
2023/2025 Cost of Production

Bison Bull Feedlot Finishing



Guidelines For Estimating
Bison Bull Finishing Costs
For Weight Range of 750 -1100 lbs
Based on 300 Head

Date: October, 2022

This guide is designed to provide you with planning information and a format for calculating costs of production of a bison bull finishing enterprise in Manitoba. General Manitoba Agriculture recommendations are assumed in using feed and veterinary inputs. These figures provide an economic evaluation of the livestock and estimated prices required to cover all costs. Costs include labour, investment and depreciation, but do not include management costs, nor do they necessarily represent the average cost of production in Manitoba.

Finishing generally refers to the feeding of bulls from backgrounding until they are ready for market on a high concentrate finishing ration. An example of a typical finishing operation would be, feed 750 pound bulls to gain 1.75 to 2.0 pounds per day for approximately 200 days to produce 1000 to 1100 pound finished feeders.

These budgets may be adjusted by putting in your own figures. As a producer you are encouraged to calculate your own costs of production. Good management is assumed in that a balanced ration is being fed, livestock are on a herd health program and handling facilities are included.

This tool is available as an Excel worksheet at:



[The Farm Machinery Custom and Rental Rate Guide](#) is also available to help determine machinery costs.

Note: This budget is only a guide and is not intended as an in-depth study of the cost of production of this industry. Interpretation and use of this information is the responsibility of the user. If you need help with a budget, contact a Farm Management Specialist.

Bison Bull Finishing Production Cost Summary October, 2022

Based on 300 feeders, weight range 750 to 1100 lbs, @ 1.85 lbs. ADG

A. Operating Costs	<u>Cost/Head</u>	<u>Total Cost</u>	<u>Your Cost</u>
1. Feed Costs			
1.01 Forage	\$80.40	\$24,120	_____
1.02 Grain/Concentrates	\$663.30	\$198,990	_____
1.03 Salt & Minerals	<u>\$37.66</u>	<u>\$11,298</u>	_____
Total Feed Costs	\$781.36	\$234,408	_____
2. Other Operating Costs			
2.01 Feeder Cost	\$1,553.65	\$466,096	_____
2.02 Straw	\$8.75	\$2,625	_____
2.03 Veterinary Medicine & Supplies	\$5.74	\$1,722	_____
2.04 Annual Fuel & Repair Costs	\$21.92	\$6,577	_____
2.05 Utilities	\$5.64	\$1,692	_____
2.06 Trucking Costs	\$105.00	\$31,500	_____
2.07 Insurance	\$17.43	\$5,229	_____
2.08 Manure Removal	\$23.66	\$7,098	_____
2.09 Barn & Office Supplies	\$4.67	\$1,401	_____
2.10 Death Loss	<u>\$9.94</u>	<u>\$2,982</u>	_____
Subtotal Operating Costs	\$2,537.77	\$761,330	_____
2.11 Operating Interest	<u>\$86.41</u>	<u>\$25,922</u>	_____
Total Operating Costs	\$2,624.18	\$787,252	_____
B. Fixed Costs			
3. Depreciation			
3.01 Buildings	\$14.33	\$4,299	_____
3.02 Equipment	\$4.27	\$1,281	_____
3.03 Machinery	\$7.54	\$2,262	_____
4. Investment			
4.01 Buildings	\$4.30	\$1,290	_____
4.02 Machinery & Equipment	<u>\$4.76</u>	<u>\$1,428</u>	_____
Total Fixed Costs	\$35.20	\$10,560	_____
Total Operating and Fixed Costs	\$2,659.38	\$797,812	_____
C. Labour	\$78.00	\$23,400	_____
Total Cost of Production	\$2,737.38	\$821,212	_____

Profitability and Breakeven Analysis

Estimated Farmgate	<u>Per Head</u>	<u>Total</u>
Gross Revenue @ \$200/cwt market price	\$2,024.00	\$607,200
Operating Expense Ratio	129.7%	

	<u>Breakeven Purchase Price (\$/cwt) @ \$200/cwt market price</u>	<u>Breakeven Selling Price (\$/cwt) @ \$205/cwt feeder price</u>	<u>Breakeven Selling Price (\$/lb) Dressed</u>
Operating Costs	\$127.13	\$259.31	\$4.55
Operating Costs & Labour	\$116.73	\$267.01	\$4.68
Operating & Fixed Costs	\$122.44	\$262.78	\$4.61
Total Costs	\$112.04	\$270.49	\$4.75

