Guidelines For Estimating

Swine (23 to 113 kg) Finishing Costs

Based On Marketing 11,527 Pigs Sold

Date: March, 2006

This publication is intended to provide a format and a set of guidelines for determining the cost of production for a finishing 23 - 113 kg enterprise. This type of operation is intended to represent the third stage 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.

The guideline can be useful for comparison purposes. Comparison of costs at different levels of production can be made with other farms, the farm over a period of time or comparing the plan with the actual results at the end of the planning period.

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.

Swine (23 - 113 kg) Finishing Cost of Production

The following 23-113 kg budget is based on the assumption **that all feed rations are purchased**. The budget also include a land investment cost based on the assumption that 160 acres would be required for this size operation, with 140 acres rented out at $25 per acre.

The budget includes an assumption that 1.5% of the market pigs are sold as lightweight pigs. It is assumed that when light weight pigs are sold, they will have a salvage value. Therefore, total marketings are reduced by 1% to compensate for the lightweight pigs.

The budget includes an assumption that this particular operation is "all-in, all-out" by room. Space allocations for finishing pigs are in accordance with Recommended Code of Practice for the Care and Handling of Farm Animals: Pigs.

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 the feed intakes of their animals. Please consult with a nutritionist for diet information 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 finishing 23-113 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.

Swine (23-113 kg) Finishing Summary

March, 2006

	$/Pig Sold	Total Cost	Your Cost
A. Operating Costs			
1. Feed Costs:			
1.01 Grower 1	$16.08	$185,347	
1.02 Grower 2	$18.30	$210,936	
1.03 Finisher	$21.54	$248,282	
Total Feed Cost	**$55.92**	**$644,565**	
2. Other Operating Costs:			
2.01 Weanling Cost	$50.98	$587,625	
2.02 Veterinary Medicine & Supplies	$1.65	$19,000	
2.03 Maintenance & Repairs	$1.11	$12,789	
2.04 Hydro & Propane	$2.34	$27,000	
2.05 Insurance	$1.30	$14,969	
2.06 Manure Costs	$2.35	$27,107	
2.07 Office Supplies	$0.10	$1,146	
2.08 Marketing & Transport	$8.37	$96,477	
2.09 Property Tax	$0.61	$7,000	
Subtotal Operating Costs	$124.73	$1,437,678	
2.10 Interest on Operating Costs	$1.70	$19,643	
Total Operating Costs	**$126.43**	**$1,457,321**	
B. Fixed Costs			
3. Depreciation:			
3.01 Buildings & Manure Storage	$2.82	$32,502	
3.02 Equipment	$3.92	$45,174	
Total Depreciation Cost	**$6.74**	**$77,676**	
4. Investment:			
4.01 Land	$0.14	$1,600	
4.02 Buildings & Manure Storage	$1.36	$15,623	
4.03 Equipment	$0.97	$11,154	
Total Investment Cost	**$2.46**	**$26,777**	
Total Fixed Costs	**$9.20**	**$104,453**	
C. Labour			
Wages, benefits and hired manager	$4.17	$48,048	
Total Cost of Production	**$139.80**	**$1,609,822**	

Break-Even Price (carcass) [1]	$/100 kg	$/cwt	
Operating Cost	$128.43	$58.25	
Operating & Labour Cost	$132.66	$60.18	
Operating, Labour & Fixed Cost	$142.01	$64.41	

[1] Break-even Price = Cost per Hog Sold ÷ (Slaughter Weight (-shrink) X Dressing Percentage X Index)

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.

