



Guidelines for Estimating Beef Backgrounding Costs 2015

in Manitoba



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

Date: September, 2015

(**revised market prices November 6th**)

This guide is designed to provide you with planning information and a format for calculating costs of production of a backgrounding feeder calf enterprise in Manitoba. General Manitoba Agriculture, Food and Rural Development (MAFRD) 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.

Backgrounding generally refers to the feeding of calves from weaning until they are put onto a high concentrate finishing ration. An example of a typical backgrounding operation would be, feed 500 pound steers to gain 1.75 to 2.75 pounds per day for approximately 100-200 days to produce 800 to 900 pound backgrounded 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: www.manitoba.ca/agriculture or at your local [MAFRD GO Office](#). [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 your local MAFRD GO Office.

Backgrounding Cattle Production Cost Summary September, 2015

Based on 500 feeders for weight range 500 to 900 lbs.

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	\$106.00	\$53,000	_____
1.03 Hay	\$3.38	\$1,690	_____
1.04 Supplement	<u>\$36.28</u>	<u>\$18,140</u>	_____
Total Feed Costs	<u>\$237.74</u>	<u>\$118,870</u>	_____
2. Other Operating Costs			
2.01 Feeder Cost	\$1,414.50	\$707,250	_____
2.02 Straw	\$9.60	\$4,800	_____
2.03 Veterinary Medicine & Supplies	\$16.75	\$8,375	_____
2.04 Annual Fuel & Repair Costs	\$6.30	\$3,150	_____
2.05 Utilities	\$4.20	\$2,100	_____
2.06 Feeder Selling Cost	\$35.30	\$17,650	_____
2.07 Insurance	\$1.49	\$745	_____
2.08 Manure Removal	\$7.60	\$3,800	_____
2.09 Barn & Office Supplies	\$1.20	\$600	_____
2.10 Death Loss	<u>\$31.14</u>	<u>\$15,570</u>	_____
Subtotal Operating Costs	\$1,765.82	\$882,910	_____
2.11 Operating Interest	<u>\$38.34</u>	<u>\$19,170</u>	_____
Total Operating Costs	<u>\$1,804.16</u>	<u>\$902,080</u>	_____
B. Fixed Costs			
3. Depreciation			
3.01 Buildings	\$7.21	\$3,605	_____
3.02 Machinery & Equipment	\$15.04	\$7,520	_____
4. Investment			
4.01 Buildings	\$2.20	\$1,100	_____
4.02 Machinery & Equipment	<u>\$2.82</u>	<u>\$1,410</u>	_____
Total Fixed Costs	<u>\$27.27</u>	<u>\$13,635</u>	_____
Total Operating and Fixed Costs	<u>\$1,831.43</u>	<u>\$915,715</u>	_____
C. Labour	<u>\$20.00</u>	\$10,000	_____
Total Cost of Production	<u>\$1,851.43</u>	<u>\$925,715</u>	_____

Profitability and Breakeven Analysis

Estimated Farmgate	<u>Per Head</u>	<u>Total</u>
Gross Revenue @ \$205/cwt market price	<u>\$1,734.30</u>	<u>\$867,150</u>
	Breakeven Purchase	Breakeven Selling
	Price (\$/cwt) @	Price (\$/cwt) @
	<u>\$205/cwt market price</u>	<u>\$280/cwt feeder price</u>
Operating Costs	\$266.03	\$213.26
Operating Costs & Labour	\$262.03	\$215.62
Operating & Fixed Costs	\$260.57	\$216.48
Total Costs	\$256.57	\$218.85
	Cost per lb of	Marginal Returns per head
	<u>gain sold (\$/cwt)</u>	<u>@ \$205/cwt market price</u>
Feed Costs	\$68.71	_____
Operating Costs	\$116.81	(\$69.86)
Operating Costs & Labour	\$122.59	(\$89.86)
Operating & Fixed Costs	\$124.69	(\$97.13)
Total Costs	\$130.47	(\$117.13)

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.

Backgrounding Cattle Production Cost Worksheet

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.

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>\$39.00</u>	<u>/ton</u>	_____
=	\$106.00	/feeder	_____

1.03 Hay

	15.00	days on hay	_____
x	5.00	lbs/feeder/day	_____
÷	2000.00	lbs/ton	_____
<u>x</u>	<u>\$90.00</u>	<u>/ton</u>	_____
=	\$3.38	/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>\$500.00</u>	<u>/tonne</u>	_____
=	\$36.28	/feeder	_____

2. Other Operating Costs

2.01 Feeder Cattle Cost

Commission	\$5.00	/feeder	_____
Insurance	\$1.00	/feeder	_____
Trucking-in	\$1.70	/cwt	_____
x	500	lbs/feeder	_____
±	<u>100</u>	<u>lbs/cwt</u>	_____
=	\$8.50	/feeder	_____
Feeder	500	lbs/feeder	_____
x	\$280.00	/cwt	_____
±	<u>100</u>	<u>lbs/cwt</u>	_____
=	\$1,400.00	/feeder	_____
Total =	\$1,414.50	/feeder	_____