	<u>Cost per lb of gain sold (\$/cwt)</u>	<u>Marginal Returns per head @ \$200/cwt market price</u>
Feed Costs	\$274.16	(\$311.01)
Operating Costs	\$375.62	(\$600.18)
Operating Costs & Labour	\$402.99	(\$678.18)
Operating & Fixed Costs	\$387.97	(\$635.38)
Total Costs	\$415.34	(\$713.38)

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Risk & Sensitivity Analysis (Stress Test)

Percent Market Price Change	-10.0%
Percent Feed Cost Change	10.0%
Percent Feeder Cost Change	5.0%

	Per Head
Market Price (\$ per cwt)	\$180.00
Feed Cost	\$859.50
Feeder Cost	\$1,631.34

Stress Test Scenario = Market Price Down 10%, Feed Price Up 10% and Feeder Cost Up 5%

Operating Costs	\$2,780.00
Total Costs	\$2,893.20
Gross Revenue / feeder	\$1,821.60
Marginal Returns	
Over Operating Costs	(\$958.40)
Over Operating & Labour Costs	(\$1,036.40)
Over Total Costs (Net Profit)	(\$1,071.60)
Operating Expense Ratio	152.6%

Estimated Breakeven Canadian Dollar Analysis*

	Est. Market Price (\$/cwt Cdn) @ 0.7300 Cdn per USD				
	\$190.00	\$195.00	\$200.00	\$205.00	\$210.00
Breakeven CDN Dollar (\$1 Cdn = \$ USD)					
Operating Costs	0.5349	0.5490	0.5630	0.5771	0.5912
Operating & Labour Costs	0.5194	0.5331	0.5468	0.5605	0.5741
Operating, Fixed & Labour Costs	0.5128	0.5263	0.5398	0.5533	0.5667

Breakeven Canadian Dollar = (Est. Market Price (\$/lb) x Shrunken Wt. (lbs) x \$ Cdn per USD) / Cost
 (eg. (\$2.00 x 1012 lbs x \$0.7300) / \$2737.38) = \$0.5398

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Bison Bull Finishing Costs - Input

Herd Profile

Number of Feeders Purchased	300	head
Feeder Bull Mortality Rate	0.50	%
Feeder Purchased Weight	750	lbs
Feeder Bull Price	\$205	/cwt
Finish Weight	1,100	lbs
Finish Selling Price	\$200	/cwt
\$1 Canadian Dollar	(\$1.3699 CDN)	\$0.7300 / \$1 USD
Percent Shrink - finished	8.00	%
Percent Shrink - feeder	3.00	%
Average Daily Gain	1.85	lbs/day
Dressing Percentage	57.00	%
Days On Feed	201	days
Total Feed Cost per Bull	\$781.36	
Average Feed Cost per Day	\$3.89	
Feed Cost per lb. of Gain Sold (shrunk weight)	\$2.742	
Total Pounds of Gain	350	
Total Pounds of Gain (Shrunk Weight)	285	

Footnote: 1 kilogram (kg) = 2.2046 pounds (lbs)

<u>Feed Costs</u>	<u>Cost</u>	<u>Feeder Bison Requirement</u>	<u>Days Fed</u>
Grass Hay	\$100.00 /ton	8.00 lbs/day	201
Alfalfa Grass Hay	\$0.00 /ton	0.00 lbs/day	0
Silage	\$0.00 /ton	0.00 lbs/day	201
Grain/concentrate	\$0.200 /lb	16.50 lbs/day	201
Salt	\$0.14 /lb	9.00 lbs/feeder	
Mineral	\$0.91 /lb	40.00 lbs/feeder	

Other Operating Costs

Straw

Annual Requirement	0.125	tonnes/feeder
Cost	\$70.00	/tonne

Veterinary Medicine & Supplies

Feeder Medication		
Blackleg (8 way vaccine)	\$0.83	/feeder
Vitamin	\$0.00	/feeder
Parasite Control	\$3.80	/feeder

Herd Health Program	
Professional Services	
Total Yearly Hours	1 hours
Rate	\$175.00 /hour

Transportation	
Total Distance (round trip)	160 km
Charge per km	\$1.00
Number of yearly visits	1

Annual Fuel & Repair Costs

a) Machinery Fuel Costs - Winter Feeding	
Tractor with Loader PTO hp	120
Diesel Fuel Cost	\$1.65 /litre
Tractor Hours Per Day (average)	1.50 hours
b) Machinery Repair (% of investment cost)	1.00 %
c) Building & fence repair (% of investment cost)	2.00 %

