



Guidelines for Estimating Lamb Production Costs 2018

in Manitoba



Guidelines for Estimating Lamb Production Costs Based on a 500-Ewe Flock

May, 2018

This guide is designed to provide you with planning information and a format for calculating costs of production of a ewe lamb enterprise in Manitoba. General Manitoba Agriculture 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.

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, and livestock are on a flock health program.

This tool is available as an Excel worksheet at: www.manitoba.ca/agriculture or at your local [Manitoba Agriculture 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 Manitoba Agriculture Office.

Lamb Production Cost Summary - May, 2018
Based on 500 Ewes - Marketing 931 Lambs

	<u>\$/Ewe</u>	<u>\$/Lamb</u> <u>Marketed</u>	<u>\$/lb</u>	<u>Total Cost</u>	<u>Your Cost</u>
A. Operating Costs					
1. Feed Costs					
1.01 Ewe Ration	\$54.75	\$29.40	\$0.28	\$27,375	_____
1.02 Ram Ration	\$1.64	\$0.88	\$0.01	\$820	_____
1.03 Lamb Ration	\$77.32	\$41.53	\$0.39	\$38,660	_____
1.04 Salt-Mineral Mix	<u>\$25.33</u>	<u>\$13.60</u>	<u>\$0.13</u>	<u>\$12,665</u>	_____
Total Feed Cost	\$159.04	\$85.41	\$0.81	\$79,520	_____
2. Other Operating Costs					
2.01 Straw	\$15.71	\$8.44	\$0.08	\$7,855	_____
2.02 Vet Medicine and Supplies	\$14.72	\$7.91	\$0.07	\$7,360	_____
2.03 Fuel, Maintenance & Repairs	\$9.39	\$5.04	\$0.05	\$4,694	_____
2.04 Hydro, Water and Telephone	\$2.43	\$1.31	\$0.01	\$1,215	_____
2.05 Death Loss	\$7.14	\$3.84	\$0.04	\$3,572	_____
2.06 Insurance	\$2.95	\$1.58	\$0.01	\$1,475	_____
2.07 Flock Replacement	\$12.72	\$6.83	\$0.06	\$6,360	_____
2.08 Marketing & Transportation	\$23.72	\$12.74	\$0.12	\$11,860	_____
2.09 Shearing Costs	\$5.26	\$2.82	\$0.03	\$2,630	_____
2.10 Predator Control	\$1.73	\$0.93	\$0.01	\$863	_____
2.11 Professional Fees	\$0.70	\$0.38	\$0.00	\$350	_____
2.12 Manure Removal	\$5.62	\$3.02	\$0.03	\$2,809	_____
2.13 Miscellaneous	<u>\$1.00</u>	<u>\$0.54</u>	<u>\$0.01</u>	<u>\$500</u>	_____
Subtotal Operating Costs	\$262.13	\$140.79	\$1.33	\$131,063	_____
2.14 Operating Interest	<u>\$7.54</u>	<u>\$4.05</u>	<u>\$0.04</u>	<u>\$3,770</u>	_____
Total Operating Costs	\$269.67	\$144.84	\$1.37	\$134,833	_____
B. Fixed Costs					
3. Depreciation					
3.01 Buildings	\$9.91	\$5.32	\$0.05	\$4,955	_____
3.02 Equipment & Improvements	\$9.80	\$5.26	\$0.05	\$4,900	_____
4. Investment					
4.01 Buildings	\$4.91	\$2.64	\$0.02	\$2,455	_____
4.02 Equipment & Improvements	\$1.90	\$1.02	\$0.01	\$950	_____
4.03 Breeding Flock	\$6.55	\$3.52	\$0.03	\$3,273	_____
5. Pasture Costs	<u>\$5.29</u>	<u>\$2.84</u>	<u>\$0.03</u>	<u>\$2,643</u>	_____
Total Fixed Costs	\$38.35	\$20.60	\$0.19	\$19,176	_____
Total Operating and Fixed Costs	\$308.02	\$165.44	\$1.56	\$154,009	_____
C. Labour	\$49.50	\$26.58	\$0.25	\$24,750	_____
Total Cost of Production	\$357.52	\$192.02	\$1.81	\$178,759	_____