2.02 Straw

	4.00	lbs/feeder/day	_____
x	160.00	days on feed	_____
x	<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

	\$0.80	/km charge	_____
x	80	kilometres	_____
x	2	visits	_____
±	<u>500</u>	<u>feeder cattle</u>	_____
=	\$0.26	/feeder	_____

Total =	\$16.75	/feeder	_____
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2.04 Annual Fuel & Repair Costs

	\$1,150.00	repairs	_____
+	\$2,000.00	fuel costs	_____
±	<u>500</u>	<u>feeder cattle</u>	_____
=	\$6.30	/feeder	_____

2.05 Utilities

	\$2,100.00	cost/year	_____
±	<u>500</u>	<u>feeder cattle</u>	_____
=	\$4.20	/feeder	_____

2.06 Feeder Selling Cost

Trucking

	900	lbs/feeder	_____
÷	100	lbs/cwt	_____
×	<u>\$1.70</u>	<u>trucking cost/cwt</u>	_____
=	\$15.30	/feeder	_____

MBP levy, WLPIP, selling commission

+	\$4.00	MBP Levy	_____
+	\$0.00	WLPIP Insurance Premium	_____
±	<u>\$16.00</u>	<u>commission</u>	_____
=	\$20.00	/feeder	_____

Total = \$35.30 /feeder

2.07 Insurance

	\$174,100	building & equipment investment	_____
x	\$0.40	/\$100 capital	_____
÷	100	/\$100	_____
±	<u>500</u>	<u>feeder cattle</u>	_____
=	\$1.39	/feeder	_____

	\$811,250	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 = \$1.49 /feeder

2.08 Manure Removal

	\$3,800	annual removal cost	_____
÷	<u>500</u>	<u>feeder cattle</u>	_____
=	\$7.60	/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

	\$1,414.50	feeder cattle cost	_____
+	\$1,734.68	maximum value	_____
-	\$35.30	selling costs	_____
÷	2.00	average	_____
×	<u>2.00</u>	<u>% mortality rate</u>	_____
=	\$31.14	/feeder	_____

2.11 Operating Interest

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

	\$1,414.50	feeder cost	_____
+	\$175.66	½ of feed & other costs	_____
x	5.50	% operating interest	_____
x	160.00	days on feed	_____
÷	<u>365.00</u>	<u>days /year</u>	_____
=	\$38.34	/feeder	_____

Capital Costs

Buildings, Corrals & Water System

Windbreak fence	\$6,300	_____
Pens	\$5,300	_____
Handling Facilities	\$7,500	_____
Waterers	\$6,000	_____
Gates	\$2,000	_____
Feeders	\$1,500	_____
Bunk Feeders	\$21,000	_____
Well & Pressure System	\$8,000	_____
Grain Bin	\$5,000	_____
Landscaping	<u>\$17,500</u>	_____
Total	\$80,100	_____

Machinery & Equipment

Tractor & Loader	\$54,000	_____
Miscellaneous	<u>\$40,000</u>	_____
Total	\$94,000	_____

Total Investment	\$174,100	_____
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B. Fixed Costs

**3. Depreciation Original Cost - Salvage Value
Useful Life**

3.01 Buildings

	\$80,100	original cost	_____
-	\$8,010	salvage value	_____
÷	20.00	years useful life	_____
±	<u>500.00</u>	<u>feeder cattle</u>	_____
=	\$7.21	/feeder	_____

3.02 Machinery & Equipment

	\$94,000	original cost	_____
-	\$18,800	salvage value	_____
÷	10.00	years useful life	_____
±	<u>500.00</u>	<u>feeder cattle</u>	_____
=	\$15.04	/feeder	_____

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

2

4.01 Buildings

	\$80,100	original cost	_____
+	\$8,010	salvage value	_____
÷	2.00	average	_____
x	2.50	% investment rate	_____
±	<u>500.00</u>	<u>feeder cattle</u>	_____
=	\$2.20	/feeder	_____

4.02 Machinery & Equipment

	\$94,000	original cost	_____
+	\$18,800	salvage value	_____
÷	2.00	average	_____
x	2.50	% investment rate	_____
±	<u>500.00</u>	<u>feeder cattle</u>	_____
=	\$2.82	/feeder	_____

C. Labour

	1.0	hours/feeder/year	_____
±	<u>\$20.00</u>	<u>/hour</u>	_____
=	\$20.00	/feeder	_____

Breakeven Calculations

Cost per lb of gain sold (shrunk weight)

