreciation, contractor)	0.48	0.45	0.44	0.42	0.41	0.44
Fuel, energy, lubricants, water	0.25	0.15	0.12	0.15	0.15	0.16
Vet & medicine	0.06	0.05	0.05	0.05	0.05	0.05
Other inputs cow calf enterprise	0.29	0.27	0.26	0.25	0.24	0.26
Labour						
Paid Labour	0.06	0.06	0.06	0.06	0.05	0.06
Unpaid Labour	1.88	1.78	1.72	1.67	1.60	1.73
Total Variable Costs	4.0	3.8	3.6	3.5	3.4	3.7
CAPITAL COSTS						
Insurance, taxes	0.13	0.12	0.12	0.11	0.11	0.12
Buildings (maintenance, depreciation)	0.41	0.37	0.36	0.35	0.35	0.37
Land Cost						
Rented Land	0.07	0.06	0.05	0.05	0.05	0.06
Owned Land	0.07	0.06	0.06	0.06	0.06	0.06
Capital Costs						
Liabilities	0.19	0.17	0.17	0.17	0.16	0.17
Own capital	0.16	0.17	0.16	0.15	0.14	0.16
Total Capital Costs	1.0	0.9	0.9	0.9	0.9	0.9
COSTS						
Cash Costs	2.44	2.26	2.11	2.13	2.07	2.20
Depreciation Costs	0.50	0.46	0.45	0.43	0.42	0.45
Opportunity Costs	2.11	2.02	1.94	1.88	1.80	1.95
Total Production Costs	5.05	4.74	4.49	4.44	4.29	4.60
Profits	2022	2021	2020	2019	2018	5-yr. avg.
Short-term profit (cash costs)	(0.08)	(0.09)	0.12	0.18	0.25	0.08
Medium-term profit (cash + depreciation)	(0.58)	(0.55)	(0.33)	(0.25)	(0.17)	(0.38)
Long-term profit (cash + depreciation + opportunity)	(2.69)	(2.56)	(2.27)	(2.13)	(1.96)	(2.32)

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