Profitability and Breakeven Analysis

	<u>\$/Ewe</u>	<u>\$/Lamb</u>	<u>Total</u>
Estimated Farmgate			
Price (\$ per cwt)		\$220	_____
Market Weight (shrunk lbs.)		107	\$218,543
Wool Value	<u>\$3.85</u>	<u>\$2.07</u>	<u>\$1,924</u>
Gross Revenue	<u>\$440.93</u>	<u>\$236.81</u>	<u>\$220,467</u>
Marginal Returns			
Over Operating Costs	\$171.27	\$91.97	\$85,634
Over Operating & Labour Costs	\$121.77	\$65.39	\$60,884
Over Operating & Fixed Costs	\$132.92	\$71.37	\$66,458
Over Total Costs (Net Profit)	\$83.42	\$44.79	\$41,708
Operating Expense Ratio	61.2%	61.2%	
Return on Investment (ROI)		23.3%	
Return on Asset (ROA)		12.4%	
Breakeven Selling Price		<u>\$/cwt</u>	
Operating Costs		\$133.81	_____
Operating & Labour Costs		\$158.72	_____
Operating & Fixed Costs		\$153.11	_____
Operating, Fixed & Labour Costs		\$178.03	_____

Note: This budget is only a guide and is not intended to be 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.

Risk & Sensitivity Analysis

	<u>Per Ewe</u>	<u>Per Lamb</u>
A. Operating Costs	\$269.67	\$144.84
B. Fixed Costs	\$38.35	\$20.60
C. Labour	\$49.50	\$26.58
Total Costs	\$357.52	\$192.02

Estimated Farmgate

Lamb Price (\$ per cwt)	\$220
Lamb Crop %	200
Lamb Market Weight (shrunk lbs)	107

	Up	Down
Percent Lamb Price Variation	5%	15%
Percent Lamb Crop Variation	20%	20%
Percent Lamb Weight Variation	5%	0%

Higher Price (\$ per cwt)	\$231.00		
Lower Price (\$ per cwt)	\$187.00		
Higher Lamb Crop %	220	=	1024 Lambs Marketed
Lower Lamb Crop %	180	=	838 Lambs Marketed
Higher Lamb Weight	112.0		
Lower Lamb Weight	106.7		

Higher Margin Scenario - Price Up 5%, Lamb Crop Up 20% and Lamb Weight Up 5%

	<u>Per Ewe</u>	<u>Per Lamb</u>
Gross Revenue	\$533.71	\$260.60
Marginal Returns		
Over Operating Costs	\$264.04	\$128.93
Over Operating & Labour Costs	\$214.54	\$104.76
Over Operating & Fixed Costs	\$225.69	\$110.20
Over Total Costs (Net Profit)	\$176.19	\$86.03
Operating Expense Ratio	50.5%	

Lower Margin Scenario - Price Down 15%, Lamb Crop Down 20% and Lamb Weight Down 0%

	<u>Per Ewe</u>	<u>Per Lamb</u>
Gross Revenue	\$338.26	\$201.82
Marginal Returns		
Over Operating Costs	\$68.59	\$40.93
Over Operating & Labour Costs	\$19.09	\$11.39
Over Operating & Fixed Costs	\$30.24	\$18.04
Over Total Costs (Net Profit)	(\$19.26)	(\$11.49)
Operating Expense Ratio	79.7%	

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.

Lamb Production Costs - Input

1. This budget outlines the cost of production for a sheep enterprise.
2. Buildings and equipment are valued at new cost.
3. All feed is valued at fair market value.
4. Replacements are purchased at fair market value.

Flock Profile	<u>Total</u>
Number of Ewes (Avg 170 lbs)	500
Number of Rams (Avg 200 lbs)	13
Lamb Crop (born alive) %	200
Ewe and Ram Mortality Rate (%)	3
Ewe Cull Rate (%)	15
Lamb Mortality Rate - Pre-Weaning %	5
Lamb Mortality Rate - Post-Weaning %	2
Lambs Marketed	931
Lambs per Ewe to Market	1.86
Average Lamb Market Weight (lbs)	110
Shrink	3%
Shrunk Weight (lbs)	106.70
Average Lamb Market Price (\$ per cwt)	\$220
Average Wool Production per animal (lbs)	5
Average Value of Wool (\$/lb)	\$0.75