Feed Costs		\$237.74	feed cost	
	÷	346	<u>lbs gained weight</u>	
	=	\$0.69	/lb (gain sold)	
Operating Costs		\$1,804.16	operating costs	
	-	\$1,400.00	feeder cost	
	÷	346	<u>lbs gained weight</u>	
	=	\$1.17	/lb (gain sold)	
Operating & Labour Costs		\$1,824.16	operating costs	
	-	\$1,400.00	feeder cost	
	÷	346	<u>lbs gained weight</u>	
	=	\$1.23	/lb (gain sold)	
Operating & Fixed		\$1,831.43	oper. & fixed costs	
	-	\$1,400.00	feeder cost	
	÷	346	<u>lbs gained weight</u>	
	=	\$1.25	/lb (gain sold)	
Total Costs		\$1,851.43	total costs	
	-	\$1,400.00	feeder cost	
	÷	346	<u>lbs gained weight</u>	
	=	\$1.30	/lb (gain sold)	
Breakeven selling price (shrunk weight)				
Operating Costs		\$1,804.16	operating costs	
	÷	846	<u>lbs shrunk weight</u>	
	=	\$2.13	/lb	
Operating & Labour Costs		\$1,824.16	operating & labour	
	÷	846	<u>lbs shrunk weight</u>	
	=	\$2.16	/lb	
Operating & Fixed		\$1,831.43	oper. & fixed costs	
	÷	846	<u>lbs shrunk weight</u>	
	=	\$2.16	/lb	
Total Costs		\$1,851.43	total costs	
	÷	846	<u>lbs shrunk weight</u>	
	=	\$2.19	/lb	

Breakeven purchase price (shrunk weight)

Operating Costs	846	lbs shrunk weight	_____
x	\$205.00	\$/cwt selling price	_____
=	\$1,734.30	income	_____
-	\$404.16	operating less feeder cost	_____
÷	500	lbs purchase weight	_____
=	\$2.66	/lb	_____

Operating & Labour Costs	846	lbs shrunk weight	_____
x	\$205.00	\$/cwt selling price	_____
=	\$1,734.30	income	_____
-	\$424.16	operating less feeder cost	_____
÷	500	lbs purchase weight	_____
=	\$2.62	/lb	_____

Operating & Fixed	846	lbs shrunk weight	_____
x	\$205.00	\$/cwt selling price	_____
=	\$1,734.30	income	_____
-	\$431.43	op. & fixed less feeder cost	_____
÷	500	lbs purchase weight	_____
=	\$2.61	/lb	_____

Total Costs	846	lbs shrunk weight	_____
x	\$205.00	\$/cwt selling price	_____
=	\$1,734.30	income	_____
-	\$451.43	total less feeder cost	_____
÷	500	lbs purchase weight	_____
=	\$2.57	/lb	_____

Created and maintained by [MAFRD Farm Management](#) September, 2015

For more information, contact your local [MAFRD GO Office](#)

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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	\$280.00	/cwt
Finish Weight	900	lbs
Feeder Selling Price (WLPPI insured value)	\$205.00	/cwt
WLPPI Insurance Premium	\$0.00	/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	\$39.00 /ton	34.00 lbs/day	160
Hay	\$90.00 /ton	5.00 lbs/day	15
Mineral/Rumensin Pre Mix	\$500.00 /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	\$1.70 /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	\$0.80 /km
Number of Yearly Visits	2

Annual Fuel & Repair Costs

Repairs (Machinery, Equipment & Facilities)	\$1,150.00
Fuel Costs	\$2,000.00

Utilities

Telephone, Hydro etc.	\$2,100.00
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Trucking Cost

Average Weight	900 /head
Trucking Cost	\$1.70 /cwt

Marketing Cost

MBP Levy	\$4.00 /head
Commission on Sales	\$16.00 /head
Market Value	\$205.00 /cwt

Manure RemovalAnnual Cost for Removal **\$3,800.00****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 **5.50** %Investment Interest Rate **2.50** %