Swine (23-113 kg) Finishing Production Cost Assumptions

1. This input table outlines the cost of production for a finishing enterprise
2. Buildings and equipment are valued at new cost.
3. Purchased feed is used.
4. Manure haulage is contracted out.
5. Livestock values are based on a market price for pork of:

	$127.00	/100 kg	**110**	Market Index
or:	$0.58	/lb	**80**	% Dress
Premium/head		**$2.00**		

Indicators of Productivity

	Grower 1	Grower 2	Finisher	Total
Number of Pigs Purchased	**12,000**	11,880	11,761	12,000
Average Beginning Weight (kg)	**23.0**	50.0	80.0	23
Average Ending Weight (kg)	**50.0**	**80.0**	**113.0**	113
Percent Mortality	**1.00**	**1.00**	**1.00**	3.00
Days on Feed	**36**	**34**	**41**	111
Feed Conversion Ratio	**2.60**	**2.90**	**3.30**	2.96
Number of Pigs (Ending)	11,880	11,761	11,643	11,643
Weight Gain/Pig (kg)	27.0	30.0	33.0	90.0
Feed Disappearance/Pig (kg)	70.2	87.0	108.9	266.1
Average Daily Gain (kg)	0.750	0.900	0.820	0.811
Average Number Pigs in Barn	3,860	3,821	3,783	3,822

Productivity Profile

	Total		
Pigs Purchased	12,000		
Pigs Died	360	3.0	% mortality
Pigs available for marketing	11,643		
Less Light Weight Pig Adjustment	116	**1.00**	%
Pigs Sold at full market value	11,527		
Washing and restocking days	**7**		
Total Days to Market	118		
Turnover (365 / days to market)	3.09		

Feed Requirements and Costs

	FCR *	kg/pig	Ration Cost Purchased	Home-Mixed	
Grower 1	2.60	70.2	**$220.00**	$0.00	/tonne
Grower 2	2.90	87.0	**$202.00**	$0.00	/tonne
Finish Ration	3.30	108.9	**$190.00**	$0.00	/tonne

*** FCR = Feed Conversion Ratio (Feed:Gain)**

Labour

Total Hours per year	**66.0**	hours/week	3,432	hours/year
Wage (includes hired manager)	**$14.00**	/hour (weighted)		

Capital Investment[1]

4,000 Pig Places

		/sq.ft	Total	/Pig Place	Your Cost
Buildings					
Barn	36,800 ft.^{2}	**$17.00**	$625,600	$156.40	
Office & Loading	200 ft.^{2}	**$30.00**	$6,000	$1.50	
Standby Generator			$24,000	$6.00	
Feed Mill (building only)			**$0**	$0.00	
Total Building Cost			**$655,600**	**$163.90**	
Equipment					
Finishing Barn			$470,000	$117.50	
Other			$0	$0.00	
Fire Alarm System			$1,000	$0.25	
Storage Bins			$36,000	$9.00	
Feed Mill (equipment only)			**$0**	$0.00	
Total Equipment Cost			**$507,000**	**$126.75**	
Total Buildings and Equipment Cost			**$1,162,600**	**$290.65**	
Land Value					
Land Investment	**20** acres @	**$500**	**$10,000**	**$2.50**	
Other Costs					
Site preparation			**$30,000**	$7.50	
Manure Storage			**$60,000**	$15.00	
Total Other Costs			**$90,000**	**$22.50**	
Total Capital Investment			**$1,253,100**	**$313.28**	

[1] FOOTNOTE: The number of square feet in the building and the cost per square foot for buildings and equipment are approximations only. A certified building plan which is designed according to the average inventory of grower-finisher pigs should be used in order to get the exact dimensions and area for new buildings.

NOTE: 1 sq.ft. = 0.0929 sq.m; 1 sq.m.= 10.764 sq.ft.; 1 ft.= 0.3048 m

Feed Ingredient Costs

	Price/tonne		Your Cost
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		
DL-Methionine	$4,500		
Oats - Steam Rolled	$400		
Processing Cost			
(Hydro, Repairs/Maintenance & Insurance)	$3.25		
Percent Weight loss due to processing	1.25	%	
Labour Cost	$4.00		

