

Guidelines for Estimating Feeder Sheep Production Costs Based on a 250-Ewe Flock

DATE: April, 2002

This publication is intended to provide a format and a set of guidelines for determining costs of production for a sheep enterprise. The production costs included in this budget are estimates and not figures obtained from a formal survey of sheep operations in the province. These figures should therefore not be interpreted as a cost study of the sheep industry in Manitoba.

The budget estimates current production costs based on a number of assumptions clearly defined in the supporting pages. These assumptions were based on breeding stock management practices and facilities commonly recommended for use on this size enterprise in Manitoba. Good management practices are assumed; namely that balanced rations are fed, livestock are on a herd health program and handling facilities are included. Adjustments in cost figures will be necessary where individual herd productivity and performance levels differ from those listed.

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

The budget may be adjusted by putting your figures in the appropriate column. However, accurate, up-to-date production and financial records are essential for effective application of these guidelines to an individual operation. Sheep producers are encouraged to determine their own production costs based on inputs, pasture program and management.

FEEDER SHEEP PRODUCTION COSTS - 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.

FLOCK PROFILE	<u>Total</u>	<u>Your Cos</u>
Number of Ewes	250	
Number of Rams	10	
Lamb Crop (born alive) %	180	
Ewe Mortality Rate (%)	2	
Lamb Mortality Rate - Pre-Weaning %	5	
Lamb Mortality Rate - Post-Weaning %	2	
Lambs Marketed	419	
Average Lamb Market Weight (lbs)	80	
Average Wool Production per animal (lbs)	5	
Average Value of Wool (\$/lb)	\$0.00	

Feed Requirements and Costs

<u>Ewe Feeding Period</u>	<u>Feed type</u>	<u>Amount</u> <u>lbs/day</u>	<u>Cost</u> <u>\$/tonne</u>
October 1-November 1 (off pasture and flushed for breeding)			
Days		30	
	Alfalfa/grass hay	4	\$65.00
	Barley	1	\$160.00
November 1-March 1 (early to mid gestation)			
Days		120	
	Alfalfa/grass hay	4	\$65.00
March 1-April 1 (late gestation)			
Days		30	
	Alfalfa hay	3	\$50.00
	Barley	2	\$160.00
April 1-June 1 (lactation)			
Days		60	
	Alfalfa hay	5	\$50.00
	Barley	2.4	\$160.00
<u>Ram Feeding Period</u>			
October 1- June 1			
Days		60	
	Barley	1.5	\$160.00
	Forage	3	\$40.00
		240	
		Amount	Cost
<u>Lamb</u>		<u>total lbs</u>	<u>\$/tonne</u>
Creep		20	\$250.00
		Amount	Price
<u>Salt-Mineral Mix</u>		<u>Fed (kg)</u>	<u>\$/kg</u>
Ewes		2.4	\$0.36

Rams	2.4	\$0.36
Lambs	0.6	\$0.36

Other Operating Costs

Straw Bedding

tonnes/ ewe	0.20
tonnes/ ram	0.25
cost/tonne	\$20.00

Veterinary Medicine & Supplies

Medication

Lamb

clostridial	\$0.17
internal parasiticide	\$0.27
injected vitamins	\$0.10
miscellaneous	\$0.50

Ewe & Ram

clostridial	\$0.17
internal parasiticide	\$1.50
injected vitamins	\$0.20
miscellaneous	\$0.50

Professional Services

Total Yearly Hours	0
Charge per Hour	\$0.00
Total Kilometers (round trip)	0
Charge per km	\$0.00
Number of yearly visits	0

Fuel, Maintenance & Repairs

Tractor	\$500
Truck	\$750
Buildings,Fences etc.	\$750

Utilities

Hydro	\$300
Water	\$200
Telephone	\$600

Marketing & Transportation

Custom hauling (\$/loaded mile)	\$2.40
Custom hauling distance (miles)	100
Number of head per load	600

