



Guidelines for Estimating Forage Seed Production Costs 2016

in Manitoba



Guidelines For Estimating Forage Seed Production Costs - 2016

January, 2016

This guide is designed to provide planning information and a format for calculating the costs of producing the most commonly grown forage seed crops in Manitoba. General Manitoba Agriculture, Food and Rural Development (MAFRD) recommendations are assumed in using fertilizers and chemical inputs. These figures provide an economic evaluation of the crops and estimated yields 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.

The assumptions on which the costs were calculated are clearly defined in the supporting pages. They were developed using a combination of recommended practices and methods followed by many producers.

These budgets may be adjusted by putting in your own figures. As a producer, you are encouraged to calculate your own costs of production for various forage seed crops. On each farm, costs and yields differ due to soil type, climate and agronomic practices.

This tool is available as an Excel worksheet at: www.manitoba.ca/agriculture or at your local [MAFRD GO 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, contract your local MAFRD GO office.

Forage Seed Production Costs 2016 (Dollars Per Acre)									
	Alfalfa Seed			Timothy Seed			Annual Ryegrass	Red Clover	
	Wheat Nurse Crop	No Nurse Crop ²	Annual Seed	Wheat Nurse Crop	No Nurse Crop ²	Annual Seed	Annual Seed	Wheat Nurse Crop	Annual Seed
Profitability Ranking	3			6			7	8	
A. Operating Costs									
Forage Seed & Treatment	\$13.50	\$13.50	-	\$10.00	\$10.00	-	\$22.40	\$20.00	-
Nurse Crop Seed	\$11.00	-	-	\$11.00	-	-	\$0.00	\$11.00	-
Establishment Cost ¹	-	-	\$24.24	-	-	\$21.97	\$0.00	-	\$99.40
Fertilizer	\$59.32	\$17.03	\$24.84	\$56.48	\$53.64	\$64.21	\$64.21	\$56.48	\$24.84
Herbicide	\$15.50	\$15.50	\$49.00	\$13.00	\$13.00	\$10.00	\$23.00	\$20.00	\$20.00
Fungicide	\$0.00	\$0.00	\$36.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Insecticide	\$0.00	\$0.00	\$14.00	\$0.00	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00
Desiccant	\$0.00	\$0.00	\$22.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Fuel	\$19.80	\$8.74	\$9.77	\$19.80	\$8.74	\$9.34	\$18.34	\$19.80	\$8.21
Machinery Operating	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Machinery Lease	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60
Rental and Custom	\$0.00	\$0.00	\$157.50	\$0.00	\$0.00	\$7.50	\$7.50	\$0.00	\$7.50
Crop Insurance	\$16.99	\$5.80	\$45.93	\$16.99	\$5.80	\$14.34	\$12.13	\$11.19	\$0.00
Field Inspection	-	-	\$3.57	-	-	\$3.57	\$3.57	-	\$3.57
Other Costs	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75
Land Taxes	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00
Drying Costs	-	-	-	-	-	-	\$5.00	-	-
Interest on Operating	\$4.66	\$2.58	\$11.56	\$4.42	\$3.42	\$4.60	\$5.21	\$4.73	\$5.41
Total Operating	\$174.12	\$96.50	\$431.75	\$165.04	\$127.95	\$171.88	\$194.70	\$176.55	\$202.27
B. Fixed Costs									
Land Investment Costs	\$53.75	\$53.75	\$53.75	\$53.75	\$53.75	\$53.75	\$53.75	\$53.75	\$53.75
Machinery Depreciation	\$44.41	\$44.41	\$44.41	\$44.41	\$44.41	\$44.41	\$44.41	\$44.41	\$44.41
Machinery Investment	\$11.10	\$11.10	\$11.10	\$11.10	\$11.10	\$11.10	\$11.10	\$11.10	\$11.10
Storage Costs	\$4.59	\$0.00	\$0.72	\$4.59	\$0.00	\$1.05	\$5.35	\$4.59	\$0.56
Total Fixed	\$113.85	\$109.26	\$109.98	\$113.85	\$109.26	\$110.31	\$114.61	\$113.85	\$109.82
Total Operating & Fixed	\$287.97	\$205.76	\$541.73	\$278.89	\$237.20	\$282.18	\$309.31	\$290.40	\$312.09
C. Labour									
	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Total Costs	\$317.97	\$235.76	\$571.73	\$308.89	\$267.20	\$312.18	\$339.31	\$320.40	\$342.09
Profitability & Breakeven Analysis									
Estimated Farmgate									
Price \$ per unit	\$6.50		\$1.85	\$6.50		\$0.90	\$0.27	\$6.50	\$0.90
Yield per acre (bu or lb.)	34		320	34		350	950	34	250
Unit type	bu		lb	bu		lb	lb	bu	lb
Gross Revenue / acre	\$221.00	\$0.00	\$592.00	\$221.00	\$0.00	\$315.00	\$256.50	\$221.00	\$225.00
Marginal Returns									
Over Operating Costs	\$46.88	(\$96.50)	\$160.25	\$55.96	(\$127.95)	\$143.12	\$61.80	\$44.45	\$22.73
Over Total Costs (Net Profit)	(\$96.97)	(\$235.76)	\$20.27	(\$87.89)	(\$267.20)	\$2.82	(\$82.81)	(\$99.40)	(\$117.09)
Operating Expense Ratio	78.8%		72.9%	74.7%		54.6%	75.9%	79.9%	89.9%
Breakeven Price Per Unit									
Operating Costs	\$5.12		\$1.35	\$4.85		\$0.49	\$0.20	\$5.19	\$0.81
Total Costs	\$9.35		\$1.79	\$9.09		\$0.89	\$0.36	\$9.42	\$1.37
Breakeven Yield (Bu or lb.)									
Operating Costs	26.8		233	25.4		191	721	27.2	225
Total Costs	48.9		309	47.5		347	1257	49.3	380

