

Guidelines For Estimating
Weaner Pig (Nursery) Costs 5 - 23 kg
Based on marketing 35,308 pigs

Date: March, 2006

This publication is intended to provide a format and a set of guidelines for determining the cost of production for a weaner pig 5-23 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 5 kg, second stage - weaner pig (nursery) 5 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 5-23 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 160 acres would be required for this size of operation, with 140 acres being rented out at \$25 per acre.

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 5-23 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) 5-23 kg Summary

March, 2006

	<u>\$/Pig Sold</u>	<u>Total Cost</u>	<u>Your Cost</u>
A. Operating Costs			
1. Feed Costs:			
1.01 Pre Starter 1	\$1.69	\$59,671	
1.02 Pre Starter 2	\$3.14	\$110,867	
1.03 Starter 1	\$3.33	\$117,576	
1.04 Starter 2	<u>\$4.88</u>	<u>\$172,303</u>	
Total Feed Cost	\$13.04	\$460,417	
2. Other Operating Costs:			
2.01 Weanling cost	\$31.90	\$1,126,325	
2.02 Veterinary Medicine & Supplies	\$0.40	\$14,100	
2.03 Maintenance & Repairs	\$0.14	\$4,943	
2.04 Hydro & Propane	\$1.98	\$70,000	
2.05 Insurance	\$0.26	\$9,180	
2.06 Manure Costs	\$0.47	\$16,480	
2.07 Office Supplies	\$0.04	\$1,560	
2.08 Levy, Marketing & Transportation	\$3.24	\$114,398	
2.09 Property Taxes	<u>\$0.19</u>	<u>\$6,615</u>	
Subtotal Operating Costs	\$51.66	\$1,824,018	
2.10 Interest on Operating Cost	<u>\$0.36</u>	<u>\$12,711</u>	
Total Operating Costs	\$52.02	\$1,836,729	
B. Fixed Costs			
3. Depreciation:			
3.01 Buildings and Manure Storage	\$0.73	\$25,775	
3.02 Equipment	<u>\$1.08</u>	<u>\$38,133</u>	
Total Depreciation Cost	\$1.81	\$63,907	
4. Investment:			
4.01 Land Cost	\$0.05	\$1,600	
4.02 Buildings and Manure Storage	\$0.35	\$12,358	
4.03 Equipment	<u>\$0.26</u>	<u>\$9,180</u>	
Total Investment Cost	<u>\$0.66</u>	<u>\$23,138</u>	
Total Fixed Costs	\$2.47	\$87,045	
C. Labour			
Wages, benefits and hired manager	\$1.38	\$48,725	
Total Cost of Production	\$55.87	\$1,972,499	
<hr/>			
Break-Even Price	<u>\$/Pig</u>		
Operating Cost	\$52.02		
Operating & Labour Cost	\$53.40		
Operating Labour & Fixed Cost	\$55.87		

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Weaner Pig (Nursery) Production Costs 5-23 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	3.0		
Pigs Died, Post-Weaning	1,092		
Weaner Pigs Sold	35,308		
Average Market Price	\$58.00 /cwt		\$127.87 /ckg
Weanling Formula Factor (% of Mkt Price)	55.00 %		
Calculated Weanling Purchase Price	\$31.90 /pig		

Feed Requirements

		<u>Ration Cost</u>	
		<u>Purchased</u>	<u>Home-Mixed</u>
Pre Starter 1(sew)	1.3 kg/pig	\$1,300.00	\$0.00 /tonne
Pre Starter 2	2.8 kg/pig	\$1,120.00	\$0.00 /tonne
Starter 1	9.0 kg/pig	\$370.00	\$0.00 /tonne
Starter 2	15.0 kg/pig	\$325.00	\$0.00 /tonne
Total Feed	28.1 kg/pig		

Weaner Pig Efficiency

Days Weaner on feed (nursery)	42 days
Total Cycle Days (per turn)	52 days
Target Starting Weight	5.0 kg
Target Ending Weight	23.0 kg
Feed Conversion Ratio (feed:gain)	1.56 kg
Average Daily Gain	0.43 kg