Feed Requirements and Costs

<u>Ewe Feeding Period</u>	<u>Feed type</u>	<u>Amount</u>	<u>Cost</u>
		<u>lbs/day</u>	<u>\$/tonne</u>
October 1-November 1 (off pasture and flushed for breeding)			
Days	30	Grass hay	2.8 \$85.00
	30	Barley	0.6 \$195.00
November 1-March 1 (early to mid gestation)			
Days	115	Grass hay	4.1 \$85.00
	115	Barley	0 \$195.00
March 1-April 1 (late gestation)			
Days	30	Grass/alfalfa hay	3.6 \$110.00
	30	Barley	1 \$195.00
	30	Canola Meal	0.2 \$325.00
April 1-June 1 (lactation)			
Days	60	Alfalfa	4.2 \$130.00
	60	Barley	1.5 \$195.00
<u>Ram Feeding Period</u>	<u>Feed type</u>	<u>Amount</u>	<u>Cost</u>
		<u>lbs/day</u>	<u>\$/tonne</u>
October 1- June 1			
Days	240	Barley	0.75 \$195.00
	240	Grass hay	5.1 \$85.00

			Amount	Cost
			lbs/day	\$/tonne
<u>Lamb</u>				
Pre-weaning				
Days	50	Creep	0.5	\$290.00
	50	Alfalfa	0.5	\$130.00
Weaning				
Days	30	Creep/grower	1	\$240.00
	30	Alfalfa	1	\$130.00
Finishing				
Days	100	Finisher	2.5	\$200.00
	100	Alfalfa	1.5	\$130.00

			Amount	Price
			Fed (lbs)	\$/lb
<u>Salt-Mineral- vitamin Mix</u>				
Ewes (365 days @ 0.06lb/hd/day)			22	\$0.85
Rams (365 days @ 0.06lb/hd/day)			22	\$0.85
Lambs (included in pre-mixed rations)			6	\$0.55

Other Operating Costs

Straw Bedding		
tonnes/ ewe		0.20
tonnes/lamb		0.10
tonnes/ ram		0.25
cost/tonne		\$40.00

Veterinary Medicine & Supplies

Medication		
Lamb		
clostridial (initial plus booster)		\$0.58
internal parasiticide (1x)		\$0.53
injectable vitamins		\$0.30
RFID tag		\$4.50
miscellaneous		\$0.50
Ewe		
clostridial (annually \$/shot)		\$0.29
Caseous Lymphadenitis (annually @ \$/shot)		\$0.26
internal parasiticide (3x)		\$1.06
injected vitamins		\$0.60
miscellaneous		\$0.50
Ram		
clostridial (annually @ \$/shot)		\$0.29
Caseous Lymphadenitis (annually @ \$/shot)		\$0.26
internal parasiticide (2x)		\$1.06
injected vitamins		\$0.60
miscellaneous		\$0.50

Professional Services			
Total Yearly Hours			2
Charge per Hour			\$141.00
Total Kilometers (round trip)			80
Charge per km			\$0.85
Number of yearly visits			1
Fuel, Maintenance & Repairs			
Diesel Fuel Cost			\$1.10 /litre
a) Machinery Fuel Costs - Feeding			
Tractor with Loader PTO hp			120
Tractor Hours Per Day (average)			1.0 hours
b) Machinery Repair (% of investment cost)			
			1.5 %
c) Building maintenance (% of investment cost)			
			1.0 %
Utilities			
Hydro	15 kWh per ewe @		\$0.08196 / kWh
Water			\$0
Telephone			\$600
Marketing & Transportation			
Custom Trucking		per lamb	\$6.25
Marketing Charges			
Commission	\$ 6.00		
Insurance - Manitoba	\$ 0.50		
Feed on arrival/day	\$ -		
		per lamb	\$6.50
Replacement Costs			
		<u>\$/cwt</u>	
Ewe replacement rate			15.0%
Ewe replacement cost			\$225.00
Ewe cull value	170 lbs	\$90	\$153.00
Ram replacement rate			25.0%
Ram replacement cost			\$500.00
Ram cull value	200 lbs	\$90	\$180.00
Predator Control			
Stock dog			\$750.00 / each
Guard dogs (2 required)			\$350.00 / each
Years			4
Annual maintenance costs (feed, vet, etc.)			\$500.00
Manure Removal			
Manure volume produced			0.00171 m ³ /ewe/day
Manure volume produced			0.060 ft ³ /ewe/day
Manure & bedding volume shrinkage			80 %
Cost for manure removal & application			\$12.00 /cubic yard
Insurance			
Cost per \$100 Capital Invested in			
a). Livestock			\$0.45
b). Building & Equipment			\$0.40
Add'l Coverage for liability (\$/year)			\$49.00

Shearing Costs

Ewe shearing cost (\$/head)	\$5.00
Ram shearing cost (\$/head)	\$10.00

Miscellaneous

Total yearly office expenses	\$500.00
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Interest

