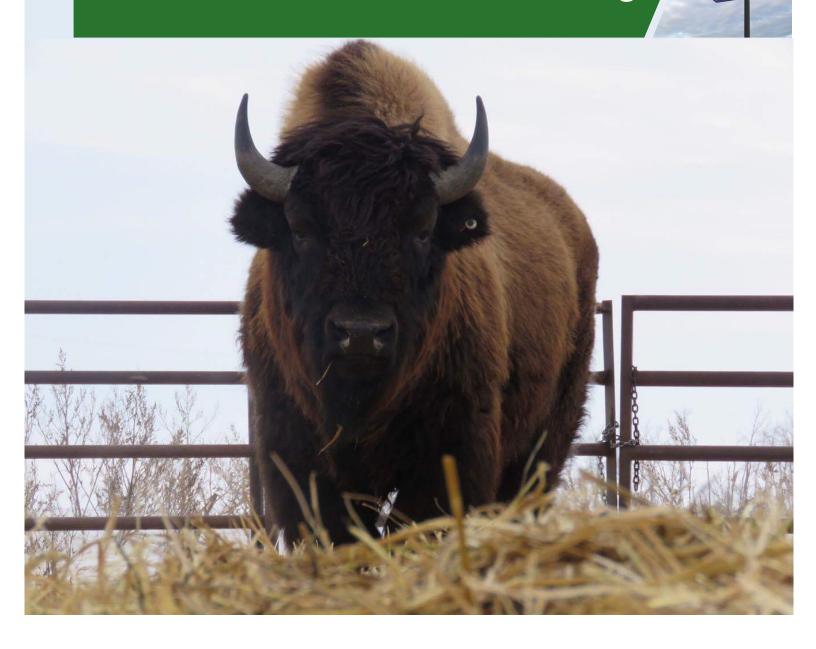
2023/2025 Cost of Production Bison Bull Feedlot Finishing







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:



<u>The Farm Machinery Custom and Rental Rate Guide</u> is als determine machinery costs.

is also available to help

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	Cost/Head	Total Cost	Your Cost
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 FarmgatePer HeadTotalGross Revenue @ \$200/cwt market price\$2,024.00\$607,200

Operating Expense Ratio 129.7%

	Breakeven Purchase	Breakeven Selling Br	eakeven Sellin
	Price (\$/cwt) @	Price (\$/cwt) @	Price (\$/lb)
	\$200/cwt market price	\$205/cwt feeder price	Dressed
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
	Cost per lb of	Marginal Returns per head	I
	gain sold (\$/cwt)	@ \$200/cwt market price	
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)	

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 utilization of this information is the responsibility of the user. No liability for decisions based on this publication is assumed.

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 | \$180.00 | \$180.00 | \$859.50 | \$1,631.34 |

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

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					
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 Shrunk Wt. (lbs) x \$ Cdn per USD) / Cost (eg. ($\$2.00 \times 1012$ lbs x \$0.7300) / \$2737.38) = \$0.5398

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Bison Bull Finishing Costs - Input

Herd Profile

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

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

Feed Costs	Cost	t	Feeder Bisc	on Requirement	Days Fed
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

S	tr	a	W

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 P Professional Total Yearl Rate	Services		1 \$175.00	hours /hour
Charge per	nce (round trip)		160 \$1.00 1	km
,	el Costs - Winter Feed	ing	400	
	h Loader PTO hp		120	
Diesel Fue	. • • • • • • • • • • • • • • • • • • •		\$1.65	
	urs Per Day (average)			hours
,	pair (% of investment c	•	1.00	
	e repair (% of investm	ent cost)	2.00	%
Utilities				
- Rate			\$0.09324	/ kWh
	kWh per feeder		\$419.58	
2	1000 watt waterer		<u>\$671.33</u>	
		Total Hydro	\$1,090.91	
Water			\$0.00	
Telephone			\$600.00	
Trucking to Fee Distance to pa Trucking cost Number of hea	cking plant			miles /loaded mile
Trucking Cost				
•	Rate/loaded mile Milage, distance to m Truck capacity # head		750	/loaded mile miles head
Manure Remov	ral and the second			
Manure volum	ne produced		0.024	m ³ /feeder/day
Manure volum	•		75	•
	ire removal & applicati	ion	_	/cubic yard
Cost for mane	ire removal & applicati	ION	Ψ13.00	/cubic yaru
Livestock Buildings & E	Capital Invested in: Equipment verage for Liability		\$0.45 \$0.40 \$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	_	seful 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%. Shrunk Weight 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 an a finishing enterprise of 300 bulls.

