

Guidelines For Estimating **Backgrounding Costs** For Weight Range of 500 - 900 lbs Based on 500 Head

Date: November, 2011

The following is an estimate of the costs of production associated with backgrounding feeder calves. This budget aims to help Manitoba livestock producers calculate costs and ensure appropriate factors are considered when determining breakeven prices.

Backgrounding generally refers to the assembling, feeding and managing of calves from weaning until they are put onto a high concentrate finishing ration. In general, calves fed from weaning to 800-900 pounds are referred to as background feeders. An example of a typical backgrounding operation would be, feed 500 pound steers to gain 1.75-2.75 pounds per day for approximately 100-200 days to produce 800-900 pound backgrounded feeders.

The assumptions on which costs are calculated are clearly defined in the supporting pages. When interpreting these costs for an individual situation, adjustments may be required. Note that on farm feed costs are based on market prices at the farm. It is assumed that all feed is grown on the farm, except for supplements. Each assumption must be examined and adjustments must be made where necessary in order for the budget to be relevant to each individual producer.

Disclaimer: This budget is only a guide and is not intended as an in depth study of the cost of production of the Manitoba cattle industry. Interpretation and utilization of this information is the responsibility of the user. If you require assistance with developing your individual budget, please contact your local MAFRI Business Development Specialist or Livestock Farm Production Extension Specialist.

Backgrounding Cattle Production Cost Summary, November, 2011

A. Operating Costs	<u>Cost/Head</u>	<u>Total Cost</u>	<u>Your Cost</u>
1. Feed Costs			
1.01 Ground Barley	\$92.08	\$46,040	_____
1.02 Barley Silage	\$109.00	\$54,500	_____
1.03 Hay	\$2.63	\$1,315	_____
1.04 Supplement	\$25.76	\$12,880	_____
Total Feed Costs	\$229.47	\$114,735	_____
2. Other Operating Costs			
2.01 Feeder Cost	\$789.00	\$394,500	_____
2.02 Straw	\$9.60	\$4,800	_____
2.03 Veterinary Medicine & Supplies	\$16.73	\$8,365	_____
2.04 Annual Fuel & Repair Costs	\$6.60	\$3,300	_____
2.05 Utilities	\$4.00	\$2,000	_____
2.06 Feeder Selling Cost	\$36.40	\$18,200	_____
2.07 Insurance	\$1.25	\$625	_____
2.08 Manure Removal	\$7.00	\$3,500	_____
2.09 Barn & Office Supplies	\$1.20	\$600	_____
2.10 Death Loss	\$18.54	\$9,270	_____
Subtotal Operating Costs	\$1,119.79	\$559,895	_____
2.11 Operating Interest	\$24.06	\$12,030	_____
Total Operating Costs	\$1,143.85	\$571,925	_____
B. Fixed Costs			
3. Depreciation			
3.01 Buildings	\$6.13	\$3,065	_____
3.02 Machinery & Equipment	\$12.00	\$6,000	_____
4. Investment			
4.01 Buildings	\$2.06	\$1,030	_____
4.02 Machinery & Equipment	\$2.48	\$1,240	_____
Total Fixed Costs	\$22.67	\$11,335	_____
Total Operating and Fixed Costs	\$1,166.52	\$583,260	_____
C. Labour	\$12.50	\$6,250	_____
Total Cost of Production	\$1,179.02	\$589,510	_____
Cost per lb of gain sold	<u>\$/cwt</u>		
Feed Costs	\$66.32		_____
Operating Costs	\$106.60		_____
Operating Costs & Labour	\$110.22		_____
Operating & Fixed Costs	\$113.16		_____
Total Costs	\$116.77		_____
Breakeven Selling Price			
Operating Costs	\$135.21		_____
Operating Costs & Labour	\$136.68		_____
Operating & Fixed Costs	\$137.89		_____
Total Costs	\$139.36		_____
Breakeven Purchase Price (based on \$135/cwt market price)			
Operating Costs	\$154.65		_____
Operating Costs & Labour	\$152.15		_____
Operating & Fixed Costs	\$150.12		_____
Total Costs	\$147.62		_____

Disclaimer: 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.