Investment Rate (%)	2.75%
Operating Loan (%)	5.75%

CAPITAL INVESTMENT

	<u>Value</u>	<u>Useful Life</u>	<u>Salvage Value</u>
Buildings			
Pole Barn (36' x 144') with Lambing/Shearing room (24' x 36')	\$150,000	30	10.0%
Wintering Lots	\$5,700	30	0.0%
Well	\$8,000	30	0.0%
Total Building Cost	\$163,700		
Equipment & Improvements			
Water System (2 waterers & installation)	\$3,000	10	10.0%
Miscellaneous Machinery & Equipment:	\$5,000	10	20.0%
Tractor & Loader -allocated to sheep	\$36,000	10	20.0%
Truck - allocated to sheep	\$15,000	10	10.0%
Total Equipment & Improvements	\$59,000		
Total Buildings & Equipment Investment	\$222,700		
Breeding Flock			
Value of Ewes	\$112,500		
Value of Rams	\$6,500		
Total Breeding Flock Investment	\$119,000		
Land Investment			
Acres required	80		
Value per acre (Marginal pasture land)	\$750		
Total Land Investment	\$60,000		
Land Taxes (per acre)	\$4.00		
Fence 7 strand electric (miles)	2	20	0.0%
Fence cost (per mile)	\$5,280		
Total Fence Cost	\$10,560		
Total Land & Fence Investment	\$70,560		
Total Capital Investment	\$412,260		
Labour			
Hours per ewe	2.25		
Rate per hour	\$22.00		

Assumptions

1. This budget outlines the cost of production for a sheep enterprise.
2. Buildings and equipment are valued at new cost.
3. All feed is valued at fair market value.
4. Replacements are purchased at fair market value.

Lamb Production Costs Worksheet

Flock Profile

Number of Ewes	500
Number of Rams	13
Lamb Crop (born alive) %	200
Ewe Mortality Rate (%)	3
Lamb Mortality Rate - Pre-Weaning %	5
Lamb Mortality Rate - Post-Weaning %	2
Lambs Marketed	931
Average Lamb Market Weight (lb)	106.7
Average Wool Production per animal (lb)	5
Average Value of Wool (\$/lb)	\$0.75

Feed Requirements and Costs

<u>Ewe Feeding Period</u>	<u>Feed type</u>	<u>Amount lbs/day</u>	<u>Cost \$/tonne</u>
October 1-November 1 (off pasture and flushed for breeding)			
Days	30	Grass hay	2.8
		Barley	0.6
			\$85.00
			\$195.00
November 1-March 1 (early to mid gestation)			
Days	115	Grass hay	4.1
	115	Barley	0.0
			\$85.00
			\$195.00
March 1-April 1 (late gestation)			
Days	30	Grass/alfalfa hay	3.6
	30	Barley	1.0
	30	Canola Meal	0.2
			\$110.00
			\$195.00
			\$325.00
April 1-June 1 (lactation)			
Days	60	Alfalfa	4.2
	60	Barley	1.5
			\$130.00
			\$195.00
Ram Feeding Period			
October 1- June 1			
Days	240	Barley	0.75
	240	Grass hay	5.1
			\$195.00
			\$85.00
Lamb			
Pre-weaning			
Days	50	Creep	0.5
	50	Alfalfa	0.5
			\$290.00
			\$130.00
Weaning			
Days	30	Creep/grower	1
	30	Alfalfa	1
			\$240.00
			\$130.00
Finishing			
Days	100	Finisher	2.5
	100	Alfalfa	1.5
			\$200.00
			\$130.00

<u>Salt-Mineral Mix</u>	<u>Amount Fed (lbs)</u>	<u>Price \$/lb</u>
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Ewes	22	\$0.85
Rams	22	\$0.85
Lambs (included in ration)	6	\$0.55

A. OPERATING COSTS

Your Cost

1. Feed Costs

1.01 Ewe Flushing Ration

Barley

	30	days per year	_____
x	0.6	lbs barley/day	_____
x	\$195.00	/tonne barley	_____
±	<u>2205</u>	<u>lbs/tonne</u>	_____
=	\$1.59	/ewe	_____

Grass hay

	30	days/year	_____
x	2.8	lbs grass hay/day	_____
x	\$85.00	/tonne grass hay	_____
±	<u>2205</u>	<u>lbs/tonne</u>	_____
=	\$3.24	/ewe	_____

1.02 Ewe Early to Mid Gestation Ration

Barley

	115	days/year	_____
x	0	lbs barley/day	_____
x	\$195.00	/tonne barley	_____
±	<u>2205</u>	<u>lbs/tonne</u>	_____
=	\$0.00	/ewe	_____