Replacement Costs

Ewe replacement rate	15.0%
Ewe replacement cost	\$150.00
Ewe cull value	\$55.00
Ram replacement rate	25.0%
Ram replacement cost	\$240.00
Ram cull value	\$90.00

Predator Control	
Stock dogs	\$400.00
Guard dogs	\$500.00
Years	5
Annual maintenance costs (feed, vet, etc.)	\$2,000.00

Manure Removal	
Annual cost for Removal	\$0.00

Insurance	
Cost per \$100 Capital Invested in	
a). Livestock	\$0.50
b). Building & Equipment	\$0.60
Add'l Coverage for liability (\$/year)	\$30.00

Shearing Costs	
Ewe shearing cost (\$/head)	\$2.50
Ram shearing cost (\$/head)	\$5.00

Miscellaneous	
Total yearly office expenses	\$500.00

Interest	
Investment Rate (%)	4.00%
Operating Loan (%)	6.00%

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')	\$16,400	20	5.0%
Wintering Lots	\$5,700	20	5.0%
Well	<u>\$1,575</u>	<u>20</u>	<u>5.0%</u>
Total Building Cost	\$23,675	20	5.0%
Equipment & Improvements			
Water System (3 waterers & installation)	\$1,975	10	10.0%
Miscellaneous Machinery & Equipment:	\$1,650	10	10.0%
Tractor & Loader -allocated to sheep	\$10,000	10	10.0%
Truck - allocated to sheep	<u>\$7,500</u>	<u>10</u>	<u>10.0%</u>
Total Equipment & Improvements	\$21,125		
Total Buildings & Equipment Investment	\$44,800		
Breeding Flock			
Value of Ewes	\$37,500		
Value of Rams	\$2,400		
Total Breeding Flock Investment	\$39,900		
Land Investment			
Acres required	80		
Value per acre	\$300		
Total Land Investment	\$24,000	Useful	Salvage
Land Taxes (per acre)	\$5.00	<u>Life</u>	<u>Value</u>
Fence 7 strand electric (miles)	1	20	0.0%

Fence cost (per mile)	\$1,500
Total Fence Cost	<u>\$1,500</u>
Total Land & Fence Investment	\$25,500
Total Capital Investment	\$110,200
Labour (Hours per ewe	2
Rate per hour	\$10.00

its

FEEDER SHEEP PRODUCTION COSTS - SUMMARY

Based on 250 ewes marketing 419 lambs

	<u>\$/Ewe</u>	<u>\$/lamb</u> <u>Marketed</u>	<u>\$/lb</u>	<u>Your Cost</u>
A. Operating Costs				
1. Feed Costs				
1.01 Ewe Ration	\$43.54	\$25.98	\$0.32	
1.02 Ram Ration	\$0.78	\$0.47	\$0.01	
1.03 Lamb Creep Ration	\$3.88	\$2.32	\$0.03	
1.04 Salt-Mineral Mix	<u>\$1.25</u>	<u>\$0.75</u>	<u>\$0.01</u>	
Total Feed Cost	\$49.45	\$29.52	\$0.37	
2. Other Operating Costs				
2.01 Straw	\$4.20	\$2.51	\$0.03	
2.02 Vet Medicine and Supplies	\$4.20	\$2.51	\$0.03	
2.03 Maintenance and Repairs	\$8.00	\$4.77	\$0.06	
2.04 Hydro, Water and Telephone	\$4.40	\$2.63	\$0.03	
2.05 Death Loss	\$3.19	\$1.90	\$0.02	
2.06 Insurance	\$2.00	\$1.19	\$0.01	
2.07 Flock Replacement	\$15.64	\$9.33	\$0.12	
2.08 Marketing & Transportation	\$0.67	\$0.40	\$0.01	
2.09 Shearing Costs	\$2.70	\$1.61	\$0.02	
2.10 Predator Control	\$8.72	\$5.20	\$0.07	
2.11 Miscellaneous	<u>\$2.00</u>	<u>\$1.19</u>	<u>\$0.01</u>	
Subtotal Operating Costs	\$105.17	\$62.76	\$0.78	
2.12 Operating Interest	<u>\$3.16</u>	<u>\$1.89</u>	<u>\$0.02</u>	
Total Operating Costs	\$108.33	\$64.65	\$0.80	
B. Fixed Costs				
3. Depreciation				
3.01 Buildings	\$4.50	\$2.68	\$0.03	
3.02 Equipment & Improvements	\$7.61	\$4.54	\$0.06	
4. Investment				
4.01 Buildings	\$1.99	\$1.19	\$0.01	
4.02 Equipment & Improvements	\$1.86	\$1.11	\$0.01	
4.03 Breeding Flock	\$6.38	\$3.81	\$0.05	
5. Pasture Costs	<u>\$5.86</u>	<u>\$3.50</u>	<u>\$0.04</u>	
Total Fixed Costs	\$28.20	\$16.83	\$0.20	
Total Operating and Fixed Costs	\$136.54	\$81.48	\$1.00	
C. Labour	\$20.00	\$11.93	\$0.15	
D. Wool Value	\$0.00	\$0.00	\$0.00	
Total Cost of Production	\$156.54	\$93.41	\$1.15	