Backgrounding Feeder Cattle Production Costs

Assumptions

1. This budget outlines the cost of production for backgrounding cattle.
2. Buildings and equipment are valued at new cost.
3. All feed is purchased.

Herd Profile

Number of Feeders Purchased	500	head
Feeder Cattle Mortality Rate	2.00	%
Feeder Purchased Weight	500	lbs
Feeder Cattle Price	\$155.00	/cwt
Finish Weight	900	lbs
Feeder Selling Price	\$135.00	/cwt
Percent Shrink finished	6.00	%
Percent Shrink feeder	0.00	%
Average Daily Gain	2.5	lbs/day
Days On Feed	160	days

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

Feed Costs

	<u>Market Price</u>	<u>Feeder Cattle Requirement</u>	<u>Days on Feed</u>
Ground Barley	\$4.25 /bu	6.50 lbs/day	160
Barley Silage	\$40.00 /ton	34.00 lbs/day	160
Hay	\$70.00 /ton	5.00 lbs/day	15
Mineral/Rumensin Pre Mix	\$355.00 /tonne	1.00 lbs/day	160
Other Feed #1	\$0.00	0.00 lbs/day	
Other Feed #2	\$0.00	0.00 lbs/day	

FOOTNOTE: 1 bushel (bu) barley = 48 lbs = 21.8 kg
 1 kilogram (kg) = 2.2046 pounds (lbs)
 1 tonne (t) = 1,000 kg

Other Operating Costs**Feeder Purchase Costs**

Buying Commission	\$5.00 /head
Trucking-in	\$1.60 /cwt
Insurance fee	\$1.00 /head

Straw Bedding

lbs/day	4.00 /head
cost	\$30.00 /ton

Veterinary Medicine & Supplies**Cattle Medication**

IBR,BVD,PI3,BRSV, Pasteurella	\$4.60 /head
Vitamin A-D	\$0.50 /head
External & Internal Parasites	\$0.72 /head
Blackleg & Haemophilus	\$1.06 /head
Growth Implants	\$1.71 /head
Antibiotics	\$7.00 /head

Herd Health Program**Professional Services**

Total Yearly Hours	3.00 hours
Rate	\$150.00 /hour

Transportation

Total Kilometres (round trip)	80.0 km
Rate	\$0.75 /km
Number of Yearly Visits	2

Annual Fuel & Repair Costs

Repairs (Machinery, Equipment & Facilities)	\$1,100.00
Fuel Costs	\$2,200.00

Utilities

Telephone, Hydro etc.	\$2,000.00
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Trucking Cost

Average Weight	900 /head
Trucking Cost	\$1.60 /cwt

Marketing Cost

MCEC Fee	\$2.00 /head
MCPA Levy	\$3.00 /head
Commission on Sales	\$17.00 /head
Market Value	\$135.00 /cwt

Manure RemovalAnnual Cost for Removal **\$3,500.00****Insurance**

Cost per \$100 Capital Invested in

a) Livestock **\$0.00** /\$100b) Building & Equipment **\$0.40** /\$100Additional Coverage for Liability **\$49.00** /year**Barn & Office Supplies**Total yearly expense relating to barn **\$600.00**Operating Interest Rate **5.75** %Investment Interest Rate **2.75** %