Labour

Total Hours per 7-day week	67.0 hours/week
Wage (includes benefits & hired manager)	\$14.00 /hour

Capital Investment

		<u>\$/Sq. Ft.</u>	<u>\$/Pig Place</u>	<u>Total</u>	<u>Your Cost</u>
Buildings					
Barn	10,400 sq ft	\$48.00	\$96.00	\$499,200	_____
Office & loading				\$5,000	_____
Feed Mill (building only)				\$0	_____
Total Building Cost				\$504,200	_____
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			\$178.69	\$929,200	_____
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			\$193.12	\$1,004,200	_____

Feed Ingredient Costs

<u>Ingredients</u>	<u>Price/tonne</u>	<u>Your Cost</u>
Wheat	\$135	_____
Barley	\$120	_____
Corn	\$170	_____
Soybean Meal - 47 %	\$290	_____
Canola Meal - 34%	\$165	_____
Peas	\$130	_____
Creep Premix	\$850	_____
Sow Micro Premix	\$3,000	_____
Grower Micro Premix	\$2,500	_____
Canola Oil	\$900	_____
Whey Powder	\$800	_____
Herring Meal	\$1,500	_____
Plasma	\$7,500	_____
Limestone	\$80	_____
Dical (16% Ca-21% P)	\$455	_____
Salt - 96%	\$125	_____
Phytase	\$11,000	_____
L-Lysine HCL	\$2,500	_____
L-Threonine	\$4,800	_____
D,L-Methionine	\$4,500	_____
Oats - Steam rolled	\$400	_____
Processing Cost (Hydro & Repairs/Maintenance & Insurance)	\$3.25	_____
Percent Weight loss due to processing	1.25 %	_____
Labour	\$4.00	_____

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
Creep Premix	0.00	0.00	0.00	0.00
Sow Micro Premix	5.00	5.00	5.00	5.00
Grower Micro Premix	0.00	0.00	0.00	0.00
Canola Oil	27.00	19.00	11.30	0.00
Whey Powder	121.00	125.00	90.70	0.00
Herring 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	\$135.00	\$14.31	_____
Soybean Meal - 47 %	120.0	\$290.00	\$34.80	_____
Sow Micro Premix	5.0	\$3,000.00	\$15.00	_____
Canola Oil	27.0	\$900.00	\$24.30	_____
Whey Powder	121.0	\$800.00	\$96.80	_____
Herring Meal	61.0	\$1,500.00	\$91.50	_____
Plasma	59.0	\$7,500.00	\$442.50	_____
Limestone	12.5	\$80.00	\$1.00	_____
Dical (16% Ca-21% P)	10.0	\$455.00	\$4.55	_____
Salt - 96%	3.5	\$125.00	\$0.44	_____
L-Lysine HCL	0.5	\$2,500.00	\$1.25	_____
Oats - Steam rolled	<u>474.5</u>	\$400.00	<u>\$189.80</u>	_____
Total Pre Starter 1	1,000.0 kg		\$916.25	_____
Adjusted for weight loss (percentage)		1.25 %	\$927.70	_____
Plus processing cost per tonne		\$3.25	<u>\$930.95</u>	_____
Plus Labour Cost		\$4.00	\$934.95	_____
Pre starter 2				
Wheat	134.5	\$135.00	\$18.16	_____
Soybean Meal - 47 %	130.0	\$290.00	\$37.70	_____
Sow Micro Premix	5.0	\$3,000.00	\$15.00	_____
Canola Oil	19.0	\$900.00	\$17.10	_____
Whey Powder	125.0	\$800.00	\$100.00	_____
Herring Meal	75.0	\$1,500.00	\$112.50	_____
Limestone	12.5	\$80.00	\$1.00	_____
Dical (16% Ca-21% P)	10.0	\$455.00	\$4.55	_____
Salt - 96%	3.5	\$125.00	\$0.44	_____
L-Lysine HCL	0.5	\$2,500.00	\$1.25	_____
Oats - Steam rolled	<u>485.0</u>	\$400.00	<u>\$194.00</u>	_____
Total Pre Starter 2	1,000.0 kg		\$501.70	_____
Adjusted for weight loss (percentage)		1.25 %	\$507.97	_____
Plus processing cost per tonne		\$3.25	<u>\$511.22</u>	_____
Plus Labour Cost		\$4.00	\$515.22	_____