FEEDER SHEEP PRODUCTION COSTS - WORKSHEET 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.

FLOCK PROFILE

Number of Ewes	250
Number of Rams	10
Lamb Crop (born alive) %	180
Ewe Mortality Rate (%)	2
Lamb Mortality Rate - Pre-Weaning %	5
Lamb Mortality Rate - Post-Weaning %	2
Lambs Marketed	419
Average Lamb Market Weight (kg)	80
Average Wool Production per animal (kg)	5
Average Value of Wool (\$/kg)	\$0.00

Feed Requirements and Costs

<u>Ewe Feeding Period</u>	<u>Feed type</u>	<u>Amount</u> <u>lbs/day</u>	<u>Cost</u> <u>\$/tonne</u>
October 1-November 1(off pasture and flushed for breeding)			
Days	30	Alfalfa/grass hay	4
		Barley	1
			\$65.00
			\$160.00
November 1-March 1(early to mid gestation)			
Days	120	Alfalfa/grass hay	4
			\$65.00
March 1-April 1(late gestation)			
Days	30	Alfalfa hay	3
		Barley	2
			\$50.00
			\$160.00
April 1-June 1(lactation)			
Days	60	Alfalfa hay	5
		Barley	2.4
			\$50.00
			\$160.00

Ram Feeding Period

October 1- June 1

Days	60	Barley	1.5	\$160.00
	240	Forage	3	\$40.00

<u>Lamb</u>		<u>Amount</u>	<u>Cost</u>
Creep		<u>total lbs</u>	<u>\$/tonne</u>
		20	\$250

<u>Salt-Mineral Mix</u>		<u>Amount</u>	<u>Price</u>
Ewes		<u>Fed (kg)</u>	<u>\$/kg</u>
Rams		2.4	\$0.36
Lambs		2.4	\$0.36
		0.6	\$0.36

Your Cost

A. OPERATING COSTS

1. Feed Costs

1.01 Ewe Flushing Ration

Grain

		30	days per year	_____
x		1	lbs barley/day	_____
x	\$160.00		/tonne barley	_____
÷	<u>2204</u>		<u>lbs/tonne</u>	_____
=	\$2.18		/ewe	_____

Forage

		30	days/year	_____
x		4	lbs alfalfa/grass hay/day	_____
x	\$65.00		/tonne alfalfa brome hay	_____
÷	<u>2204</u>		<u>lbs/tonne</u>	_____
=	\$3.54		/ewe	_____

1.02 Ewe Early to Mid Gestation Ration

Forage

		120	days/year	_____
x		4	lbs alfalfa/grass hay/day	_____
x	\$65.00		/tonne alfalfa brome hay	_____
÷	<u>2204</u>		<u>lbs/tonne</u>	_____
=	\$14.16		/ewe	_____