1. The costs for establishing the forage seed crop (with nurse crop) are spread over the seed production years.

Establishment Cost = (Total Nurse Crop and Forage Seed Cost - Nurse Crop Revenue) / Number of Seed Production Years.

eg. Alfalfa Establishment Cost (with Wheat nurse crop) = (\$ 317.97 - \$221.00) = \$96.97 / 4 = \$24.24 per acre

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.

Forage Seed Production Costs 2016 (Dollars Per Acre)									
(Turf Type) Perennial Ryegrass		Meadow Fescue		Birdsfoot Trefoil		(Turf Type) Tall Fescue Seed			Your Farm
Wheat Nurse Crop	Annual Seed	Wheat Nurse Crop	Annual Seed	Wheat Nurse Crop	Annual Seed	Wheat Nurse Crop	No Nurse Crop ²	Annual Seed	
4		1		2		5			
\$18.00	-	\$20.00	-	\$22.75	-	\$16.00	\$16.00	-	
\$16.50	-	\$11.00	-	\$11.00	-	\$11.00	-	-	
-	\$79.69	-	\$26.28	-	\$22.88	-	-	\$31.55	
\$56.48	\$74.78	\$56.48	\$64.21	\$43.07	\$24.84	\$43.07	\$64.60	\$64.21	
\$28.00	\$24.00	\$0.00	\$10.00	\$23.00	\$20.00	\$27.00	\$27.00	\$23.00	
\$0.00	\$17.00	\$0.00	\$0.00	\$0.00	\$17.00	\$0.00	\$0.00	\$17.00	
\$0.00	\$3.00	\$0.00	\$3.00	\$0.00	\$14.00	\$0.00	\$0.00	\$3.00	
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
\$20.49	\$12.29	\$19.80	\$10.18	\$19.80	\$9.18	\$19.80	\$8.74	\$11.55	
\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	
\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	
\$0.00	\$7.50	\$0.00	\$7.50	\$0.00	\$7.50	\$0.00	\$0.00	\$7.50	
\$16.99	\$19.61	\$11.19	\$0.00	\$11.19	\$0.00	\$16.99	\$5.80	\$22.86	
-	\$3.57	-	\$3.57	-	\$3.57	-	-	\$3.57	
\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	\$7.75	
\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	
-	-	-	-	-	-	-	-	-	
<u>\$5.22</u>	<u>\$7.56</u>	<u>\$4.18</u>	<u>\$4.35</u>	<u>\$4.51</u>	<u>\$4.19</u>	<u>\$4.60</u>	<u>\$4.28</u>	<u>\$5.98</u>	
\$195.03	\$282.35	\$156.00	\$162.44	\$168.67	\$156.50	\$171.81	\$159.77	\$223.56	
\$53.75	\$53.75	\$53.75	\$53.75	\$53.75	\$53.75	\$53.75	\$53.75	\$53.75	
\$44.41	\$44.41	\$44.41	\$44.41	\$44.41	\$44.41	\$44.41	\$44.41	\$44.41	
\$11.10	\$11.10	\$11.10	\$11.10	\$11.10	\$11.10	\$11.10	\$11.10	\$11.10	
<u>\$5.41</u>	<u>\$4.50</u>	<u>\$4.59</u>	<u>\$2.46</u>	<u>\$4.59</u>	<u>\$0.45</u>	<u>\$4.59</u>	<u>\$0.00</u>	<u>\$4.05</u>	
\$114.66	\$113.76	\$113.85	\$111.71	\$113.85	\$109.71	\$113.85	\$109.26	\$113.31	
\$309.69	\$396.11	\$269.85	\$274.15	\$282.52	\$266.21	\$285.66	\$269.03	\$336.88	
\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	
\$339.69	\$426.11	\$299.85	\$304.15	\$312.52	\$296.21	\$315.66	\$299.03	\$366.88	
Profitability & Breakeven Analysis									
\$6.50	\$0.55	\$6.50	\$1.00	\$6.50	\$1.85	\$6.50		\$0.50	
40	800	34	400	34	200	34		750	
bu	lb	bu	lb	bu	lb	bu		lb	
\$260.00	\$440.00	\$221.00	\$400.00	\$221.00	\$370.00	\$221.00	\$0.00	\$375.00	
\$64.97	\$157.65	\$65.00	\$237.56	\$52.33	\$213.50	\$49.19	(\$159.77)	\$151.44	
(\$79.69)	\$13.89	(\$78.85)	\$95.85	(\$91.52)	\$73.79	(\$94.66)	(\$299.03)	\$8.12	
75.0%	64.2%	70.6%	40.6%	76.3%	42.3%	77.7%		59.6%	
\$4.88	\$0.35	\$4.59	\$0.41	\$4.96	\$0.78	\$5.05		\$0.30	
\$8.49	\$0.53	\$8.82	\$0.76	\$9.19	\$1.48	\$9.28		\$0.49	
30.0	513	24.0	162	25.9	85	26.4		447	
52.3	775	46.1	304	48.1	160	48.6		734	