Utilities

- Rate	\$0.09324 / kWh
15 kWh per feeder	\$419.58
2 1000 watt waterer	\$671.33
Total Hydro	\$1,090.91
Water	\$0.00
Telephone	\$600.00

Trucking to Feedlot

Distance to packing plant	150 miles
Trucking cost	\$7.00 /loaded mile
Number of head per load	65

Trucking Cost

Trucking cost Rate/loaded mile	\$7.00 /loaded mile
Milage, distance to market	750 miles
Truck capacity # head	50 head

Manure Removal

Manure volume produced	0.024 m ³ /feeder/day
Manure volume shrinkage	75 %
Cost for manure removal & application	\$15.00 /cubic yard

Insurance

Cost per \$100 Capital Invested in:	
Livestock	\$0.45
Buildings & Equipment	\$0.40
Additional Coverage for Liability	\$49.00

Barn & Office Supplies

Total yearly expense relating to barn **\$1,400.00**

Operating Interest Rate **7.75 %**

Investment Interest Rate **3.00 %**

Footnote: cwt = hundred-weight = 100 lbs

Capital Costs

	Original Value	Salvage Value	Useful Life
Handling Facilities			
Land & Landscaping	\$10,000		
Waterers	\$6,000		
Squeeze, Gates & Scale	\$20,000		
Well & Pressure System	\$8,000		
Pens (Working & Sorting)	\$42,000		
Total Building Cost	\$86,000	0 %	20 years
Equipment			
Self Feeder	\$27,000		
Hay Feeders	\$2,500		
Miscellaneous	\$2,500		
Total Equipment Cost	\$32,000	0 %	25 years
Machinery			
Tractors & Loader (\$120,000 @ 30%)	\$36,000	20 %	15 years
Miscellaneous	\$20,000	20 %	10 years
Total Capital Investment	\$154,000		

Labour Costs

Hours **3.0** head/year

Wage **\$26.00** /hour

Bison Bull Finishing Cost Worksheet Based on 300 head

Assumptions

1. This budget assumes the weaning and/or purchase weight of bison bull calves to be approximately 750 lbs. Finish weight would be assumed to be 1100 lbs.
2. This budget assumes a shrink (lot to slaughter plant) of 8%. Shrunken Weight = 1012 lbs.
3. Average Daily Gain = 1.85 lbs per day.
4. Time frame from start to finish is approximately 201 days, 201 days on finishing ration and moderate quality hay and 0 days with supplemental good quality hay.
5. Grain ration is prepared (minerals and salt included).
6. This budget is based on a finishing enterprise of 300 bulls.

A. Operating Costs

Your Cost

1. Feed Costs

1.01 Forage

Grass Hay	201	days on ration			
x	8.0	lbs/feeder/day			
x	<u>\$100.00</u>	/ton			
=	\$80.40	/feeder			

Other Hay	0	days on hay			
x	0	lbs/feeder/day			
x	<u>\$0.00</u>	/ton			
=	\$0.00	/feeder			

Silage	201	days on hay			
x	0	lbs/feeder/day			
x	<u>\$0.00</u>	/ton			
=	\$0.00	/feeder			
=	\$80.40	/feeder			

1.02 Grain/Concentrate

	201	days on feed			
x	16.5	lbs/feeder/day			
x	<u>\$0.200</u>	/lb			
=	\$663.30	/feeder			

1.03 Salt & Minerals

	9.00	lbs salt/feeder			
<u>x</u>	<u>\$0.14</u>	\$/lb			
=	\$1.26	/feeder			
	40.00	lbs mineral/feeder			
<u>x</u>	<u>\$0.91</u>	\$/lb			
=	\$36.40	/feeder			

A. Operating Costs = **\$37.66 /feeder** Your Cost

2. Other Operating Costs

2.01 Feeder Bison Cost

	750	lbs/feeder	
x	\$205.00	/cwt	
÷	<u>100</u>	<u>lbs/cwt</u>	
=	\$1,537.50	/feeder	

	150	miles	
x	\$7.00	\$/loaded mile	
÷	<u>65</u>	<u>head load capacity</u>	
=	\$16.15	/feeder	

= \$1,553.65 /feeder

2.02 Straw

	\$0.13	tonnes/feeder/year	
x	<u>\$70.00</u>	<u>/tonne</u>	
=	\$8.75	/feeder	

2.03 Veterinary Medicine & Supplies

Medication

	\$0.83	blackleg	
+	\$0.00	vitamin	
+	<u>\$3.80</u>	<u>parasite control</u>	
=	\$4.63	/feeder	