FOOTNOTE: cwt = hundred-weight = 100 lbs

Capital Costs

	<u>Original Value</u>	<u>Salvage Value</u>	<u>Useful Life</u>
Buildings, Corrals & Water System			
Windbreak fence	\$6,300	10 %	20 years
Pens	\$5,300	10 %	20 years
Handling Facilities	\$5,500	10 %	20 years
Waterers	\$5,000	10 %	20 years
Gates	\$1,280	10 %	20 years
Feeders	\$1,500	10 %	20 years
Bunk Feeders	\$18,768	10 %	20 years
Well & Pressure System	\$6,000	10 %	20 years
Grain Bin	\$3,500	10 %	20 years
Landscaping	\$15,000	10 %	20 years
Total	\$68,148		
Machinery & Equipment			
Tractor & Loader	\$50,000	20 %	10 years
Miscellaneous	\$25,000	20 %	10 years
Total Investment	\$143,148		

Labour Costs

	<u>Total</u>
Hours/Head	1.0 hours
Labour Rate	\$12.50 /hour

Assumptions

1. Average daily gain (ADG) was assumed to be 2.5 lbs/day.
2. It was assumed the feeder steer weighed in at 500 lbs shrunk weight, and was raised to 900 lbs (846 lbs after 6 % shrink).
3. Days on feed was 160.
4. Investment in facilities and equipment was assumed to handle 500 head.

Backgrounding Cattle Production Cost Worksheet

A. Operating Costs

Your Cost

1. Feed Costs

1.01 Ground Barley

	160.00	days on ground barley	
x	6.50	lbs/feeder/day	
÷	48.00	lbs/bu	
<u>x</u>	<u>\$4.25</u>	<u>/bu</u>	
=	\$92.08	/feeder	

1.02 Barley Silage

	160.00	days on silage	
x	34.00	lbs/feeder/day	
÷	2000.00	lbs/ton	
<u>x</u>	<u>\$40.00</u>	<u>/ton</u>	
=	\$109.00	/feeder	

1.03 Hay

	15.00	days on hay	
x	5.00	lbs/feeder/day	
÷	2000.00	lbs/ton	
<u>x</u>	<u>\$70.00</u>	<u>/ton</u>	
=	\$2.63	/feeder	

1.04 Supplement(Salt,Minerals,Vitamins, Ionophore)

	160.00	days on supplement	
x	1.00	lbs/feeder/day	
÷	2205.00	lbs/tonne	
<u>x</u>	<u>\$355.00</u>	<u>/tonne</u>	
=	\$25.76	/feeder	

2. Other Operating Costs

2.01 Feeder Cattle Cost

Commission	\$5.00	/feeder	_____
Insurance	\$1.00	/feeder	_____
Trucking-in	\$1.60	/cwt	_____
x	500	lbs/feeder	_____
±	<u>100</u>	<u>lbs/cwt</u>	_____
=	\$8.00	/feeder	_____
Feeder	500	lbs/feeder	_____
x	\$155.00	/cwt	_____
±	<u>100</u>	<u>lbs/cwt</u>	_____
=	\$775.00	/feeder	_____
Total =	\$789.00	/feeder	_____

2.02 Straw

	4.00	lbs/feeder/day	_____
x	160.00	days on feed	_____
±	<u>\$30.00</u>	<u>/ton</u>	_____
=	\$9.60	/feeder	_____

2.03 Veterinary Medicine & Supplies

Cattle Medication	\$4.60	IBR,BVD,PI3,BRSV,Pasteurella	_____
+	\$0.50	Vitamin A-D	_____
+	\$0.72	External & Internal Parasites	_____
+	\$1.06	Blackleg & Haemophilus	_____
+	\$1.71	Growth Implants	_____
±	<u>\$7.00</u>	<u>Antibiotics</u>	_____
=	\$15.59	/feeder	_____

Herd Health Program
Professional Services

	\$150.00	/hour charge	_____
x	3.00	hours	_____
±	<u>500.00</u>	<u>feeder cattle</u>	_____
=	\$0.90	/feeder	_____

Transportation Costs

	\$0.75	/km charge	_____
x	80	kilometres	_____
x	2	visits	_____
±	<u>500</u>	<u>feeder cattle</u>	_____
=	\$0.24	/feeder	_____

Total =	\$16.73	/feeder	_____
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2.04 Annual Fuel & Repair Costs