Grass hay

	115	days/year	_____
x	4.1	lbs grass hay/day	_____
x	\$85.00	/tonne of grass hay	_____
±	<u>2205</u>	<u>lbs/tonne</u>	_____
=	\$18.18	/ewe	_____

1.03 Ewe Late Gestation Ration

Barley

	30	days/year	_____
x	1	lbs barley/day	_____
x	\$195.00	/tonne barley	_____
±	<u>2205</u>	<u>lbs/tonne</u>	_____
=	\$2.65	/ewe	_____

Grass/alfalfa hay

	30	days/year	_____
x	3.6	lbs grass/alfalfa hay/day	_____
x	\$110.00	/tonne of grass/alfalfa hay	_____
±	<u>2205</u>	<u>lbs/tonne</u>	_____
=	\$5.39	/ewe	_____

Canola Meal

	30	days/year	_____
x	0.2	lbs canola meal/day	_____
x	\$325.00	/tonne of alfalfa hay	_____
±	<u>2205</u>	<u>lbs/tonne</u>	_____
=	\$0.88	/ewe	_____

1.04 Ewe Lactation Ration

Barley

	60	days/year	_____
x	1.5	lbs barley/day	_____
x	\$195.00	/tonne barley	_____

	÷	<u>2205</u>	lbs/tonne	_____
	=	\$7.96	/ewe	_____
Alfalfa		60	days/year	_____
	x	4.2	lbs alfalfa hay/day	_____
	x	\$130.00	/tonne of alfalfa hay	_____
	÷	<u>2205</u>	lbs/tonne	_____
	=	\$14.86	/ewe	_____
Total	=	\$54.75	/ewe	_____

**1.05 Ram Ration
Barley**

		240	days/year	_____
	x	0.75	lbs barley/ram/day	_____
	x	\$195.00	/tonne barley	_____
	÷	<u>2205</u>	lbs/tonne	_____
	=	\$15.92	/ram	_____
	x	13	rams	_____
	÷	<u>500</u>	ewes	_____
	=	\$0.41	/ewe	_____

Grass hay

		240	days/year	_____
	x	5.1	lbs alfalfa brome/ram/day	_____
	x	\$85.00	/tonne alfalfa brome	_____
	÷	<u>2205</u>	lbs/tonne	_____
	=	\$47.19	/ram	_____
	x	13	rams	_____
	÷	<u>500</u>	ewes	_____
	=	\$1.23	/ewe	_____

Total = \$1.64 /ewe

1.06 Lamb Ration

Pre Weaning Ration		50	days/year	_____
		0.5	lbs creep feed/lamb/day	_____
	x	950	lambs weaned	_____
	x	\$290.00	/ tonne commercial feed cost	_____
	÷	<u>2205</u>	lbs/tonne	_____
	÷	<u>500</u>	ewes	_____
	=	\$6.25	/ewe	_____

Pre Weaning Forage

		50	days/year	_____
		0.5	lbs hay/day	_____
	x	950	lambs weaned	_____
	x	\$130.00	/tonne of hay	_____
	÷	<u>2205</u>	lbs/tonne	_____
	÷	<u>500</u>	ewes	_____
	=	\$2.80	/ewe	_____

Weaning Ration

		30	days/year	_____
		1	lbs creep feed/lamb/day	_____
	x	950	lambs weaned	_____
	x	\$240.00	/ tonne commercial feed cost	_____
	÷	<u>2205</u>	lbs/tonne	_____
	÷	<u>500</u>	ewes	_____
	=	\$6.21	/ewe	_____

Weaning Forage		30	days/year	_____
		1	lbs hay/day	_____
	x	950	lambs weaned	_____
	x	\$130.00	/tonne of hay	_____
	÷	<u>2205</u>	lbs/tonne	_____
	÷	<u>500</u>	ewes	_____
	=	\$3.36	/ewe	_____

Finishing Ration		100	days/year	_____
		2.5	lbs creep feed/lamb/day	_____
	x	931	lambs weaned	_____
	x	\$200.00	/ tonne commercial feed cost	_____
	÷	<u>2205</u>	lbs/tonne	_____
	÷	<u>500</u>	ewes	_____
	=	\$42.23	/ewe	_____

Finishing Forage		100	days/year	_____
		1.5	lbs alfalfa hay/day	_____
	x	931	lambs weaned	_____
	x	\$130.00	/tonne of alfalfa hay	_____
	÷	<u>2205</u>	lbs/tonne	_____
	÷	<u>500</u>	ewes	_____
	=	\$16.47	/ewe	_____