2. The costs for forage seed establishment with no nurse crop are listed for comparative purposes only.

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Risk & Sensitivity Analysis

	Alfalfa Seed	Timothy Seed	Annual Ryegrass	Red Clover	Perennial Ryegrass	Meadow Fescue	Birdsfoot Trefoil	Tall Fescue
A. Operating Costs	\$431.75	\$171.88	\$194.70	\$202.27	\$282.35	\$162.44	\$156.50	\$223.56
B. Fixed Costs	\$109.98	\$110.31	\$114.61	\$109.82	\$113.76	\$111.71	\$109.71	\$113.31
Total Costs	\$571.73	\$312.18	\$339.31	\$342.09	\$426.11	\$304.15	\$296.21	\$366.88

Estimated Farmgate

Price \$ per unit	\$1.85	\$0.90	\$0.27	\$0.90	\$0.55	\$1.00	\$1.85	\$0.50
Yield per acre (bu or lb.)	320	350	950	250	800	400	200	750
Unit type	lb	lb	lb	lb	lb	lb	lb	lb

Percent Price Variation	Up	Down	Percent Yield Variation					Up	Down
	5%	10%						10%	10%
Higher Price (\$ per lb)	\$1.94	\$0.95	\$0.28	\$0.95	\$0.58	\$1.05	\$1.94	\$0.53	
Lower Price (\$ per lb)	\$1.67	\$0.81	\$0.24	\$0.81	\$0.50	\$0.90	\$1.67	\$0.45	
Higher Yield (per acre)	352	385	1045	275	880	440	220	825	
Lower Yield (per acre)	288	315	855	225	720	360	180	675	

Higher Margin Scenario - Price Up 5% and Yield Up 10%

Gross Revenue / acre	\$683.76	\$363.83	\$296.26	\$259.88	\$508.20	\$462.00	\$427.35	\$433.13
Marginal Returns								
Over Operating Costs	\$252.01	\$191.95	\$101.55	\$57.61	\$225.85	\$299.56	\$270.85	\$209.56
Over Total Costs (Net Profit)	\$112.03	\$51.64	(\$43.05)	(\$82.22)	\$82.09	\$157.85	\$131.14	\$66.25
Profitability Ranking	3	6	7	8	4	1	2	5
Operating Expense Ratio	63.1%	47.2%	65.7%	77.8%	55.6%	35.2%	36.6%	51.6%