	\$1,100.00	repairs	_____
+	\$2,200.00	fuel costs	_____
÷	<u>500</u>	<u>feeder cattle</u>	_____
=	\$6.60	/feeder	_____

2.05 Utilities

	\$2,000.00	cost/year	_____
÷	<u>500</u>	<u>feeder cattle</u>	_____
=	\$4.00	/feeder	_____

2.06 Feeder Selling Cost

Trucking

	900	lbs/feeder	_____
÷	100	lbs/cwt	_____
x	<u>\$1.60</u>	<u>trucking cost/cwt</u>	_____
=	\$14.40	/feeder	_____

MCEC Fee, MCPA levy, selling commission

	\$2.00	MCEC Fee	_____
+	\$3.00	MCPA Levy	_____
±	<u>\$17.00</u>	<u>commission</u>	_____
=	\$22.00	/feeder	_____

Total = \$36.40 /feeder

2.07 Insurance

	\$143,148	building & equipment investment	_____
x	\$0.40	/\$100 capital	_____
÷	100	/\$100	_____
÷	<u>500</u>	<u>feeder cattle</u>	_____
=	\$1.15	/feeder	_____

	\$497,500	herd investment	_____
x	\$0.00	/\$100 capital	_____
÷	100	/\$100	_____
÷	<u>500</u>	<u>feeder cattle</u>	_____
=	\$0.00	/feeder	_____

	\$49.00	additional coverage for liability	_____
÷	<u>500</u>	<u>feeder cattle</u>	_____
=	\$0.10	/feeder	_____

Total = \$1.25 /feeder

2.08 Manure Removal

	\$3,500	annual removal cost	_____
÷	<u>500</u>	<u>feeder cattle</u>	_____
=	\$7.00	/feeder	_____

2.09 Barn & Office Supplies

	\$600.00	total barn expenses	_____
÷	<u>500</u>	<u>feeder cattle</u>	_____
=	\$1.20	/feeder	_____

2.10 Death Loss

	\$789.00	feeder cattle cost	_____
+	\$1,101.25	maximum value	_____
-	\$36.40	selling costs	_____
÷	<u>2.00</u>	average	_____
x	<u>2.00</u>	<u>% mortality rate</u>	_____
=	\$18.54	/feeder	_____

2.11 Operating Interest

(Operating interest is charged on one half the subtotal operating costs)

	\$789.00	feeder cost	_____
+	\$165.40	½ of feed & other costs	_____
x	5.75	% operating interest	_____
x	160.00	days on feed	_____
÷	<u>365.00</u>	<u>days /year</u>	_____
=	\$24.06	/feeder	_____

Capital Costs

Buildings, Corrals & Water System

Windbreak fence	\$6,300	
Pens	\$5,300	
Handling Facilities	\$5,500	
Waterers	\$5,000	
Gates	\$1,280	
Feeders	\$1,500	
Bunk Feeders	\$18,768	
Well & Pressure System	\$6,000	
Grain Bin	\$3,500	
Landscaping	<u>\$15,000</u>	
Total	\$68,148	

Machinery & Equipment

Tractor & Loader	\$50,000	
Miscellaneous	<u>\$25,000</u>	
Total	\$75,000	

Total Investment	\$143,148	
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B. Fixed Costs

3. Depreciation Original Cost - Salvage Value
Useful Life

3.01 Buildings

	\$68,148	original cost	
-	\$6,815	salvage value	
÷	20.00	years useful life	
±	<u>500.00</u>	<u>feeder cattle</u>	
=	\$6.13	/feeder	

3.02 Machinery & Equipment

	\$75,000	original cost	
-	\$15,000	salvage value	
÷	10.00	years useful life	
±	<u>500.00</u>	<u>feeder cattle</u>	
=	\$12.00	/feeder	

