

Guidelines For Estimating
Weaner Pig (Nursery) Costs 6 - 23 kg
Based on marketing 35,381 pigs

Date: May 2010

This publication is intended to provide a format and a set of guidelines for determining the cost of production for a weaner pig 6-23 kg enterprise. This type of operation is intended to represent the second stage, or nursery, of a three stage pork system. The three production stages are as follows: first stage - farrow to 6 kg, second stage - weaner pig (nursery) 6 to 23 kg, third stage - grower/finisher 23 kg to market weight. Adjustments will be necessary when applying these figures to your enterprise.

The assumptions on which the costs are based are outlined in the supporting pages. These assumptions were arrived at using the breeding stock, management practices, and facilities seen in modern, well managed swine operations of comparable size in Manitoba. Productivity and performance assumptions are based on information collected by department specialists, feed companies and other organizations. Where individual herd productivity and performance levels differ from those listed adjustments will be required.

Accurate, up to date, production and financial records are essential for the effective application of these guidelines to an individual operation. Without such information accurate cost of production projections cannot be determined.

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. If you require assistance with developing your individual budget, please contact your local MAFRI office.

Weaner Pig (Nursery) Costs 6-23 kg Cost of Production

The following farrow wean cost of production budget is **based on the assumption that all feed is purchased.**

The budget also includes a land investment cost based on the assumption that 200 acres would be required for this size of operation, with 175 acres being rented out at \$35 per acre. This landbase is in accordance with environmental regulations and permits a 2XP2O5 crop removal rate on suitable land.

If developing a cost of production budget to include home mixed rations the following items should be added to the budget:

- additional equipment costs associated with a mix mill;
- additional bins for different ingredients;
- additional labour for feed preparation.

The rations illustrated in this budget are examples only. Individual farm conditions should be taken into account when formulating the diets. Producers need to know what the feed intakes of their animals are. Please consult with a nutritionist for diet formulations suggestions.

The Manitoba pork production industry profile is changing and this budget was specifically designed to address the need of producers who may want to analyze the cost of starting up or switching to a swine nursery 6-23 kg operation. Several companies are offering contracts with varying levels of guarantees. Producers need to accurately calculate their costs before they can properly make a decision.

Weaner Pig (Nursery) 6-23 kg Summary May 2010

	<u>\$/Pig Sold</u>	<u>Total Cost</u>	<u>Your Cost</u>
A. Operating Costs			
1. Feed Costs:			
1.01 Pre Starter 1	\$0.70	\$24,767	_____
1.02 Pre Starter 2	\$1.91	\$67,578	_____
1.03 Starter 1	\$3.53	\$124,895	_____
1.04 Starter 2	<u>\$7.34</u>	<u>\$259,697</u>	_____
Total Feed Cost	\$13.48	\$476,937	_____
2. Other Operating Costs:			
2.01 Weanling cost	\$19.25	\$681,084	_____
2.02 Veterinary Medicine & Supplies	\$2.83	\$100,000	_____
2.03 Maintenance & Repairs	\$0.19	\$6,722	_____
2.04 Hydro & Propane	\$0.83	\$29,500	_____
2.05 Insurance	\$0.31	\$10,968	_____
2.06 Manure Costs	\$0.36	\$12,907	_____
2.07 Office Supplies	\$0.04	\$1,560	_____
2.08 Levy, Marketing & Transportation	\$3.24	\$114,634	_____
2.09 Property Taxes	<u>\$0.20</u>	<u>\$6,945</u>	_____
Subtotal Operating Costs	\$40.74	\$1,441,257	_____
2.10 Interest on Operating Cost	<u>\$0.28</u>	<u>\$9,907</u>	_____
Total Operating Costs	\$41.02	\$1,451,164	_____
B. Fixed Costs			
3. Depreciation:			
3.01 Buildings and Manure Storage	\$1.10	\$38,919	_____
3.02 Equipment	<u>\$1.08</u>	<u>\$38,211</u>	_____
Total Depreciation Cost	\$2.18	\$77,131	_____
4. Investment:			
4.01 Land Cost	\$0.04	\$1,400	_____
4.02 Buildings and Manure Storage	\$0.46	\$16,275	_____
4.03 Equipment	<u>\$0.23</u>	<u>\$8,138</u>	_____
Total Investment Cost	<u>\$0.73</u>	<u>\$25,813</u>	_____
Total Fixed Costs	\$2.91	\$102,944	_____
C. Labour			
Wages, benefits and hired manager	\$1.50	\$53,072	_____
Total Cost of Production	\$45.42	\$1,607,180	_____
<hr/>			
Break-Even Price	<u>\$/Pig</u>		
Operating Cost	\$41.02		_____
Operating & Labour Cost	\$42.52		_____
Operating Labour & Fixed Cost	\$45.42		_____

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Weaner Pig (Nursery) Production Costs 6-23 kg

1. This input table outlines the cost of production for the weaner barn only.
2. Buildings and equipment are valued at new cost.
3. Manure haulage is contracted out.