Lower Margin Scenario - Price Down 10% and Yield Down 10%

Gross Revenue / acre	\$479.52	\$255.15	\$207.77	\$182.25	\$356.40	\$324.00	\$299.70	\$303.75
Marginal Returns								
Over Operating Costs	\$47.77	\$83.27	\$13.06	(\$20.02)	\$74.05	\$161.56	\$143.20	\$80.19
Over Total Costs (Net Profit)	(\$92.21)	(\$57.03)	(\$131.54)	(\$159.84)	(\$69.71)	\$19.85	\$3.49	(\$63.13)
Profitability Ranking	6	3	7	8	5	1	2	4
Operating Expense Ratio	90.0%	67.4%	93.7%	111.0%	79.2%	50.1%	52.2%	73.6%

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Estimated Yield of Forage Seed - Clean Pounds per Acre

<u>Years</u>	<u>Alfalfa Seed</u>	<u>Timothy Seed</u>	<u>Perennial Ryegrass</u>	<u>Meadow Fescue</u>	<u>Annual Ryegrass</u>	<u>Birdsfoot Trefoil</u>	<u>Red Clover</u>	<u>Tall Fescue</u>
1	0	0	0	0	950	0	0	0
2	375	350	800	600		200	250	750
3	375	350		350		200		750
4	280	350		250		200		750
5	250	350				200		
Total Yield	1280	1400	800	1200	950	800	250	2250
Average Yield	320	350	800	400	950	200	250	750
Years production	4	4	1	3	1	4	1	3
Years rotation	5	5	2	4	1	5	2	4
Price / lb	\$1.85	\$0.90	\$0.55	\$1.00	\$0.27	\$1.85	\$0.90	\$0.50
Pounds/bu	60	45	24	22	24	60	60	25
Bushels/acre	5.3	7.8	33.3	18.2	39.6	3.3	4.2	30.0

Field Inspection *	160 acres assumed	
CSGA Fee	\$100.00	
Assessment fee	\$132.80	\$0.83 /acre
CFIA Fee	\$100.00	
Assessment fee	\$120.00	\$0.75 /acre
Branch Fee	\$65.00	
Assessment fee	\$52.80	\$0.33 /acre
Total	\$570.60	
Cost per acre	\$3.57 /acre	

Seed & Treatment

Crop		Seeding Rate per Acre	Price per Unit	Cost per Acre
Alfalfa Seed				
Alfalfa seed		1.25 lb	\$10.80 /lb	\$13.50
(nurse crop)	Wheat	1.0 bu	\$11.00 /bu	\$11.00
Timothy Seed				
Timothy seed		2 lb	\$5.00 /lb	\$10.00
(nurse crop)	Wheat	1.0 bu	\$11.00 /bu	\$11.00
Annual Ryegrass				
Annual Ryegrass seed		16.00 lb	\$1.40 /lb	\$22.40
Red Clover				
Red Clover seed		4.0 lb	\$5.00 /lb	\$20.00
(nurse crop)	Wheat	1.0 bu	\$11.00 /bu	\$11.00
Perennial Ryegrass				
Perennial Ryegrass seed		6 lb	\$3.00 /lb	\$18.00
(nurse crop)	Wheat	1.5 bu	\$11.00 /bu	\$16.50
Meadow Fescue				
Meadow Fescue seed		4 lbs	\$5.00 /lb	\$20.00
(nurse crop)	Wheat	1.0 bu	\$11.00 /bu	\$11.00
Birdsfoot Trefoil				
Birdsfoot Trefoil		1.75 lb	\$13.00 /lb	\$22.75
(nurse crop)	Wheat	1.0 bu	\$11.00 /bu	\$11.00
Tall Fescue				
Tall Fescue seed		4 lb	\$4.00 /lb	\$16.00
(nurse crop)	Wheat	1.0 bu	\$11.00 /bu	\$11.00

Fertilizer

Fertilizer Type	Bulk Price \$/tonne	Actual Nutrient \$/lb
Nitrogen: (urea) 46-0-0	\$536	\$0.529
Phosphorus: 11-52-0	\$779	\$0.568
Potash: 0-0-60	\$507	\$0.383
Sulphur: 20.5-0-0-24	\$449	\$0.397