Ration Formulas

	Grower 1 Ration (kg)	Grower 2 Ration (kg)	Finisher Ration (kg)
Wheat	532.56	372.39	220.04
Barley	183.30	268.60	408.35
Corn	0.00	0.00	0.00
Soybean Meal - 47 %	158.80	45.37	0.00
Canola Meal - 34 %	0.00	84.39	79.40
Peas	100.00	204.07	272.13
Creep Premix	0.00	0.00	0.00
Sow Micro Premix	0.00	0.00	0.00
Grower Micro Premix	3.00	3.00	3.00
Canola Oil	0.00	0.00	0.00
Whey Powder	0.00	0.00	0.00
Herring Meal	0.00	0.00	0.00
Plasma	0.00	0.00	0.00
Limestone	12.21	11.71	10.38
Dical (16% Ca-21% P)	4.85	5.38	2.84
Salt - 96%	3.50	3.50	3.50
Phytase	0.20	0.20	0.20
L-Lysine HCL	1.36	1.36	0.00
L-Threonine	0.09	0.00	0.02
DL-Methionine	0.13	0.03	0.14
Oats - Steam Rolled	0.00	0.00	0.00
Total	**1,000.00**	**1,000.00**	**1,000.00**

Feed Requirement and Cost Summary

Grower 1	Amount (kg)		Ingredient Price ($ /tonne)		Ration Cost ($ /tonne)	Your Cost
Wheat	532.56		$135.00		$71.90	
Barley	183.30		$120.00		$22.00	
Soybean Meal - 47 %	158.80		$290.00		$46.05	
Peas	100.00		$130.00		$13.00	
Grower Micro Premix	3.00		$2,500.00		$7.50	
Limestone	12.21		$80.00		$0.98	
Dical (16% Ca-21% P)	4.85		$455.00		$2.21	
Salt - 96%	3.50		$125.00		$0.44	
Phytase	0.20		$11,000.00		$2.20	
L-Lysine HCL	1.36		$2,500.00		$3.40	
L-Threonine	0.09		$4,800.00		$0.43	
DL-Methionine	0.13		$4,500.00		$0.59	
Total	**1,000.00**	**kg**			**$170.70**	
Adjusted For Weight Loss			1.25	%	$172.83	
Plus Processing Cost			$3.25		$176.08	
Plus Labour Cost			$4.00		**$180.08**	
Grower 2						
Wheat	372.39		$135.00		$50.27	
Barley	268.60		$120.00		$32.23	
Soybean Meal - 47 %	45.37		$290.00		$13.16	
Canola Meal - 34 %	84.39		$165.00		$13.92	
Peas	204.07		$130.00		$26.53	
Grower Micro Premix	3.00		$2,500.00		$7.50	
Limestone	11.71		$80.00		$0.94	
Dical (16% Ca-21% P)	5.38		$455.00		$2.45	
Salt - 96%	3.50		$125.00		$0.44	
Phytase	0.20		$11,000.00		$2.20	
L-Lysine HCL	1.36		$2,500.00		$3.40	
DL-Methionine	0.03		$4,500.00		$0.14	
Total	**1,000.00**	**kg**			**$153.18**	
Adjusted For Weight Loss			1.25	%	$155.09	
Plus Processing Cost			$3.25		$158.34	
Plus Labour Cost			$4.00		**$162.34**	

Finisher Ration:						
Wheat	220.04		$135.00		$29.71	
Barley	408.35		$120.00		$49.00	
Canola Meal - 34 %	79.40		$165.00		$13.10	
Peas	272.13		$130.00		$35.38	
Grower Micro Premix	3.00		$2,500.00		$7.50	
Limestone	10.38		$80.00		$0.83	
Dical (16% Ca-21% P)	2.84		$455.00		$1.29	
Salt - 96%	3.50		$125.00		$0.44	
Phytase	0.20		$11,000.00		$2.20	
L-Threonine	0.02		$4,800.00		$0.10	
DL-Methionine	0.14		$4,500.00		$0.63	
Total	**1,000.00**	**kg**			**$140.18**	
Adjusted For Weight Loss			1.25	%	$141.93	
Plus Processing Cost			$3.25		$145.18	
Plus Labour Cost			$4.00		**$149.18**	