Herd Profile

Weaner Pig Places	5,200	
Number of turns	7	
Weaner Pigs Purchased	36,400	
Percent Post-Weaning Mortality	2.8	
Pigs Died, Post-Weaning	1,019	
Weaner Pigs Sold	35,381	
Average Market Price	\$35.00 /cwt	\$77.16 /ckg
Weanling Formula Factor (% of Mkt Price)	55.00 %	
Calculated Weanling Purchase Price	\$19.25 /pig	

Feed Requirements

		<u>Ration Cost</u>	
		<u>Purchased</u>	<u>Home-Mixed</u>
Pre Starter 1(sew)	0.5 kg/pig	\$1,409.00	\$0.00 /tonne
Pre Starter 2	1.8 kg/pig	\$1,059.00	\$0.00 /tonne
Starter 1	6.0 kg/pig	\$588.00	\$0.00 /tonne
Starter 2	18.5 kg/pig	\$397.00	\$0.00 /tonne
Total Feed	26.8 kg/pig		

Weaner Pig Efficiency

	<u>Ration 1</u>	<u>Ration 2</u>	<u>Ration 3</u>	<u>Ration 4</u>	
Days Post-Weaning (nursery)	3.0	6.0	12.0	20.0	41
Target Starting Weight (kg)	6.0	6.5	8.0	12.5	6.0
Target Ending Weight (kg)	6.5	8.0	12.5	23.0	23.0
Feed Conversion Ratio	1.00	1.20	1.33	1.76	1.58
Average Daily Gain (kg)	0.17	0.25	0.38	0.53	0.45

Days Weaner on feed (nursery)	41 days
Total Cycle Days (per turn)	52 days
Target Starting Weight	6.0 kg
Target Ending Weight	23.0 kg
Feed Conversion Ratio (feed:gain)	1.58 kg
Average Daily Gain	0.45 kg

Labour

Total Hours per 7-day week	60.0 hours/week
Wage (includes benefits & hired manager)	\$17.00 /hour

Capital Investment

		<u>\$/Sq. Ft.</u>	<u>\$/Pig Place</u>	<u>Total</u>	<u>Your Cost</u>
Buildings					
Barn	15,600 sq ft	\$50.40	\$151.20	\$786,240	
Office & loading				\$5,000	
Feed Mill (building only)				\$0	
Total Building Cost				\$791,240	
Equipment					
Nursery barn				\$310,000	
Generator				\$13,000	
Electrical & other				\$90,000	
Fire Alarm System				\$1,000	
Feed Bins				\$11,000	
Ingredient Bins				\$0	
Total Equipment Cost				\$425,000	
Total Buildings and Equipment Cost			\$233.89	\$1,216,240	
Land Value					
Land Investment	20 acres @	\$500		\$10,000	
Other Costs					
Site preparation				\$30,000	
Manure Storage				\$35,000	
Total Other Costs				\$65,000	
Total Capital Investment			\$248.32	\$1,291,240	

Feed Ingredient Costs

<u>Ingredients</u>	<u>Price/tonne</u>	<u>Your Cost</u>
Wheat	\$159	_____
Barley	\$135	_____
Corn	\$145	_____
Soybean Meal - 47 %	\$340	_____
Canola Meal - 34%	\$178	_____
Peas	\$200	_____
Grower Micro Premix	\$3,000	_____
Canola Oil	\$975	_____
Whey Powder	\$995	_____
Fish Meal	\$1,380	_____
Plasma	\$5,450	_____
Limestone	\$81	_____
Dical (16% Ca-21% P)	\$700	_____
Salt - 96%	\$85	_____
Phytase	\$7,175	_____
L-Lysine HCL	\$2,315	_____
L-Threonine	\$3,500	_____
D,L-Methionine	\$5,500	_____
Oats - Steam rolled	\$270	_____
Processing Cost (Hydro & Repairs/Maintenance & Insurance)	\$5.00	_____
Percent Weight loss due to processing	1.25 %	_____
Labour	\$7.00	_____