A. Operating Costs1. Feed Costs1.01 Forage			Your Cost
Grass Hay	201	days on ration	
X	8.0	lbs/feeder/day	
X	\$100.00	<u>/ton</u>	
=	\$80.40	/feeder	
_	ψ00.40	/ieeuei	
Other Hay	0	days on hay	
X	0	lbs/feeder/day	
X	\$0.00	/ton	
=	\$0.00	/feeder	
	ψ0.00	7100001	
Silage	201	days on hay	
X	0	lbs/feeder/day	
X	\$0.00	/ton	
=	\$0.00	/feeder	
_	φυ.υυ	/iceuci	
=	\$80.40	/feeder	
1.02 Grain/Concentra	ate		
	201	days on feed	
Х	16.5	lbs/feeder/day	
X =	\$0.200	<u>/lb</u>	
=	\$663.30	/feeder	
1.03 Salt & Minerals			
	9.00	lbs salt/feeder	
Y	\$0.14		
<u>X</u> =	\$1.26	/feeder	
_	ψ1.20	/ICCUCI	
	40.00	lbs mineral/feeder	
<u>x</u>	\$0.91	\$/lb	
<u>~</u> =	\$36.40	/feeder	
_	Ψυυ.+υ	/100dOI	

A. Operating Cost	ts =	\$37.66	/feeder	Your Cost		
2. Other Operating Costs						
2.01 Feeder Bis	on C	Cost				
	X ÷ =	750 \$205.00 <u>100</u> \$1,537.50				
	x <u>÷</u> =	150 \$7.00 <u>65</u> \$16.15				
	=	\$1,553.65	/feeder			
2.02 Straw	x =	\$0.13 <u>\$70.00</u> \$8.75	tonnes/feeder/year <u>/tonne</u> /feeder			
2.03 Veterinary Medicine & Supplies Medication						
	+ + =	\$0.83 \$0.00 <u>\$3.80</u> \$4.63	blackleg vitamin <u>parasite control</u> /feeder			
Herd he	alth p	_				
	X ÷ =	\$175.00 1 <u>300</u> \$0.58	/hour charge hours <u>feeders</u> /feeder			
Mileage						
	x x ÷	\$1.00 160 1 <u>300</u> \$0.53	/km charge kilometres visits <u>feeders</u> /feeder			
Total	=	\$5.74	/feeder			
2.04 Annual Fu	2.04 Annual Fuel & Repair Costs Machinery fuel cost					
•	÷ X X	120 2.5 0.1665576 1.50	PTO hp avg HP required litres fuel/hour/hp hours per day			