FOOTNOTE: cwt = hundred-weight = 100 lbs

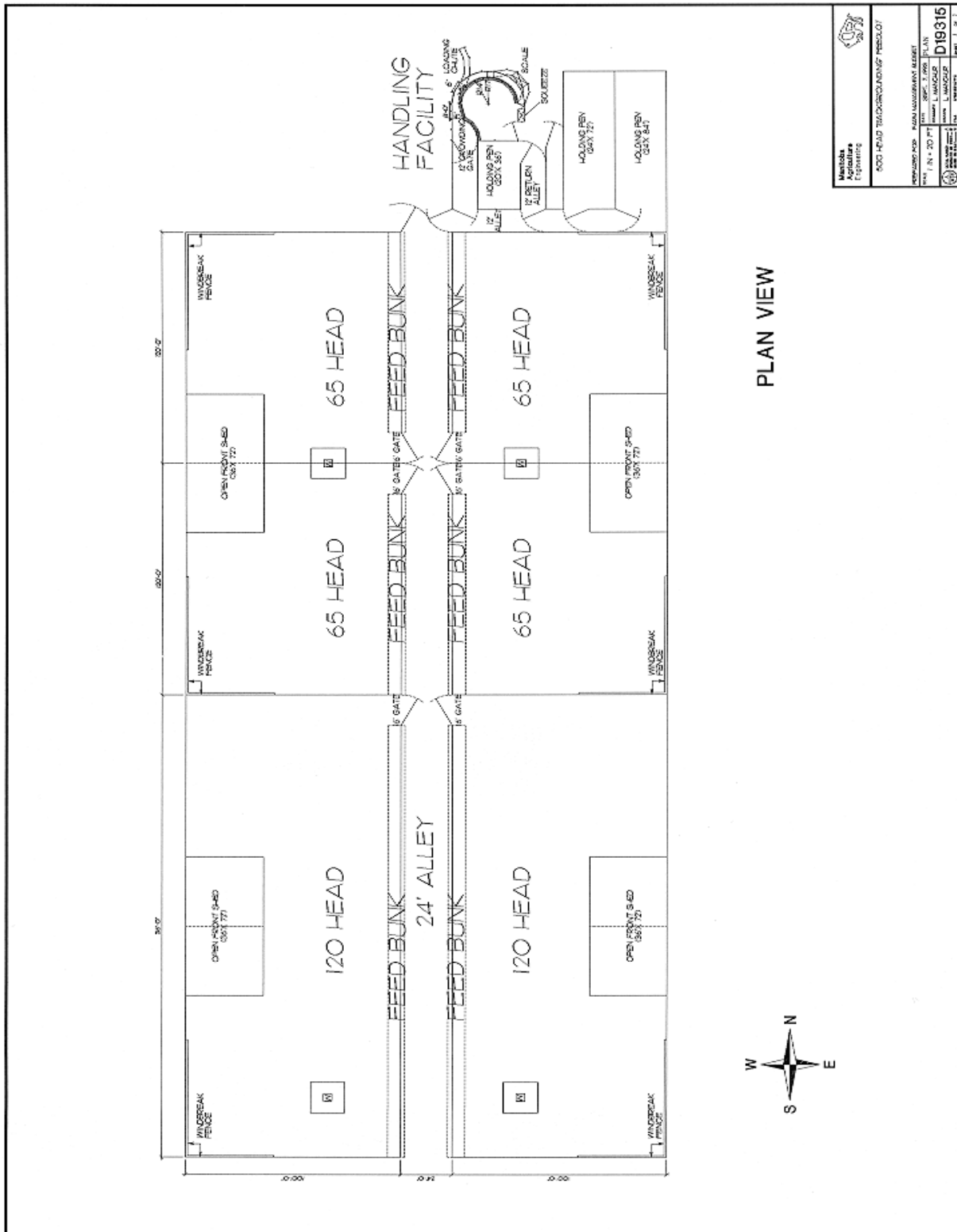
Capital Costs

	<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	\$7,500	10 %	20 years
Waterers	\$6,000	10 %	20 years
Gates	\$2,000	10 %	20 years
Feeders	\$1,500	10 %	20 years
Bunk Feeders	\$21,000	10 %	20 years
Well & Pressure System	\$8,000	10 %	20 years
Grain Bin	\$5,000	10 %	20 years
Landscaping	<u>\$17,500</u>	10 %	20 years
Total	\$80,100		
Machinery & Equipment			
Tractors & Loader (\$180,000 @ 30%)	\$54,000	20 %	10 years
Miscellaneous	\$40,000	20 %	10 years
Total Investment	\$174,100		

Labour Costs

	<u>Total</u>
Hours/Head	1.0 hours
Labour Rate	\$20.00 /hour

Backgrounding Feedlot Facilities



600-HEAD BACKGROUNDING FEEDLOT	
MANITOBA Agriculture Engineering	PROJECT NO.: P224 DRAWING NO.: D19315 DATE: 11/12/11 SHEET: 1 OF 1
DRAWN BY: L. WAGNER CHECKED BY: L. WAGNER DATE: 11/12/11	TITLE: PLAN PROJECT: P224 SHEET: 1 OF 1

A decorative graphic at the top of the page consists of three horizontal bars: a green bar on the left, a dark blue bar in the middle, and an orange bar on the right. From the bottom edge of the dark blue bar, several dashed orange lines of varying lengths and curves extend downwards and outwards across the page.

For more information

- Contact your local Manitoba Agriculture, Food and Rural Development (MAFRD) Growing Opportunities (GO) Office.
- Visit us at manitoba.ca/agriculture.