Crop	Amount of Actual Pounds of Elements Applied Per Acre								Total \$/acre
	Nitrogen		Phosphorus		Potash		Sulphur		
	lbs	\$/acre	lbs	\$/acre	lbs	\$/acre	lbs	\$/acre	
Alfalfa Seed									
Year 1 establishment - Wheat nurse crop	80	\$42.28	30	\$17.03	0	\$0.00	0	\$0.00	\$59.32
Year 1 establishment - no nurse crop	0	\$0.00	30	\$17.03	0	\$0.00	0	\$0.00	\$17.03
Annual years 2 to 5 seed production	0	\$0.00	30	\$17.03	10	\$3.83	10	\$3.97	\$24.84
Timothy Seed									
Year 1 establishment - Wheat nurse crop	80	\$42.28	25	\$14.19	0	\$0.00	0	\$0.00	\$56.48
Year 1 establishment - no nurse crop	80	\$42.28	20	\$11.35	0	\$0.00	0	\$0.00	\$53.64
Annual years 2 to 5 seed production	100	\$52.85	20	\$11.35	0	\$0.00	0	\$0.00	\$64.21
Annual Ryegrass									
Annual year 1 seed production	100	\$52.85	20	\$11.35	0	\$0.00	0	\$0.00	\$64.21
Red Clover									
Year 1 establishment - Wheat nurse crop	80	\$42.28	25	\$14.19	0	\$0.00	0	\$0.00	\$56.48
Annual year 2 seed production	0	\$0.00	30	\$17.03	10	\$3.83	10	\$3.97	\$24.84
Perennial Ryegrass									
Year 1 establishment - Wheat nurse crop	80	\$42.28	25	\$14.19	0	\$0.00	0	\$0.00	\$56.48
Annual year 2 seed production	120	\$63.43	20	\$11.35	0	\$0.00	0	\$0.00	\$74.78
Meadow Fescue									
Year 1 establishment - Wheat nurse crop	80	\$42.28	25	\$14.19	0	\$0.00	0	\$0.00	\$56.48
Annual years 2 to 4 seed production	100	\$52.85	20	\$11.35	0	\$0.00	0	\$0.00	\$64.21
Birdsfoot Trefoil									
Year 1 establishment - Wheat nurse crop	60	\$31.71	20	\$11.35	0	\$0.00	0	\$0.00	\$43.07
Annual years 2 to 5 seed production	0	\$0.00	30	\$17.03	10	\$3.83	10	\$3.97	\$24.84
Tall Fescue									
Year 1 establishment - Wheat nurse crop	60	\$31.71	20	\$11.35	0	\$0.00	0	\$0.00	\$43.07
Year 1 establishment - no nurse crop	90	\$47.57	30	\$17.03	0	\$0.00	0	\$0.00	\$64.60
Annual years 2 to 4 seed production	100	\$52.85	20	\$11.35	0	\$0.00	0	\$0.00	\$64.21

The fertilizer recommendation will vary depending on the soil type, climate and crop rotation. MAFRD recommends that soil test sampling and analysis be conducted each year to produce a better baseline for fertility. It costs \$0.50 to \$1.50/acre for custom sampling and analysis.