Total	=	\$77.32	/ewe	_____
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1.07 Salt-Mineral Mix

Ewes		22	lbs salt-mineral/ewe/year	_____
	x	<u>\$0.85</u>	/lb	_____
	=	\$18.70	/ewe	_____

Lambs (incl. in ration)		6	lbs salt-mineral/lamb/year	_____
	x	\$0.55	/lb	_____
	x	931	lambs marketed	_____
	÷	<u>500</u>	ewes	_____
	=	\$6.14	/ewe	_____

Rams		22	lbs salt-mineral/ram/year	_____
	x	\$0.85	/lb	_____
	x	13	rams	_____
	÷	<u>500</u>	ewes	_____
	=	\$0.49	/ewe	_____

Total	=	\$25.33	/ewe	_____
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2. Other Operating Costs:

2.01 Straw

Ewes		0.20	tonnes/ewe/year	_____
	x	<u>\$40.00</u>	/tonne	_____
	=	\$8.00	/ewe	_____

Lambs		0.10	tonnes/lamb/year	_____
	x	\$40.00	/tonne	_____
	x	931	lambs	_____
	÷	<u>500</u>	ewes	_____
	=	\$7.45	/ewe	_____

Rams				_____
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		0.25	tonnes/ram/year	_____
x		\$40.00	/tonne	_____
x		13	rams	_____
±		<u>500</u>	<u>ewes</u>	_____
=		\$0.26	/ewe	_____
Total	=	\$15.71	/ewe	_____

2.02 Veterinary Medicine & Supplies

Lamb Medication

		\$0.58	/lamb clostridial vaccine	_____
+		\$0.53	/lamb internal parasiticide	_____
+		\$0.30	/lamb injected vitamins	_____
+		\$4.50	/RFID tag	_____
±		<u>\$0.50</u>	<u>/lamb miscellaneous medicine</u>	_____
=		\$6.41	/lamb	_____
x		931	lambs	_____
±		<u>500</u>	<u>ewes</u>	_____
=		\$11.94	/ewe	_____

Ewe Medication

		\$0.29	clostridial. vaccine	_____
+		\$0.26	caseous lymphadenitis	_____
+		\$1.06	internal parasiticide	_____
+		\$0.60	injected vitamins	_____
±		<u>\$0.50</u>	<u>miscellaneous medicine</u>	_____
=		\$2.71	/ewe	_____

Ram Medication

		\$0.29	clostridial. vaccine	_____
+		\$0.26	caseous lymphadenitis	_____
+		\$1.06	internal parasiticide	_____
+		\$0.60	injected vitamins	_____
±		<u>\$0.50</u>	<u>miscellaneous medicine</u>	_____
=		\$2.71	/ram	_____
x		<u>13</u>	<u>rams</u>	_____
=		\$35.23	total medication	_____
±		<u>500</u>	<u>ewes</u>	_____
=		\$0.07	/ewe	_____

Total = \$14.72 /ewe

2.03 Fuel, Maintenance & Repairs

Machinery fuel cost - Tractor with Loader

		120	PTO hp	_____
÷		2.5	avg HP required	_____
x		0.1665576	litres fuel/hour/hp	_____
x		1.0	hours per day	_____
x		\$1.10	diesel / litre	_____
x		<u>235</u>	<u>days on feed</u>	_____
		\$2,066.65	annual fuel cost	_____
±		<u>500.00</u>	<u>ewes</u>	_____
=		\$4.13	/ewe	_____

Machinery repair & maintenance

		\$59,000	machinery capital cost	_____
x		<u>1.50</u>	<u>% repair rate</u>	_____
=		\$885.00	oil, repairs & maintenance	_____
±		<u>500.00</u>	<u>ewes</u>	_____

	=	\$1.77	/ewe	_____
Building repair & maintenance		\$174,260	building capital cost	_____
	x	<u>1.00</u>	% repair rate	_____
	=	\$1,742.60	repairs & maintenance	_____
	÷	<u>500.00</u>	ewes	_____
	=	\$3.49	/ewe	_____
Total	=	\$9.39	/ewe	_____

2.04 Hydro, Water and Telephone

		\$614.70	hydro	_____
	+	\$0	water	_____
	+	\$600	telephone	_____
	=	\$1,215		_____
	÷	<u>500</u>	ewes	_____
	=	\$2.43	/ewe	_____