Your Cost

1.03 Ewe Late Gestation Ration

Barley		30	days/year	_____
	x	2	lbs barley/day	_____
	x	\$160.00	/tonne barley	_____
	÷	<u>2204</u>	<u>lbs/tonne</u>	_____
	=	\$4.36	/ewe	_____

Forage		30	days/year	_____
	x	3	lbs alfalfa hay/day	_____
	x	\$50.00	/tonne of alfalfa hay	_____
	÷	<u>2204</u>	<u>lbs/tonne</u>	_____
	=	\$2.04	/ewe	_____

1.04 Ewe Lactation Ration

Barley		60	days/year	_____
	x	2.4	lbs barley/day	_____
	x	\$160.00	/tonne barley	_____
	÷	<u>2204</u>	<u>lbs/tonne</u>	_____
	=	\$10.45	/ewe	_____

Forage		60	days/year	_____
	x	5	lbs alfalfa hay/day	_____
	x	\$50.00	/tonne of alfalfa hay	_____
	÷	<u>2204</u>	<u>lbs/tonne</u>	_____
	=	\$6.81	/ewe	_____

**1.05 Ram Ration
Grain**

		60	days/year	_____
	x	1.5	lbs barley/ram/day	_____
	x	\$160.00	/tonne barley	_____
	÷	<u>2204</u>	<u>lbs/tonne</u>	_____
	=	\$6.53	/ram	_____
	x	10	rams	_____
	÷	<u>250</u>	<u>ewes</u>	_____
	=	\$0.26	/ewe	_____

			<u>Your Cost</u>	
Forage		240	days/year	_____
	x	3	lbs alfalfa brome/ram/day	_____
	x	\$40.00	/tonne alfalfa brome	_____
	÷	2204	<u>lbs/tonne</u>	_____
	=	\$13.07	/ram	_____
	x	10	rams	_____
	÷	<u>250</u>	<u>ewes</u>	_____
	=	\$0.52	/ewe	_____

1.06 Lamb Creep Ration

		20	lbs creep feed/lamb	_____
	x	428	lambs weaned	_____
	x	\$250.00	/ tonne commercial feed cost	_____
	÷	2204	lbs/tonne	_____
	÷	<u>250</u>	<u>ewes</u>	_____
	=	\$3.88	/ewe	_____

1.07 Salt-Mineral Mix

Ewes		2.4	kg salt-mineral/ewe/year	_____
	x	<u>\$0.36</u>	<u>/kg</u>	_____
	=	\$0.86	/ewe	_____

Lambs		0.6	kg salt-mineral/lamb/year	_____
	x	\$0.36	/kg	_____
	x	419	lambs marketed	_____
	÷	<u>250</u>	<u>ewes</u>	_____
	=	\$0.36	/ewe	_____

Rams		2.4	kg salt-mineral/ram/year	_____
	x	\$0.36	/kg	_____
	x	10	rams	_____
	÷	<u>250</u>	<u>ewes</u>	_____
	=	\$0.03	/ewe	_____

2. Other Operating Costs:

2.01 Straw

Ewes		0.20	tonnes/ewe/year	_____
	x	<u>\$20.00</u>	<u>/tonne</u>	_____
	=	\$4.00	/ewe	_____

			<u>Your Cost</u>
Rams			
		0.25 tonnes/ram/year	_____
x	\$20.00	/tonne	_____
x	10	rams	_____
±	<u>250</u>	<u>ewes</u>	_____
=	\$0.20	/ewe	_____
2.02 Veterinary Medicine & Supplies			
Lamb Medication			
	\$0.17	/lamb clostridial vaccine	_____
+	\$0.27	/lamb internal parasiticide	_____
	\$0.10	/lamb injected vitamins	_____
+	<u>\$0.50</u>	/lamb miscellaneous medicine	_____
=	\$1.04	/lamb	_____
x	419	lambs	_____
±	<u>250</u>	<u>ewes</u>	_____
=	\$1.74	/ewe	_____
Ewe and Ram Medication			
	\$0.17	clostridial. vaccine	_____
+	\$1.50	internal parasiticide	_____
	\$0.20	injected vitamins	_____
±	<u>\$0.50</u>	<u>miscellaneous medicine</u>	_____
=	\$2.37	/ewe or ram	_____
x	<u>260</u>	<u>ewes and rams</u>	_____
=	\$616.20	total medication	_____
±	<u>250</u>	<u>ewes</u>	_____
=	\$2.46	/ewe	_____
Total	=	\$4.20 /ewe	_____