Chemicals					
Crop	Weed Control \$/acre	Disease Control \$/acre	Insect Control \$/acre	Desiccant Control \$/acre	Total Cost \$/acre
Alfalfa Seed					
Year 1 establishment - Wheat nurse crop	\$15.50	\$0.00	\$0.00	\$0.00	\$15.50
Year 1 establishment - no nurse crop	\$15.50	\$0.00	\$0.00	\$0.00	\$15.50
Annual years 2 to 5 seed production	\$49.00	\$36.00	\$14.00	\$22.00	\$99.00
Timothy Seed					
Year 1 establishment - Wheat nurse crop	\$13.00	\$0.00	\$0.00	\$0.00	\$13.00
Year 1 establishment - no nurse crop	\$13.00	\$0.00	\$0.00	\$0.00	\$13.00
Annual years 2 to 5 seed production	\$10.00	\$0.00	\$3.00	\$0.00	\$13.00
Annual Ryegrass					
Annual year 1 seed production	\$23.00	\$0.00	\$0.00	\$0.00	\$23.00
Red Clover					
Year 1 establishment - Wheat nurse crop	\$20.00	\$0.00	\$0.00	\$0.00	\$20.00
Annual year 2 seed production	\$20.00	\$0.00	\$0.00	\$0.00	\$20.00
Perennial Ryegrass					
Year 1 establishment - Wheat nurse crop	\$28.00	\$0.00	\$0.00	\$0.00	\$28.00
Annual year 2 seed production	\$24.00	\$17.00	\$3.00	\$0.00	\$44.00
Meadow Fescue					
Year 1 establishment - Wheat nurse crop	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual years 2 to 4 seed production	\$10.00	\$0.00	\$3.00	\$0.00	\$13.00
Birdsfoot Trefoil					
Year 1 establishment - Wheat nurse crop	\$23.00	\$0.00	\$0.00	\$0.00	\$23.00
Annual years 2 to 5 seed production	\$20.00	\$17.00	\$14.00	\$0.00	\$51.00
Tall Fescue					
Year 1 establishment - Wheat nurse crop	\$27.00	\$0.00	\$0.00	\$0.00	\$27.00
Year 1 establishment - no nurse crop	\$27.00	\$0.00	\$0.00	\$0.00	\$27.00
Annual years 2 to 4 seed production	\$23.00	\$17.00	\$3.00	\$0.00	\$43.00

Operating Costs

Interest Rate on Operating	5.50%	<u>Grain Hauling</u>		
Land Taxes (\$/acre)	\$12.00	Distance to storage	6 miles roundtrip	
Labour rate (\$/hour)	\$20.00	Distance to market	50 miles roundtrip	
Machinery Operating (\$/acre)	\$10.00	Grain truck fuel use	5 Miles per Imp. Gallon	
Other Costs (\$/acre)	\$7.75	Grain truck size	375 bushels	
Fuel Cost (\$/litre)	\$0.85			

Operating Cost (\$/Acre)

Crop	Labour (hrs/acre)	Crop				Rental and Custom Costs						Total
		Fuel	Insurance	Drying Costs	Storage \$/acre	Seeding	Application	Roquing	Pollination	General		
Alfalfa Seed												
Year 1 establishment - Wheat nurse crop	1.5	\$19.80	\$11.19	-	\$4.59	-	-	-	-	-	-	\$0.00
Year 1 establishment - no nurse crop	1.5	\$8.74	\$5.80	-	-	-	-	-	-	-	-	\$0.00
Annual years 2 to 5 seed production	1.5	\$9.77	\$45.93	-	\$0.72	-	-	\$7.50	\$150.00	-	-	\$157.50
Timothy Seed												
Year 1 establishment - Wheat nurse crop	1.5	\$19.80	\$11.19	-	\$4.59	-	-	-	-	-	-	\$0.00
Year 1 establishment - no nurse crop	1.5	\$8.74	\$5.80	-	-	-	-	-	-	-	-	\$0.00
Annual years 2 to 5 seed production	1.5	\$9.34	\$14.34	-	\$1.05	-	-	\$7.50	-	-	-	\$7.50
Annual Ryegrass												
Annual year 1 seed production	1.5	\$18.34	\$12.13	\$5.00	\$5.35	-	-	\$7.50	-	-	-	\$7.50
Red Clover												
Year 1 establishment - Wheat nurse crop	1.5	\$19.80	\$11.19	-	\$4.59	-	-	-	-	-	-	\$0.00
Annual year 2 seed production	1.5	\$8.21	\$0.00	-	\$0.56	-	-	\$7.50	-	-	-	\$7.50
Perennial Ryegrass												
Year 1 establishment - Wheat nurse crop	1.5	\$20.49	\$16.99	-	\$5.41	-	-	-	-	-	-	\$0.00
Annual year 2 seed production	1.5	\$12.29	\$19.61	-	\$4.50	-	-	\$7.50	-	-	-	\$7.50
Meadow Fescue												
Year 1 establishment - Wheat nurse crop	1.5	\$19.80	\$11.19	-	\$4.59	-	-	-	-	-	-	\$0.00
Annual years 2 to 4 seed production	1.5	\$10.18	\$0.00	-	\$2.46	-	-	\$7.50	-	-	-	\$7.50
Birdsfoot Trefoil												
Year 1 establishment - Wheat nurse crop	1.5	\$19.80	\$11.19	-	\$4.59	-	-	-	-	-	-	\$0.00
Annual years 2 to 5 seed production	1.5	\$9.18	\$0.00	-	\$0.45	-	-	\$7.50	-	-	-	\$7.50
Tall Fescue												
Year 1 establishment - Wheat nurse crop	1.5	\$19.80	\$11.19	-	\$4.59	-	-	-	-	-	-	\$0.00
Year 1 establishment - no nurse crop	1.5	\$8.74	\$5.80	-	-	-	-	-	-	-	-	\$0.00
Annual years 2 to 4 seed production	1.5	\$11.55	\$22.86	-	\$4.05	-	-	\$7.50	-	-	-	\$7.50