Swine Finishing Production Cost Worksheet

A. Operating Costs			Your Cost
1. Feed Requirements and Costs			
1.01 Grower 1			
	27.0	kg weight gain/pig	
x	2.6	feed conversion ratio	
=	70.2	kg ration/pig	
x	$220.00	/tonne ration	
÷	1,000	kg/tonne	
x	12,000	weanlings purchased	
÷	11,527	pigs sold	
=	**$16.08**	**/pig sold**	
1.02 Grower 2			
	30.0	kg weight gain/pig	
x	2.9	feed conversion ratio	
=	87.0	kg ration/pig	
x	$202.00	/tonne ration	
÷	1,000	kg/tonne	
x	12,000	weanlings purchased	
÷	11,527	pigs sold	
=	**$18.30**	**/pig sold**	
1.03 Finisher Ration			
	33.0	kg weight gain/pig	
x	3.3	feed conversion ratio	
=	108.9	kg ration/pig	
x	$190.00	/tonne ration	
÷	1,000	kg/tonne	
x	12,000	weanlings purchased	
÷	11,527	pigs sold	
=	**$21.54**	**/pig sold**	
2. Other Operating Costs			
2.01 Weanling Cost			
	$57.61	market price	
÷	100	lbs/cwt	
x	50	lbs	
x	1.7	formula factor	
x	12,000	weanlings purchased	
÷	11,527	pigs sold	
=	**$50.98**	**/pig sold**	

2.02 Veterinary Cost

	$1,000.00	professional services	
+	$18,000.00	medication	
÷	11,527	pigs sold	
=	**$1.65**	**/pig sold**	

2.03 Maintenance & Repairs

	1.10	% of total capital investment	
x	$1,162,600	total buildings and equipment cost	
÷	11,527	pigs sold	
=	$1.11	**/pig sold**	

2.04 Utilities

	$22,000	hydro	
+	$5,000	propane	
÷	11,527	pigs sold	
=	**$2.34**	**/pig sold**	

2.05 Insurance

	$1,162,600	buildings & equipment	
x	$0.78	/$100	
÷	100	/$100 capital	
÷	11,527	pigs sold	
=	$0.79	/pig sold	
	3,822	average number pigs in barn	
x	$140.00	average value	
x	$0.88	/$100	
÷	100	/$100 capital	
÷	11,527	pigs sold	
=	$0.41	/pig sold	
	$40.00	insured value	
x	3,822	average number in barn	
x	$0.78	rate /$100	
÷	11,527	pigs sold	
=	$0.10	/pig sold	
=	**$1.30**	**/pig sold**	

2.06 Manure Costs

Haulage	7.1	litres/pig/day	
x	365	days/year	
x	3,822	average inventory of pigs	
x	$0.002	/litre	
÷	11,527	pigs sold	
=	$1.72	/pig sold	

Odour control			
	$7,300	total cost	
	11,527	pigs sold	
	$0.63	**/pig sold**	
Total	**$2.35**	**/pig sold**	

2.07 Office Supplies

	$0.30	/pig place	
x	3,822	pig places	
÷	11,527	pigs sold	
=	**$0.10**	**/pig sold**	

2.08 Marketing & Transportation

	$3.50	trucking in	
+	$3.70	trucking out	
+	$0.80	council levy	
+	$0.12	grading charge	
+	$0.25	insurance	
+	$0.00	Special levy	
=	**$8.37**	**/pig sold**	

2.09 Property Taxes

	$7,000	taxes	
÷	11,527	pigs sold	
=	**$0.61**	**/pig sold**	

2.10 Interest on Operating Cost

	$50.98	weaner cost	
x	118	total days to market	
x	6.0	% operating rate	
÷	365	days/year	
=	$0.99	/pig sold	
	$124.73	subtotal operating cost	
-	$50.98	weaner cost	
÷	2	average	
x	118	total days to market	
÷	365	days/year	
x	6.0	% operating rate	
=	$0.72	/pig sold	
=	**$1.70**	**/pig sold**	

B. Fixed Costs

3. Depreciation

$$\frac{\text{Original cost - Salvage Value}}{\text{Useful Life}}$$

3.01 Buildings

	$715,600	total building cost (including earthen manure storage)	
-	$65,560	salvage value (building only)	
÷	20	years useful life	
÷	11,527	pigs sold	
=	**2.82**	**/pig sold**	

3.02 Equipment

	$507,000	total equipment cost	
-	$50,700	salvage value	
÷	10	years useful life	
÷	11,527	pigs sold	
=	**3.92**	**/pig sold**	