Your Cost

2.03 Maintenance & Repairs

	\$500	tractor	_____
+	\$750	truck	_____
+	<u>\$750</u>	<u>building, fence, etc.</u>	_____
=	\$2,000	total	_____
÷	<u>250</u>	<u>ewes</u>	_____
=	\$8.00	/ewe	_____

2.04 Hydro, Water and Telephone

	\$300	hydro	_____
+	\$200	water	_____
+	\$600	telephone	_____
=	\$1,100		_____
÷	<u>250</u>	<u>ewes</u>	_____
=	\$4.40	/ewe	_____

2.05 Death Loss

Ewe	\$150.00	/ewe	_____
x	<u>2</u>	<u>death loss %</u>	_____
=	\$3.00	/ewe	_____

Ram	\$240.00	/ram	_____
x	2	death loss %	_____
÷	<u>25</u>	<u>rams/ewe</u>	_____
=	\$0.19	/ewe	_____

Total	=	\$3.19	/ewe	_____
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2.06 Insurance

Building and Equipment	\$44,800	bldg. & equipment investment	_____
x	\$0.60	/\$100 capital	_____
÷	100	100	_____
÷	<u>250</u>	<u>ewes</u>	_____
=	\$1.08	/ewe	_____

Feeder Sheep Costs

			<u>Your Cost</u>	
Breeding Flock				
		\$39,900	herd investment	_____
	x	\$0.50	/\$100 capital	_____
	÷	100	100	_____
	±	<u>250</u>	ewes	_____
	=	\$0.80	/ewe	_____
Additional Coverage				
		\$30.00	additional coverage for liability	_____
	±	<u>250</u>	ewes	_____
	=	\$0.12	/ewe	_____
Total	=	\$2.00	/ewe	_____
2.07 Flock Replacement				
Ewe Replacement				
		250	ewes	_____
	x	<u>0.15</u>	replacement rate	_____
	=	38	number replaced/year	_____
		\$150	/replacement ewe	_____
	-	\$55	/cull ewe	_____
	x	38	number replaced/year	_____
	±	<u>250</u>	ewes	_____
	=	\$14.44	/ewe	_____
Ram Replacement				
		10	rams	_____
	x	<u>0.25</u>	replacement rate	_____
	=	2.5	rams replaced/year	_____
		\$240	replacement ram value	_____
	-	\$90	cull ram value	_____
	x	2	rams replaced/year	_____
	±	<u>250</u>	ewes	_____
	=	\$1.20	/ewe	_____
Total	=	\$15.64	/ewe	_____

Your Cost

2.08 Marketing & Transportation

	\$2.40	\$/loaded mile	_____
x	100	hauling distance	_____
÷	600	head/load	_____
<u>x</u>	<u>1.68</u>	<u>lambs marketed/ewe</u>	_____
=	\$0.67	/ewe	_____

2.09 Shearing Costs

	\$5.00	\$/ram	_____
÷	25	rams/ewe	_____
<u>±</u>	<u>\$2.50</u>	<u>\$/ewe</u>	_____
=	\$2.70	/ewe	_____

2.10 Predator Control

	\$400	stock dogs	_____
+	\$500	guard dogs	_____
÷	5	years	_____
+	\$2,000	annual maintenance	_____
<u>÷</u>	<u>250</u>	<u>ewes</u>	_____
=	\$8.72	/ewe	_____

2.11 Miscellaneous

	\$500.00	total office expenses	_____
<u>÷</u>	<u>250</u>	<u>ewes</u>	_____
=	\$2.00	/ewe	_____