Α.	Operating Co	sts			Your Cost
	operaning se	Х	\$1.65	diesel / litre	
		<u>X</u>	<u>201</u>	days on feed	
			\$3,977.20	annual fuel cost	
		÷		<u>feeders</u>	
		=	\$13.26	/feeder	
	Machinery rep	air &	•	7.0000.	
	masimisi y i sp	U U .	\$88,000	machinery capital cost	
		<u>x</u>	1.00	% repair rate	
		<u>~</u>	\$880.00	oil, repairs & maintenance	
		÷	300.00	feeders	
		=	\$2.93	/feeder	
	Building & fend	ce rer	•	/iocaci	
	Bananig a form	00 10	\$86,000	building capital cost	
		<u>x</u>	<u>2.00</u>	% repair rate	
		<u>^</u>	\$1,720.00	oil, repairs & maintenance	
			300.00	feeders	
		<u>÷</u> =	\$5.73	/feeder	
			ψ5.75	riccuci	
	Total	=	\$21.92	/feeder	
	Total		Ψ21.02	7100001	
	2.05 Utilities				
,	2.00 011111103		\$1,691	cost/year	
		÷	300	feeders	
		=	\$5.64	/feeder	
		_	ψ5.04	ricedei	
	2.06 Trucking	Cost	e		
,	2.00 Hucking	0031	\$7.00	\$/loaded mile	
		Х	750	distance miles	
		÷	50	head load capacity	
		<u> </u>	\$105.00	/feeder	
		_	φ105.00	ricedei	
	2.07 Insurance	0			
	2.07 msurance	C	\$154,000	building & equipment value	
		v	\$154,000	cost/\$100 capital	
		X ÷	100	COSI/\$100 Capital	
		÷	300	feeders	
		=	\$2.05	/feeder	
		_	φ2.03	/ieeuei	
			\$1,538	feeder investment	
		Х	\$1,536 \$1.00	cost/\$100 capital	
		× ÷	100	ουσιψ του σαριταί	
		=	\$15.38	/feeder	<u> </u>
		_	φ15.56	/ieeuei	
	Total	=	\$17.43	/feeder	
	i Otal	_	Ψ17.43	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	2.08 Manure R	2ama	val		
	L.VV Mailuit N	=	201	days on feed	
		X	0.024	m ³ /feeder/day	
		=	4.82	m ³ manure volume	

A. Operating Costs			Your Cost
X	75	% volume shrink	
Х	1.30795	yd ³ per m ³	
<u>X</u>	\$15.00	2	
<u> </u>	\$23.66	/feeder	
	4 20.00		
2.09 Barn & Office	Supplies		
	1,400	total barn expenses	
<u>÷</u> =	300	· · · · · · · · · · · · · · · · · · ·	
=	\$4.67	/feeder	
2.10 Death Loss			
	\$1,553.65	feeder cost	
+	\$2,527.83		
-	\$105.00		
÷	2.00	average value	
<u>X</u>	0.5	% mortality	
=	\$9 <mark>.94</mark>	/feeder	
2.11 Operating Inte			
	\$1,537.50		
+	\$487.09		
X	7.8	1 0	
X	201	days on feed	
÷ =	<u>365</u> \$86.41		
_	ψ00.41	ricedei	
	Capi	ital Investment	
Handling Facilities			
Land & Landscapir	ng	\$10,000	
Waterers	J	\$6,000	
Squeeze, Gates &	Scale	\$20,000	
Well & Pressure S		\$8,000	
Pens (Working & S	=	<u>\$42,000</u>	
Total Building Cost	37	\$86,000	
Manking OF	4		
Machinery & Equipme	ent	A07 000	
Self Feeder		\$27,000	
Hay Feeders & Mis	scellaneous	\$2,500	
Miscellaneous		\$2,500	
Tractor & Loader		\$36,000 \$30,000	
Miscellaneous		\$20,000 \$20,000	
Total		\$88,000	
Total Capital Investme	ent	\$174,000	