Herd health program

	\$175.00	/hour charge	
x	1	hours	
÷	<u>300</u>	<u>feeders</u>	
=	\$0.58	/feeder	

Mileage

	\$1.00	/km charge	
x	160	kilometres	
x	1	visits	
÷	<u>300</u>	<u>feeders</u>	
=	\$0.53	/feeder	

Total = \$5.74 /feeder

2.04 Annual Fuel & Repair Costs

Machinery fuel cost

	120	PTO hp	
÷	2.5	avg HP required	
x	0.1665576	litres fuel/hour/hp	
x	1.50	hours per day	

A. Operating Costs

Your Cost

x	\$1.65	diesel / litre	_____
<u>x</u>	<u>201</u>	days on feed	_____
	\$3,977.20	annual fuel cost	_____
<u>÷</u>	<u>300.00</u>	feeders	_____
=	\$13.26	/feeder	_____
Machinery repair & maintenance			
	\$88,000	machinery capital cost	_____
<u>x</u>	<u>1.00</u>	% repair rate	_____
=	\$880.00	oil, repairs & maintenance	_____
<u>÷</u>	<u>300.00</u>	feeders	_____
=	\$2.93	/feeder	_____
Building & fence repair			
	\$86,000	building capital cost	_____
<u>x</u>	<u>2.00</u>	% repair rate	_____
=	\$1,720.00	oil, repairs & maintenance	_____
<u>÷</u>	<u>300.00</u>	feeders	_____
=	\$5.73	/feeder	_____
Total	=	\$21.92	/feeder

2.05 Utilities

	\$1,691	cost/year	_____
<u>÷</u>	<u>300</u>	feeders	_____
=	\$5.64	/feeder	_____

2.06 Trucking Costs

	\$7.00	\$/loaded mile	_____
x	750	distance miles	_____
<u>÷</u>	<u>50</u>	head load capacity	_____
=	\$105.00	/feeder	_____

2.07 Insurance

	\$154,000	building & equipment value	_____
x	\$0.40	cost/\$100 capital	_____
<u>÷</u>	<u>100</u>		_____
<u>÷</u>	<u>300</u>	feeders	_____
=	\$2.05	/feeder	_____

	\$1,538	feeder investment	_____
x	\$1.00	cost/\$100 capital	_____
<u>÷</u>	<u>100</u>		_____
=	\$15.38	/feeder	_____

Total = \$17.43 /feeder

2.08 Manure Removal

=	201	days on feed	_____
x	0.024	m ³ /feeder/day	_____
=	4.82	m ³ manure volume	_____

A. Operating Costs

x	75	% volume shrink
x	1.30795	yd ³ per m ³
<u>x</u>	<u>\$15.00</u>	<u>yd³ manure removal cost</u>
=	\$23.66	/feeder

Your Cost

2.09 Barn & Office Supplies

	1,400	total barn expenses
÷	<u>300</u>	<u>feeders</u>
=	\$4.67	/feeder

2.10 Death Loss

	\$1,553.65	feeder cost
+	\$2,527.83	maximum value
-	\$105.00	marketing cost
÷	2.00	average value
<u>x</u>	<u>0.5</u>	<u>% mortality</u>
=	\$9.94	/feeder

2.11 Operating Interest

	\$1,537.50	feeder cost
+	\$487.09	½ of feed & other costs
x	7.8	% operating interest
x	201	days on feed
÷	<u>365</u>	<u>365 days per year</u>
=	\$86.41	/feeder

Capital Investment

Handling Facilities

Land & Landscaping	\$10,000
Waterers	\$6,000
Squeeze, Gates & Scale	\$20,000
Well & Pressure System	\$8,000
Pens (Working & Sorting)	\$42,000
Total Building Cost	\$86,000

Machinery & Equipment

Self Feeder	\$27,000
Hay Feeders & Miscellaneous	\$2,500
Miscellaneous	\$2,500
Tractor & Loader	\$36,000
Miscellaneous	\$20,000
Total	\$88,000

Total Capital Investment **\$174,000**

B. Fixed Costs

3. Depreciation

A. Operating Costs

Your Cost

Original Cost - Salvage Value
Useful Life

3.01 Buildings

	\$86,000	original value	_____
-	\$0	salvage value	_____
÷	20	years useful life	_____
÷	<u>300</u>	<u>feeders</u>	_____
=	\$14.33	/feeder	_____