2.05 Death Loss

Ewe		\$225.00	/ewe	_____
	x	<u>3</u>	death loss %	_____
	=	\$6.75	/ewe	_____
Ram		\$500.00	/ram	_____
	x	3	death loss %	_____
	÷	<u>38</u>	ewes/ram	_____
	=	\$0.39	/ewe	_____
Total	=	\$7.14	/ewe	_____

2.06 Insurance

Building and Equipment		\$222,700	bldg. & equipment investment	_____
	x	\$0.40	/\$100 capital	_____
	÷	100	100	_____
	÷	<u>500</u>	ewes	_____
	=	\$1.78	/ewe	_____
Breeding Flock		\$119,000	herd investment	_____
	x	\$0.45	/\$100 capital	_____
	÷	100	100	_____
	÷	<u>500</u>	ewes	_____
	=	\$1.07	/ewe	_____
Additional Coverage		\$49.00	additional coverage for liability	_____
	÷	<u>500</u>	ewes	_____
	=	\$0.10	/ewe	_____
Total	=	\$2.95	/ewe	_____

2.07 Flock Replacement

Ewe Replacement		500	ewes	_____
	x	<u>0.15</u>	replacement rate	_____
	=	75	number replaced/year	_____
		\$225	/replacement ewe	_____
	-	\$153	/cull ewe	_____
	x	75	number replaced/year	_____

	÷	<u>500</u>	<u>ewes</u>	_____
	=	\$10.80	/ewe	_____
Ram Replacement				
		13	rams	_____
	x	<u>0.25</u>	<u>replacement rate</u>	_____
	=	3	rams replaced/year	_____
		\$500	replacement ram value	_____
	-	\$180	cull ram value	_____
	x	3	rams replaced/year	_____
	÷	<u>500</u>	<u>ewes</u>	_____
	=	\$1.92	/ewe	_____
Total	=	\$12.72	/ewe	_____

2.08 Marketing & Transportation

Trucking		\$6.25	trucking per lamb	_____
	x	<u>1.86</u>	lambs marketed/ewe	_____
	=	\$11.63	/ewe	_____
Commission, fees, etc.		\$6.50	cost per lamb	_____
	x	<u>1.86</u>	lambs marketed/ewe	_____
	=	12.09	/ewe	_____
Total	=	\$23.72	/ewe	_____

2.09 Shearing Costs

		\$10.00	\$/ram	_____
	÷	38.46	ewes/ram	_____
	+	<u>\$5.00</u>	<u>\$/ewe</u>	_____
	=	\$5.26	/ewe	_____

2.10 Predator Control

		\$750	stock dog	_____
	+	\$700	guard dog	_____
	÷	4	years	_____
	+	\$500	annual maintenance	_____
	÷	<u>500</u>	<u>ewes</u>	_____
	=	\$1.73	/ewe	_____

2.11 Professional Fees

Herd Veterinarian		\$2	Total Yearly hours	_____
	x	<u>\$141</u>	<u>charge per hour</u>	_____
	=	\$282	Vet Fees	_____
	÷	<u>500</u>	<u>ewes</u>	_____
	=	\$0.56	/ewe	_____
Mileage		80	Total Kilometers (round trip)	_____
	x	\$0.85	Charge per km	_____
	x	<u>1</u>	<u>Number of yearly visits</u>	_____
	=	\$68	Mileage charges	_____
	÷	<u>500</u>	<u>ewes</u>	_____
	=	\$0.14	/ewe	_____
Total	=	\$0.70	/ewe	_____

2.12 Manure Removal

	0.00171	manure m ³ /ewe/day	(0.06 ft ³ /ewe/day)
+	0.00590	bedding m ³ /ewe/day	(0.21 ft ³ /ewe/day)
x	<u>235</u>	feeding days	
=	1.79	m ³ manure volume	
x	80	% volume shrink	
x	1.30795	yd ³ per m ³	
x	<u>\$12.00</u>	<u>yd³ manure removal cost</u>	
=	\$5.62	/ewe	

2.13 Miscellaneous

	\$500.00	total office expenses	_____
÷	<u>500</u>	<u>ewes</u>	_____
=	\$1.00	/ewe	_____

2.14 Operating Interest

	\$262.13	subtotal operating costs	_____
÷	2	average	_____
x	<u>5.8%</u>	<u>operating interest rate</u>	_____
=	\$7.54	/ewe	_____

B. FIXED COSTS

CAPITAL INVESTMENT

Buildings

Pole Barn (36' x 144') with Lambing/Shearing room (24' x 36')	\$150,000	_____
Wintering Lots	\$5,700	_____
Well	\$8,000	_____