Suggested Home Mixed Rations				
	Pre starter 1	Pre starter 2	Starter 1	Starter 2
	(kg)	(kg)	(kg)	(kg)
Wheat	106.00	134.50	400.00	407.60
Barley	0.00	0.00	0.00	65.00
Corn	0.00	0.00	0.00	250.00
Soybean Meal - 47 %	120.00	130.00	223.00	227.00
Canola Meal - 34%	0.00	0.00	204.50	0.00
Peas	0.00	0.00	0.00	0.00
Grower Micro Premix	5.00	5.00	5.00	5.00
Canola Oil	27.00	19.00	11.30	0.00
Whey Powder	121.00	125.00	90.70	0.00
Fish Meal	61.00	75.00	45.50	25.00
Plasma	59.00	0.00	0.00	0.00
Limestone	12.50	12.50	7.00	7.00
Dical (16% Ca-21% P)	10.00	10.00	8.00	8.00
Salt - 96%	3.50	3.50	3.50	3.50
Phytase	0.00	0.00	0.50	0.50
L-Lysine HCL	0.50	0.50	1.00	1.40
L-Threonine	0.00	0.00	0.00	0.00
D,L-Methionine	0.00	0.00	0.00	0.00
Oats - Steam rolled	474.50	485.00	0.00	0.00
Total must equal 1000 kg	1,000.00	1,000.00	1,000.00	1,000.00

Feed Requirement and Cost Summary

	Amount (kg)	Price \$/tonne	Ration Cost \$/tonne	Your Cost
Pre starter 1				
Wheat	106.0	\$159.00	\$16.85	
Soybean Meal - 47 %	120.0	\$340.00	\$40.80	
Grower Micro Premix	5.0	\$3,000.00	\$15.00	
Canola Oil	27.0	\$975.00	\$26.33	
Whey Powder	121.0	\$995.00	\$120.40	
Fish Meal	61.0	\$1,380.00	\$84.18	
Plasma	59.0	\$5,450.00	\$321.55	
Limestone	12.5	\$80.50	\$1.01	
Dical (16% Ca-21% P)	10.0	\$700.00	\$7.00	
Salt - 96%	3.5	\$85.00	\$0.30	
L-Lysine HCL	0.5	\$2,315.00	\$1.16	
Oats - Steam rolled	<u>474.5</u>	\$270.00	<u>\$128.12</u>	
Total Pre Starter 1	1,000.0 kg		\$762.70	
Adjusted for weight loss (percentage)		1.25 %	\$772.23	
Plus processing cost per tonne		\$5.00	<u>\$777.23</u>	
Plus Labour Cost		\$7.00	\$784.23	
Pre starter 2				
Wheat	134.5	\$159.00	\$21.39	
Soybean Meal - 47 %	130.0	\$340.00	\$44.20	
Grower Micro Premix	5.0	\$3,000.00	\$15.00	
Canola Oil	19.0	\$975.00	\$18.53	
Whey Powder	125.0	\$995.00	\$124.38	
Fish Meal	75.0	\$1,380.00	\$103.50	
Limestone	12.5	\$80.50	\$1.01	
Dical (16% Ca-21% P)	10.0	\$700.00	\$7.00	
Salt - 96%	3.5	\$85.00	\$0.30	
L-Lysine HCL	0.5	\$2,315.00	\$1.16	
Oats - Steam rolled	<u>485.0</u>	\$270.00	<u>\$130.95</u>	
Total Pre Starter 2	1,000.0 kg		\$467.42	
Adjusted for weight loss (percentage)		1.25 %	\$473.26	
Plus processing cost per tonne		\$5.00	<u>\$478.26</u>	
Plus Labour Cost		\$7.00	\$485.26	

Starter 1

Wheat	400.0	\$159.00	\$63.60	_____
Soybean Meal - 47 %	223.0	\$340.00	\$75.82	_____
Grower Micro Premix	5.0	\$3,000.00	\$15.00	_____
Canola Meal - 34%	204.5	\$177.50	\$36.30	_____
Canola Oil	11.3	\$975.00	\$11.02	_____
Whey Powder	90.7	\$995.00	\$90.25	_____
Fish Meal	45.5	\$1,380.00	\$62.79	_____
Limestone	7.0	\$80.50	\$0.56	_____
Dical (16% Ca-21% P)	8.0	\$700.00	\$5.60	_____
Salt - 96%	3.5	\$85.00	\$0.30	_____
Phytase	0.5	\$7,175.00	\$3.59	_____
L-Lysine HCL	1.0	\$2,315.00	\$2.32	_____
Total Starter 1	1,000.0 kg		\$367.15	_____
Adjusted for weight loss (percentage)		1.25 %	\$371.74	_____
Plus processing cost per tonne		\$5.00	\$376.74	_____
Plus Labour Cost		\$7.00	\$383.74	_____