2.12 Operating Interest

	\$105.17	subtotal operating costs	_____
÷	2	average	_____
<u>x</u>	<u>6.0%</u>	<u>operating interest rate</u>	_____
=	\$3.16	/ewe	_____

Your Cost

B. FIXED COSTS

CAPITAL INVESTMENT

Buildings

Pole Barn (36' x 144') with Lambing/Shearing room (24' x 36')	\$16,400	_____
Wintering Lots	\$5,700	_____
Well	\$1,575	_____

Total Building Cost \$23,675

Equipment & Improvements

Water System (3 waterers & installation)	\$1,975	_____
Miscellaneous Machinery & Equipment:	\$1,650	_____
Tractor & Loader -allocated to sheep	\$10,000	_____
Truck - allocated to sheep	\$7,500	_____

Total Equipment & Improvements \$21,125

Total Buildings & Equipment Investment \$44,800

Breeding Flock

Value of Ewes	\$37,500	_____
Value of Rams	\$2,400	_____

Total Breeding Flock Investment \$39,900

Land Investment

Acres required	80	_____
Value per acre	300	_____
Total Land Investment	\$24,000	_____
Land Taxes (per acre)	\$5.00	_____
Fence 7 strand electric (miles)	1	_____
Fence cost (per mile)	\$1,500	_____
Total Fence Cost	\$1,500	_____

Total Land & Fence Investment \$25,500

Total Capital Investment \$110,200

3. Depreciation:

$$\frac{\text{Original Value - Salvage Value}}{\text{Useful life}}$$

Your Cost

3.01 Buildings:

	\$23,675	original value	_____
-	\$1,184	salvage value	_____
÷	20	years useful life	_____
±	<u>250</u>	<u>ewes</u>	_____
=	\$4.50	/ewe	_____

3.02 Equipment & Improvements

	\$21,125	original value	_____
-	\$2,113	salvage value	_____
÷	10	years useful life	_____
±	<u>250</u>	<u>ewes</u>	_____
=	\$7.61	/ewe	_____

4. Interest on Investment

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

4.01 Buildings:

	\$23,675	original value	_____
+	\$1,184	salvage value	_____
÷	2	average	_____
x	4.0%	investment rate	_____
±	<u>250</u>	<u>ewes</u>	_____
=	\$1.99	/ewe	_____

4.02 Equipment & Improvements

	\$21,125	original value	_____
+	\$2,113	salvage value	_____
÷	2	average	_____
x	4.0%	investment rate	_____
±	<u>250</u>	<u>ewes</u>	_____
=	\$1.86	/ewe	_____

4.03 Breeding Stock

	\$39,900	herd investment	_____
x	4.0%	investment rate	_____
±	<u>250</u>	<u>ewes</u>	_____
=	\$6.38	/ewe	_____

			<u>Your Cost</u>
5. Pasture Costs			
Land Investment	\$24,000	land value	_____
x	4.0%	investment rate	_____
÷	<u>250</u>	<u>ewes</u>	_____
=	\$3.84	/ewe	_____
Taxes	\$400	total taxes	_____
÷	<u>250</u>	<u>ewes</u>	_____
=	\$1.60	/ewe	_____
Fence depreciation	\$1,500	fence value	_____
-	0	salvage value	_____
÷	20	useful life	_____
÷	<u>250</u>	<u>ewes</u>	_____
=	\$0.30	/ewe	_____
Fence investment	\$1,500	fence value	_____
+	0	salvage value	_____
÷	2	average	_____
x	4.0%	investment rate	_____
÷	<u>250</u>	<u>ewes</u>	_____
=	\$0.12	/ewe	_____
Total	=	\$5.86	/ewe
C. Labour			
	2	hours/ewe	_____
x	\$10.00	/hour	_____
=	\$20.00	/ewe	_____
D. Wool Value (subtracted from the total cost of production)			
	260	total breeding animals	_____
x	5	average lbs wool production	_____
x	\$0.00	\$/lb	_____
÷	<u>250</u>	<u>ewes</u>	_____
=	\$0.00	/ewe	_____

For more information contact Manitoba Agriculture and Food.

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