Starter 1

Wheat	400.0	\$135.00	\$54.00	_____
Soybean Meal - 47 %	223.0	\$290.00	\$64.67	_____
Canola Meal - 34%	204.5	\$165.00	\$33.74	_____
Sow Micro Premix	5.0	\$3,000.00	\$15.00	_____
Canola Oil	11.3	\$900.00	\$10.17	_____
Whey Powder	90.7	\$800.00	\$72.56	_____
Herring Meal	45.5	\$1,500.00	\$68.25	_____
Limestone	7.0	\$80.00	\$0.56	_____
Dical (16% Ca-21% P)	8.0	\$455.00	\$3.64	_____
Salt - 96%	3.5	\$125.00	\$0.44	_____
Phytase	0.5	\$11,000.00	\$5.50	_____
L-Lysine HCL	1.0	\$2,500.00	\$2.50	_____
Total Starter 1	1,000.0 kg		\$331.03	_____
Adjusted for weight loss (percentage)		1.25 %	\$335.17	_____
Plus processing cost per tonne		\$3.25	\$338.42	_____
Plus Labour Cost		\$4.00	\$342.42	_____

Starter 2

Wheat	407.6	\$135.00	\$55.03	_____
Barley	65.0	\$120.00	\$7.80	_____
Corn	250.0	\$170.00	\$42.50	_____
Soybean Meal - 47 %	227.0	\$290.00	\$65.83	_____
Sow Micro Premix	5.0	\$3,000.00	\$15.00	_____
Herring Meal	25.0	\$1,500.00	\$37.50	_____
Limestone	7.0	\$80.00	\$0.56	_____
Dical (16% Ca-21% P)	8.0	\$455.00	\$3.64	_____
Salt - 96%	3.5	\$125.00	\$0.44	_____
Phytase	0.5	\$11,000.00	\$5.50	_____
L-Lysine HCL	1.4	\$2,500.00	\$3.50	_____
Total Starter 2	1,000.0 kg		\$237.30	_____
Adjusted for weight loss (percentage)		1.25 %	\$240.27	_____
Plus processing cost per tonne		\$3.25	\$243.52	_____
Plus Labour Cost		\$4.00	\$247.52	_____

Weaner Pig (Nursery) 5-23kg Production Costs Worksheet

A. Operating Costs

1. Feed Requirements and Costs

Your Cost

1.01 Pre starter 1

	1.30	kg ration/pig	
x	\$1,300.00	/tonne	
÷	<u>1,000</u>	<u>kg/tonne</u>	
=	\$1.69	/pig sold	

1.02 Pre starter 2

	2.8	kg ration/pig	
x	\$1,120.00	/tonne	
÷	<u>1,000</u>	<u>kg/tonne</u>	
=	\$3.14	/pig sold	

1.03 Starter 1

	9.0	kg ration/pig	
x	\$370.00	/tonne	
÷	<u>1,000</u>	<u>kg/tonne</u>	
=	\$3.33	/pig sold	

1.04 Starter 2

	15.0	kg ration/pig	
x	\$325.00	/tonne	
÷	<u>1,000</u>	<u>kg/tonne</u>	
=	\$4.88	/pig sold	

2. Other Operating Costs

2.01 Weanling Purchase

	\$58.00	\$/cwt average market price	
x	<u>55.00</u>	<u>% of mkt price weanling formula factor</u>	
	\$31.90	purchase cost	

2.02 Veterinary Medicine & Supplies

	\$3,600	professional services	
+	\$10,500	medication	
÷	<u>35,308</u>	<u>pigs sold</u>	
=	\$0.40	/pig sold	

2.03 Maintenance & Repairs

	\$929,200	building & equipment cost	_____
x	0.55	% year repair & maintenance	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$0.14	/pig sold	_____

2.04 Hydro & Propane

	\$30,000	hydro	_____
+	\$40,000	propane	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$1.98	/pig sold	_____