Starter 2

Wheat	407.6	\$159.00	\$64.81	_____
Barley	65.0	\$135.00	\$8.78	_____
Corn	250.0	\$145.00	\$36.25	_____
Soybean Meal - 47 %	227.0	\$340.00	\$77.18	_____
Grower Micro Premix	5.0	\$3,000.00	\$15.00	_____
Fish Meal	25.0	\$1,380.00	\$34.50	_____
Limestone	7.0	\$80.50	\$0.56	_____
Dical (16% Ca-21% P)	8.0	\$700.00	\$5.60	_____
Salt - 96%	3.5	\$85.00	\$0.30	_____
Phytase	0.5	\$7,175.00	\$3.59	_____
L-Lysine HCL	1.4	\$2,315.00	\$3.24	_____
Total Starter 2	1,000.0 kg		\$249.81	_____
Adjusted for weight loss (percentage)		1.25 %	\$252.93	_____
Plus processing cost per tonne		\$5.00	\$257.93	_____
Plus Labour Cost		\$7.00	\$264.93	_____

Weaner Pig (Nursery) 6-23kg Production Costs Worksheet

A. Operating Costs

1. Feed Requirements and Costs

Your Cost

1.01 Pre starter 1

	0.50	kg ration/pig	
x	\$1,409.00	/tonne	
÷	<u>1,000</u>	<u>kg/tonne</u>	
=	\$0.70	/pig sold	

1.02 Pre starter 2

	1.8	kg ration/pig	
x	\$1,059.00	/tonne	
÷	<u>1,000</u>	<u>kg/tonne</u>	
=	\$1.91	/pig sold	

1.03 Starter 1

	6.0	kg ration/pig	
x	\$588.00	/tonne	
÷	<u>1,000</u>	<u>kg/tonne</u>	
=	\$3.53	/pig sold	

1.04 Starter 2

	18.5	kg ration/pig	
x	\$397.00	/tonne	
÷	<u>1,000</u>	<u>kg/tonne</u>	
=	\$7.34	/pig sold	

2. Other Operating Costs

2.01 Weanling Purchase

	\$35.00	\$/cwt average market price	
x	<u>55.00</u>	<u>% of mkt price weanling formula factor</u>	
	\$19.25	purchase cost	

2.02 Veterinary Medicine & Supplies

	\$2,000	professional services	
+	\$98,000	medication	
÷	<u>35,381</u>	<u>pigs sold</u>	
=	\$2.83	/pig sold	

2.03 Maintenance & Repairs

	\$1,216,240	building & equipment cost	_____
x	0.55	% year repair & maintenance	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$0.19	/pig sold	_____

2.04 Hydro & Propane

	\$10,000	hydro	_____
+	\$19,500	propane	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$0.83	/pig sold	_____

2.05 Insurance

	\$1,216,240	investment	_____
x	\$0.65	rate/\$100	_____
÷	100	/\$100 capital	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$0.22	/pig sold	_____

	\$286,000	market hogs value	_____
x	\$0.65	/\$100 capital invested	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$0.05	/pig sold	_____

	\$45.00	business interruption coverage/feeder	_____
x	5,200	feeders	_____
x	\$0.65	/\$100 capital invested	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$0.04	/pig sold	_____

Total = \$0.31 /pig sold _____

2.06 Manure Costs

Haulage	2.4	litres/pig/day	_____
x	365	days	_____
x	\$0.002	/litre	_____
x	5,200	pig places	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$0.28	/pig sold	_____

Odour control & Mgmt Fees

		\$3,000	total cost	_____
÷		<u>35,381</u>	<u>pigs sold</u>	_____
=		\$0.08	/pig sold	_____
Total	=	\$0.36	/pig sold	_____
2.07 Office Supplies				
		\$0.30	/pig place	_____
		\$5,200	pig places	_____
÷		<u>35,381</u>	<u>pigs sold</u>	_____
=		\$0.04	/pig sold	_____
2.08 Levy, Marketing & Transportation				
		\$3.00	trucking in	_____
+		\$0.19	council levy	_____
±		<u>\$0.05</u>	<u>insurance</u>	_____
=		\$3.24	/pig sold	_____
2.09 Property Taxes				
		\$6,945	total taxes	_____
÷		<u>35,381</u>	<u>pigs sold</u>	_____
=		\$0.20	/pig sold	_____
2.10 Interest on Operating Cost:				
		\$19.25	weaner cost	_____
+		\$21.49	subtotal operating	_____
÷		2	average	_____
x		52	days per turn	_____
÷		365	days per year	_____
x		<u>6.50</u>	<u>% operating interest</u>	_____
=		\$0.28	/pig sold	_____