4. Investment $\frac{\text{Original Cost} + \text{Salvage Value}}{2} \times \text{Investment Rate}$

4.01 Buildings

	\$68,148	original cost	_____
+	\$6,815	salvage value	_____
÷	2.00	average	_____
x	2.75	% investment rate	_____
÷	<u>500.00</u>	<u>feeder cattle</u>	_____
=	\$2.06	/feeder	_____

4.02 Machinery & Equipment

	\$75,000	original cost	_____
+	\$15,000	salvage value	_____
÷	2.00	average	_____
x	2.75	% investment rate	_____
÷	<u>500.00</u>	<u>feeder cattle</u>	_____
=	\$2.48	/feeder	_____

C. Labour

	1.0	hours/feeder/year	_____
÷	<u>\$12.50</u>	<u>/hour</u>	_____
=	\$12.50	/feeder	_____

Breakeven Calculations

Cost per lb of gain sold (shrunk weight)			
Feed Costs		\$229.47	feed cost
	÷	<u>346</u>	<u>lbs gained weight</u>
	=	\$0.66	/lb (gain sold)
Operating Costs		\$1,143.85	operating costs
	-	\$775.00	feeder cost
	÷	<u>346</u>	<u>lbs gained weight</u>
	=	\$1.07	/lb (gain sold)
Operating & Labour Costs		\$1,156.35	operating costs
	-	\$775.00	feeder cost
	÷	<u>346</u>	<u>lbs gained weight</u>
	=	\$1.10	/lb (gain sold)
Operating & Fixed		\$1,166.52	oper. & fixed costs
	-	\$775.00	feeder cost
	÷	<u>346</u>	<u>lbs gained weight</u>
	=	\$1.13	/lb (gain sold)
Total Costs		\$1,179.02	total costs
	-	\$775.00	feeder cost
	÷	<u>346</u>	<u>lbs gained weight</u>
	=	\$1.17	/lb (gain sold)
Breakeven selling price (shrunk weight)			
Operating Costs		\$1,143.85	operating costs
	÷	<u>846</u>	<u>lbs shrunk weight</u>
	=	\$1.35	/lb
Operating & Labour Costs		\$1,156.35	operating & labour
	÷	<u>846</u>	<u>lbs shrunk weight</u>
	=	\$1.37	/lb
Operating & Fixed		\$1,166.52	oper.& fixed costs
	÷	<u>846</u>	<u>lbs shrunk weight</u>
	=	\$1.38	/lb
Total Costs		\$1,179.02	total costs
	÷	<u>846</u>	<u>lbs shrunk weight</u>
	=	\$1.39	/lb

Breakeven purchase price (shrunk weight)

Operating Costs

	846	lbs shrunk weight	_____
x	\$135.00	\$/cwt selling price	_____
=	\$1,142.10	income	_____
-	\$368.85	operating less feeder cost	_____
÷	<u>500</u>	<u>lbs purchase weight</u>	_____
=	\$1.55	/lb	_____

Operating & Labour Costs

	846	lbs shrunk weight	_____
x	\$135.00	\$/cwt selling price	_____
=	\$1,142.10	income	_____
-	\$381.35	operating less feeder cost	_____
÷	<u>500</u>	<u>lbs purchase weight</u>	_____
=	\$1.52	/lb	_____

Operating & Fixed

	846	lbs shrunk weight	_____
x	\$135.00	\$/cwt selling price	_____
=	\$1,142.10	income	_____
-	\$391.52	op. & fixed less feeder cost	_____
÷	<u>500</u>	<u>lbs purchase weight</u>	_____
=	\$1.50	/lb	_____

Total Costs

	846	lbs shrunk weight	_____
x	\$135.00	\$/cwt selling price	_____
=	\$1,142.10	income	_____
-	\$404.02	total less feeder cost	_____
÷	<u>500</u>	<u>lbs purchase weight</u>	_____
=	\$1.48	/lb	_____

For more information contact your local MAFRI Office.

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Backgrounding Feedlot Facilities