3.02 Equipment

	\$32,000	original value	_____
-	\$0	salvage value	_____
÷	25	years useful life	_____
÷	<u>300</u>	<u>feeders</u>	_____
=	\$4.27	/feeder	_____

3.02 Machinery

	\$36,000	original value	_____
-	\$2,066	salvage value	_____
÷	15	years useful life	_____
÷	<u>300</u>	<u>feeders</u>	_____
=	\$7.54	/feeder	_____

4. Investment

Original Cost + Salvage Value x Investment Rate
2

4.01 Buildings

	\$86,000	total building value	_____
+	\$0	salvage value	_____
÷	2	average	_____
x	3.00	% investment interest	_____
÷	<u>300</u>	<u>feeders</u>	_____
=	\$4.30	/feeder	_____

4.02 Machinery & Equipment

	\$88,000	original value	_____
+	\$7,200	salvage value	_____
÷	2	average	_____
x	3.00	% investment interest	_____
÷	<u>300</u>	<u>feeders</u>	_____
=	\$4.76	/feeder	_____

C. Labour

	3.0	hours/feeder/year	_____
x	<u>\$26.00</u>	<u>/hour</u>	_____
=	\$78.00	/feeder	_____

Breakeven Calculations

Cost per lb of gain sold (shrunk weight)

Feed Costs	\$781.36	feed cost	_____
	÷	<u>285</u>	<u>lbs gained weight</u>
	=	\$2.74	/lb (gain sold)

Operating Costs	\$2,624.18	operating costs	_____
	-	\$1,553.65	feeder cost
	÷	<u>285</u>	<u>lbs gained weight</u>
	=	\$3.76	/lb (gain sold)

Operating & Labour Costs	\$2,702.18	operating costs	_____
	-	\$1,553.65	feeder cost
	÷	<u>285</u>	<u>lbs gained weight</u>
	=	\$4.03	/lb (gain sold)

Operating & Fixed	\$2,659.38	oper. & fixed costs	_____
	-	\$1,553.65	feeder cost
	÷	<u>285</u>	<u>lbs gained weight</u>
	=	\$3.88	/lb (gain sold)

Total Costs	\$2,737.38	total costs	_____
	-	\$1,553.65	feeder cost
	÷	<u>285</u>	<u>lbs gained weight</u>
	=	\$4.15	/lb (gain sold)

Breakeven selling price (shrunk weight)

Operating Costs	\$2,624.18	operating costs	_____
	÷	<u>1,012</u>	<u>lbs shrunk weight</u>
	=	\$2.59	/lb

Operating & Labour Costs	\$2,702.18	operating & labour	_____
	÷	<u>1,012</u>	<u>lbs shrunk weight</u>
	=	\$2.67	/lb

Operating & Fixed	\$2,659.38	oper. & fixed costs	_____
	÷	<u>1,012</u>	<u>lbs shrunk weight</u>
	=	\$2.63	/lb

Total Costs	\$2,737.38	total costs	_____
	÷	<u>1,012</u>	<u>lbs shrunk weight</u>
	=	\$2.70	/lb

Breakeven purchase price (shrunk weight)

Operating Costs

	1,012	lbs shrunk weight	_____
x	\$200.00	\$/cwt selling price	_____
=	\$2,024.00	income	_____
-	\$1,070.52	operating less feeder cost	_____
÷	<u>750</u>	<u>lbs purchase weight</u>	_____
=	\$1.27	/lb	_____

Operating & Labour Costs

	1,012	lbs shrunk weight	_____
x	\$200.00	\$/cwt selling price	_____
=	\$2,024.00	income	_____
-	\$1,148.52	operating less feeder cost	_____
÷	<u>750</u>	<u>lbs purchase weight</u>	_____
=	\$1.17	/lb	_____

Operating & Fixed

	1,012	lbs shrunk weight	_____
x	\$200.00	\$/cwt selling price	_____
=	\$2,024.00	income	_____
-	\$1,105.72	op. & fixed less feeder cost	_____
÷	<u>750</u>	<u>lbs purchase weight</u>	_____
=	\$1.22	/lb	_____

Total Costs

	1,012	lbs shrunk weight	_____
x	\$200.00	\$/cwt selling price	_____
=	\$2,024.00	income	_____
-	\$1,183.72	total less feeder cost	_____
÷	<u>750</u>	<u>lbs purchase weight</u>	_____
=	\$1.12	/lb	_____

October, 2022

Contact Us

For more information, contact a Farm Management Specialist.

- manitoba.ca/agriculture
- mbfarmbusiness@gov.mb.ca
- 1-844-769-6224

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