2.05 Insurance

	\$929,200	investment	_____
x	\$0.65	rate/\$100	_____
÷	100	/\$100 capital	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$0.17	/pig sold	_____

	\$286,000	market hogs value	_____
x	\$0.65	/\$100 capital invested	_____
÷	<u>35,308</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>35,308</u>	<u>pigs sold</u>	_____
=	\$0.04	/pig sold	_____

Total = \$0.26 /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>35,308</u>	<u>pigs sold</u>	_____
=	\$0.26	/pig sold	_____

Odour control

	\$7,300	total cost	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$0.21	/pig sold	_____

Total = \$0.47 /pig sold

2.07 Office Supplies

	\$0.30	/pig place	_____
	\$5,200	pig places	_____
÷	<u>35,308</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

	\$6,615	total taxes	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$0.19	/pig sold	_____

2.10 Interest on Operating Cost:

	\$31.90	weaner cost	_____
+	\$19.76	subtotal operating	_____
÷	2	average	_____
x	52	days per turn	_____
÷	365	days per year	_____
x	<u>6.00</u>	<u>% operating interest</u>	_____
=	\$0.36	/pig sold	_____

B. Fixed Costs

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

3.01 Buildings

	\$569,200	building cost (including manure storage)	_____
-	\$50,420	salvage value (building only)	_____
÷	20	years useful life	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$0.73	/pig sold	_____

3.02 Equipment

	\$425,000	equipment cost	_____
-	\$42,500	salvage value	_____
÷	10	years useful life	_____
÷	<u>35,308</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	4.0	% investment rate	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$0.05	/pig sold	_____

4.02 Buildings

	\$569,200	building cost (including manure storage)	_____
+	\$50,420	salvage value (building only)	_____
÷	2	average	_____
x	4.0	% investment rate	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$0.35	/pig sold	_____

4.03 Equipment

	\$425,000	equipment cost	_____
+	\$42,500	salvage value	_____
÷	2	average	_____
x	4.0	% investment rate	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$0.26	/pig sold	_____

C. Labour

	67.0	hours/week	_____
x	52	weeks/year	_____
x	\$14.00	/hour	_____
÷	<u>35,308</u>	<u>pigs sold</u>	_____
=	\$1.38	/pig sold	_____

Summary of Home Mixed Feed Ingredients Used

	Total pigs sold		35,308	
	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
Creep Premix	0.0	0.00	0.0	0.0
Sow Micro Premix	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
Herring 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	1.3	47.3	3.9	3.0
Pre starter 2	2.9	101.9	8.5	6.4
Starter 1	9.3	327.6	27.3	20.5
Starter 2	15.5	546.0	45.5	34.1
Total	29.0	1,022.8	85.2	63.9
Total	29.0	1,022.8	85.2	63.9

For further information contact your local MAFRI office.

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Return On Assets (ROA)

Assumptions

Total Assets	\$1,004,200	
Total Hogs Sold	35,308	
Days to Market	52	
Average Market Weight	23	kg/hog (live)
Market Price	\$45.00	/head

Return On Assets Calculation	<u>\$/Hog Sold</u>	<u>% of Total</u>
Total Revenue	\$45.00	
Less Expenses		
Feed Costs	\$13.04	23.3%
Feeder Purchase	\$31.90	57.1%
Other Operating Costs	\$6.72	12.0%
Interest on Operating Costs	<u>\$0.36</u>	<u>0.6%</u>
Total Operating Costs	\$52.02	93.1%
Depreciation	\$1.81	3.2%
Interest on Investment	\$0.66	1.2%
Labour (Family & Hired)	<u>\$1.38</u>	<u>2.5%</u>
Total Expenses (Cost Of Production)	\$55.87	100.0%
Net Income	(\$10.87)	
Return On Assets (ROA)	-34.63%	

Equation

$$\frac{\text{Net Income} + \text{Operating Interest} + \text{Investment Interest} - \text{Value of Unpaid Family and Operator Labour}}{\text{Total Assets}}$$

Total Assets Definition: Total Assets includes the buildings, equipment, land, and manure storage.