4. Investment Cost

$$\frac{\text{(Original Cost + Salvage Value)}}{2} \text{ X Investment Rate}$$

4.01 Land

	$10,000	land investment	
+	$30,000	site preparation	
x	4.0	% investment rate	
÷	11,527	pigs sold	
=	**0.14**	**/pig sold**	

4.02 Buildings

	$715,600	total building cost (including earthen manure storage)	
+	$65,560	salvage value (building only)	
÷	2	average	
x	4.0	% investment rate	
÷	11,527	pigs sold	
=	**1.36**	**/pig sold**	

4.03 Equipment

	$507,000	total equipment cost	
+	$50,700	salvage value	
÷	2	average	
x	4.0	% investment rate	
÷	11,527	pigs sold	
=	**0.97**	**/pig sold**	

5. Labour Cost

	3432	total hours/year	
x	$14.00	/hour	
÷	11,527	pigs sold	
=	**4.17**	**/pig sold**	

Summary of Purchased Feeds Used

11,643 Pigs available for marketing (includes lightweights)

	Total per Pig Mkt (kgs)	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig Mkt (lbs)
Grower 1	70.20	817.34	68.11	154.76
Grower 2	87.00	1,012.94	84.41	191.80
Finish Ration	108.90	1,267.92	105.66	240.08
Total	**266.10**	**3,098.20**	**258.18**	**586.64**

Summary of Home Mixed Feed Ingredients Used

	Total per Pig (kgs)	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (lbs)
Wheat	0.00	0.00	0.00	0.00
Barley	0.00	0.00	0.00	0.00
Corn	0.00	0.00	0.00	0.00
Soybean Meal - 47 %	0.00	0.00	0.00	0.00
Canola Meal - 34 %	0.00	0.00	0.00	0.00
Peas	0.00	0.00	0.00	0.00
Creep Premix	0.00	0.00	0.00	0.00
Sow Micro Premix	0.00	0.00	0.00	0.00
Grower Micro Premix	0.00	0.00	0.00	0.00
Canola Oil	0.00	0.00	0.00	0.00
Whey Powder	0.00	0.00	0.00	0.00
Herring Meal	0.00	0.00	0.00	0.00
Plasma	0.00	0.00	0.00	0.00
Limestone	0.00	0.00	0.00	0.00
Dical (16% Ca-21% P)	0.00	0.00	0.00	0.00
Salt - 96%	0.00	0.00	0.00	0.00
Phytase	0.00	0.00	0.00	0.00
L-Lysine HCL	0.00	0.00	0.00	0.00
L-Threonine	0.00	0.00	0.00	0.00
DL-Methionine	0.00	0.00	0.00	0.00
Oats - Steam Rolled	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**
Total	**266.10**	**3,098.20**	**258.18**	**586.64**

For further information contact your local MAFRI office.

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Return On Assets (ROA)

Assumptions

Total Assets	$1,253,100	
Total Hogs Sold	11,643	
Days to Market	118	
Market Weight (shrunk)	111.9	kg/hog (live)
Dressing %	80	%
Carcass Weight	89.5	kg/hog carcass
Market Index	110	
Market Price	$127.00	/100 kg carcass

Return On Assets Calculation	**$/Hog Sold**	**% of Total**
Total Revenue	**$125.03**	
Premium	**$2.00**	
Total	**$127.03**	
Less Expenses		
Feed Costs	$55.92	40.0%
Other Operating Costs	$68.81	49.2%
Interest on Operating Costs	$1.70	1.2%
Total Operating Costs	**$126.43**	**90.4%**
Depreciation	$6.74	4.8%
Interest on Investment	$2.46	1.8%
Labour (Family & Hired)	$4.17	3.0%
Total Expenses (Cost Of Production)	**$139.80**	**100.0%**
Net Income	**($12.77)**	
Return On Assets (ROA)		**-8.00%**

Equation Net Income + Operating Interest + Investment Interest
- Value of Unpaid Family and Operator Labour
/ Total Assets

Total Assets Definition: Total Assets includes the buildings, equipment, land, manure storage and breeding stock valued at replacement cost, plus the value of market livestock on inventory.