B. Fixed Costs

3. Depreciation

A. Operating Costs Original Cost - Salvage Value Useful Life				Your Cost			
3.01 Bı	uildings						
		\$86,000	original value				
	-	\$0	•				
	÷	20	years useful life				
	÷	300 \$44.22	<u>feeders</u>				
	=	\$14.33	/feeder				
3 02 Fo	quipment						
0.02 20	quipinoni	\$32,000	original value				
	_	\$0	salvage value				
	÷	25	_				
	÷	<u>300</u>	=				
	=	\$4.27	/feeder				
3.02 M	achinery						
		\$36,000	•				
	-	\$2,066	•				
	÷	15	years useful life feeders				
	=	300 \$7.54					
4. Investr		Ψ1.04	Necdel				
Original Cost + Salvage Value x Investment Rate							
			2				
4.01 Bu	uildings						
			total building value				
	+	\$0	salvage value				
	÷	2	average				
	X ÷	3.00	% investment interest				
	=	300 \$4.30	<u>feeders</u> /feeder				
		Ψ-1.00	Noodol				
4.02 Machinery & Equipment							
	_	\$88,000	original value				
	+	\$7,200	salvage value				
	÷	2	average				
	X	3.00	% investment interest				
	÷	300 0 4 70	<u>feeders</u>				
C Labarra	=	\$4.76	/feeder				
C. Labour							
	х	3.0 <u>\$26.00</u>	hours/feeder/year /hour				
		\$78.00	/feeder				
		ψ. σ.σσ					

Breakeven Calculations

Cost per lb of gain sold (shrunk weight)					
Feed Costs	3 ,	\$781.36	feed cost		
	÷	285	lbs gained weight		
	=	\$2.74	/lb (gain sold)		
		·	,		
Operating Costs		\$2,624.18	operating costs		
	-	\$1,553.65	feeder cost		
	÷	<u>285</u>	lbs gained weight		
	=	\$3.76	/lb (gain sold)		
Operating & Labour Costs		\$2,702.18	operating costs		
	-	\$1,553.65	feeder cost		
	÷	<u>285</u>	lbs gained weight		
	=	\$4.03	/lb (gain sold)		
Operating & Fixed		\$2,659.38	oper. & fixed costs		
Operating & Fixed	_	\$1,553.65	feeder cost		
	÷	ψ1,333.03 <u>285</u>	lbs gained weight		
	=	\$3.88	/lb (gain sold)		
		40.00	(ga 55.a.)		
Total Costs		\$2,737.38	total costs		
	-	\$1,553.65	feeder cost		
	÷	285	lbs gained weight		
	=	\$4.1 5	/lb (gain sold)		
Breakeven selling price (shrunk weight)					
Operating Costs		\$2,624.18	operating costs		
	÷	<u>1,012</u>	lbs shrunk weight		
	=	\$2.59	/lb		
Out a mating to 0.1 also a con Octate		¢0.700.40			
Operating & Labour Costs	÷	\$2,702.18	operating & labour		
	=	<u>1,012</u> \$2.67	<u>lbs shrunk weight</u> / lb		
	_	Ψ2.07	710		
Operating & Fixed		\$2,659.38	oper. & fixed costs		
- p	÷	1,012	lbs shrunk weight		
	=	\$2.63	/lb		
Total Costs		\$2,737.38	total costs		
	÷	<u>1,012</u>	lbs shrunk weight		
	=	\$2.70	/lb		

Breakeven purchase price (shrunk weigl	ht)		
Operating Costs		1,012	lbs shrunk weight
	Х	\$200.00	\$/cwt selling price
	=	\$2,024.00	income
	-	\$1,070.52	operating less feeder cost
	÷	<u>750</u>	lbs purchase weight
	=	\$1.27	/lb
Operating & Labour Costs		1,012	lbs shrunk weight
	Χ	\$200.00	\$/cwt selling price
	=	\$2,024.00	income
	-	\$1,148.52	operating less feeder cost
	÷	<u>750</u>	lbs purchase weight
	=	\$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>	lbs purchase weight
	=	\$1.22	/lb
Total Costs		1,012	lbs shrunk weight
	Χ	\$200.00	\$/cwt selling price
	=	\$2,024.00	income
	-	\$1,183.72	total less feeder cost
	÷	<u>750</u>	lbs purchase weight
	=	\$1.12	/lb

October, 2022

Contact Us

For more information, contact a Farm Management Specialist.

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- mbfarmbusiness@gov.mb.ca1-844-769-6224

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