B. Fixed Costs

3. Depreciation: $\frac{\text{Original cost} - \text{Salvage Value}}{\text{Useful Life}}$

3.01 Buildings

	\$856,240	building cost (including manure storage)	_____
-	\$79,124	salvage value (building only)	_____
÷	20	years useful life	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$1.10	/pig sold	_____

3.02 Equipment

	\$425,000	equipment cost	_____
-	\$42,500	salvage value	_____
÷	10	years useful life	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$1.08	/pig sold	_____

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

4.01 Land

	\$10,000	land value	_____
+	\$30,000	site preparation	_____
x	3.5	% investment rate	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$0.04	/pig sold	_____

4.02 Buildings

	\$856,240	building cost (including manure storage)	_____
+	\$79,124	salvage value (building only)	_____
÷	2	average	_____
x	3.5	% investment rate	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$0.46	/pig sold	_____

4.03 Equipment

	\$425,000	equipment cost	_____
+	\$42,500	salvage value	_____
÷	2	average	_____
x	3.5	% investment rate	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$0.23	/pig sold	_____

C. Labour

	60.0	hours/week	_____
x	52	weeks/year	_____
x	\$17.00	/hour	_____
÷	<u>35,381</u>	<u>pigs sold</u>	_____
=	\$1.50	/pig sold	_____

Summary of Home Mixed Feed Ingredients Used

	Total pigs sold		35,381	
	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (kgs)	Total per Pig (lbs)
Wheat	0.0	0.00	0.0	0.0
Barley	0.0	0.00	0.0	0.0
Corn	0.0	0.00	0.0	0.0
Soybean Meal - 47 %	0.0	0.00	0.0	0.0
Canola Meal - 34%	0.0	0.00	0.0	0.0
Peas	0.0	0.00	0.0	0.0
Grower Micro Premix	0.0	0.00	0.0	0.0
Canola Oil	0.0	0.00	0.0	0.0
Whey Powder	0.0	0.00	0.0	0.0
Fish Meal	0.0	0.00	0.0	0.0
Plasma	0.0	0.00	0.0	0.0
Limestone	0.0	0.00	0.0	0.0
Dical (16% Ca-21% P)	0.0	0.00	0.0	0.0
Salt - 96%	0.0	0.00	0.0	0.0
Phytase	0.0	0.00	0.0	0.0
L-Lysine HCL	0.0	0.00	0.0	0.0
L-Threonine	0.0	0.00	0.0	0.0
D,L-Methionine	0.0	0.00	0.0	0.0
Oats - Steam rolled	0.0	0.00	0.0	0.0
Total	0.0	0.0	0.0	0.0

Summary of Purchased Feed Ingredients Used

	Total per Pig Mkt (kgs)	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig Mkt (lbs)
Pre starter 1	0.5	18.2	1.5	1.1
Pre starter 2	1.9	65.5	5.5	4.1
Starter 1	6.2	218.4	18.2	13.6
Starter 2	19.0	673.4	56.1	42.0
Total	27.6	975.5	81.3	60.8
Total	27.6	975.5	81.3	60.8

For further information contact your local MAFRI office.

Prepared by:
Robyn Harte
Business Development Specialist - Swine

Cash Flow Calculation

Income	<u>Total</u>
Per market pig	\$35.00
Number of pigs marketed	<u>35,381</u>
Total Income	\$1,238,335

Operating Expenses

Feed Cost	\$476,937
Feeder Cost	\$681,084
Veterinary Medicine & Supplies	\$100,000
Maintenance & Repairs	\$6,722
Hydro & Propane	\$29,500
Insurance	\$10,968
Manure Costs	\$12,907
Office Supplies	\$1,560
Levy, Marketing & Transportation	\$114,634
Property Taxes	\$6,945
Interest on Operating Cost	\$9,907
Total Operating Costs	\$1,451,164
Manure Value	\$0
Total Operating Costs	\$1,451,164

Labour Costs **\$53,072**

Loan Payment

Total Capital Investment	\$1,291,240
Portion financed %	60.0%
Loan Amount	\$774,744
Term in years	15.0
Interest Rate	6.0%
Annual Payment	\$79,770

Returns to Enterprise

Cash over operating costs	-\$212,829
Cash over operating & loan payments	-\$292,599
Cash over total (includes labour)	-\$345,671

Breakeven Calculations \$/market pig

Breakeven operating	\$41.02
Breakeven operating & loan payments	\$43.27
Breakeven total (includes labour)	\$44.77