Total Building Cost **\$163,700** _____

Equipment & Improvements

Water System (3 waterers & installation)	\$3,000	_____
Miscellaneous Machinery & Equipment:	\$5,000	_____
Tractor & Loader -allocated to sheep	\$36,000	_____
Truck - allocated to sheep	\$15,000	_____

Total Equipment & Improvements **\$59,000** _____

Total Buildings & Equipment Investment **\$222,700** _____

Breeding Flock

Value of Ewes	\$112,500	_____
Value of Rams	\$6,500	_____

Total Breeding Flock Investment **\$119,000** _____

Land Investment

Acres required	80	_____
Value per acre	750	_____
Total Land Investment	\$60,000	_____
Land Taxes (per acre)	\$4.00	_____
Fence 7 strand electric (miles)	2	_____
Fence cost (per mile)	\$5,280	_____
Total Fence Cost	\$10,560	_____

Total Land & Fence Investment **\$70,560** _____

Total Capital Investment **\$412,260** _____

3. Depreciation:

Original Value -Salvage Value

Useful life

3.01 Buildings:

	\$163,700	original value	_____
-	\$15,000	salvage value	_____
÷	30	years useful life	_____
÷	<u>500</u>	<u>ewes</u>	_____
=	\$9.91	/ewe	_____

3.02 Equipment & Improvements

	\$59,000	original value	_____
-	\$10,000	salvage value	_____
÷	10	years useful life	_____
÷	<u>500</u>	<u>ewes</u>	_____
=	\$9.80	/ewe	_____

4. Interest on Investment

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

4.01 Buildings:

	\$163,700	original value	_____
+	\$15,000	salvage value	_____
÷	2	average	_____
x	2.8%	investment rate	_____
÷	<u>500</u>	<u>ewes</u>	_____
=	\$4.91	/ewe	_____

4.02 Equipment & Improvements

	\$59,000	original value	_____
+	\$10,000	salvage value	_____
÷	2	average	_____
x	2.8%	investment rate	_____
÷	<u>500</u>	<u>ewes</u>	_____
=	\$1.90	/ewe	_____

4.03 Breeding Stock

	\$119,000	herd investment	_____
x	2.8%	investment rate	_____
÷	<u>500</u>	<u>ewes</u>	_____
=	\$6.55	/ewe	_____

5. Pasture Costs

Land Investment

	\$60,000	land value	_____
x	2.8%	investment rate	_____
÷	<u>500</u>	<u>ewes</u>	_____
=	\$3.30	/ewe	_____

Taxes

	\$320	total taxes	_____
÷	<u>500</u>	<u>ewes</u>	_____
=	\$0.64	/ewe	_____

Fence depreciation

	\$10,560	fence value	_____
-	0	salvage value	_____
÷	20	useful life	_____
÷	<u>500</u>	<u>ewes</u>	_____
=	\$1.06	/ewe	_____

Fence investment

	\$10,560	fence value	_____
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	+	0	salvage value	_____
	÷	2	average	_____
	x	2.8%	investment rate	_____
	÷	500	ewes	_____
	=	\$0.29	/ewe	_____
Total	=	\$5.29	/ewe	_____

C. Labour

		2.25	hours/ewe	_____
	x	\$22.00	/hour	_____
	=	\$49.50	/ewe	_____

Wool Value

		513	total breeding animals	_____
	x	5	average lbs wool production	_____
	x	\$0.75	\$/lb	_____
	÷	500	ewes	_____
	=	\$3.85	/ewe	_____

Profitability and Breakeven Analysis:

Gross Revenue per lamb = lamb weight (110lbs) x 3% shrink x \$220/cwt

Operating Expense Ratio = (\$144.84 operating cost / \$236.81 gross revenue) x 100

Breakeven Price \$/cwt = Cost - \$2.07 wool value ÷ shrunk lamb market weight (1.067 cwt)

Return on Investment (ROI) = (Gross Revenue - Total Cost) / Total Cost

(eg. (\$220,467 gross revenue - \$178,759 total cost) / \$178,759 total cost = 23.3%)

Estimated Return on Asset (ROA) = (Margin Over Operating - Labour - Machinery Depreciation - Building Depreciation) / Total Capital Investment (eg. (\$85,634 margin - \$324,750 labour - \$4,900 machinery depreciation \$4,955 building depreciation) / \$412,260 total capital investment = 12.38%)

Created and maintained by [Manitoba Agriculture Farm Management](#)

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