* Storage costs are listed under Fixed Costs on the Summary Page.

Field Fuel Usage

Crop	Total L/acre	Number of Field Operations & Litres Fuel Per Operation								Trucks L/acre	
		cultivator or tandem disk	harrow or land roller	air drill	SP sprayer	hay bine	round baler	swather	combine	3/4 ton pickup	grain hauling
Alfalfa Seed		2.25	0.75	2.5	0.42	0.42	0.77	1.13	5.54	2	
Year 1 establishment - Wheat nurse crop	23.30	1	2	2	3			1	1	2	4.62
Year 1 establishment - no nurse crop	10.28	1	2	1	2	1	1			2	
Annual years 2 to 5 seed production	11.49				5			1	1	2	0.72
Timothy Seed											
Year 1 establishment - Wheat nurse crop	23.30	1	2	2	3			1	1	2	4.62
Year 1 establishment - no nurse crop	10.28	1	2	1	2	1	1			2	
Annual years 2 to 5 seed production	10.99				3			1	1	2	1.06
Annual Ryegrass											
Annual year 1 seed production	21.57	1	1	1	2	1	1	1	1	2	5.37
Red Clover											
Year 1 establishment - Wheat nurse crop	23.30	1	2	2	3			1	1	2	4.62
Annual year 2 seed production	9.66				1			1	1	2	0.57
Perennial Ryegrass											
Year 1 establishment - Wheat nurse crop	24.11	1	2	2	3			1	1	2	5.43
Annual year 2 seed production	14.46				3			1	1	2	4.53
Meadow Fescue											
Year 1 establishment - Wheat nurse crop	23.30	1	2	2	3			1	1	2	4.62
Annual years 2 to 4 seed production	11.98				2			1	1	2	2.47
Birdsfoot Trefoil											
Year 1 establishment - Wheat nurse crop	23.30	1	2	2	3			1	1	2	4.62
Annual years 2 to 5 seed production	10.80				4			1	1	2	0.45
Tall Fescue											
Year 1 establishment - Wheat nurse crop	23.30	1	2	2	3			1	1	2	4.62
Year 1 establishment - no nurse crop	10.28	1	2	1	2	1	1			2	
Annual years 2 to 4 seed production	13.58				2			1	1	2	4.07

Guidelines: Forage Seed Production Costs

Fixed Costs

Land value (\$/acre)	\$2,150	Land cost (\$/acre)	\$53.75
Total Crop (Grain & Forage Seed) acres	2,000	Machinery Investment (\$/acre)	\$444.06
Depreciation Rate	10.0%		
Investment Rate	2.50%		
<u>Grain Storage</u>		<u>Machinery Depreciation cost (\$/acre)</u>	
Non-aeration bins	Usage % 10% Cost \$1.85 /bu	Machinery Investment cost (\$/acre)	\$11.10
Aeration bins	90% \$2.35 /bu	Machinery Lease cost (\$/acre)	\$3.60
		Total (\$/acre)	\$59.11

Owned Equipment Inventory and Current Values

<u>Power & Misc Equipment</u>	<u>Market Value</u>	<u>Crop Usage %</u>	<u>Crop Allocation</u>	<u>Harvest Equipment</u>	<u>Market Value</u>	<u>Crop Usage %</u>	<u>Crop Allocation</u>
4WD Tractor 375HP	\$175,000	100%	\$175,000	Combine	\$200,000	100%	\$200,000
MFD Tractor 150HP	\$50,000	100%	\$50,000	Swather 35 ft	\$75,000	100%	\$75,000
2WD Tractor 60HP	\$20,000	75%	\$15,000	PTO Auger 13x70	\$10,000	100%	\$10,000
ATV Quad	\$3,500	75%	\$2,625	Auger 8x35	\$4,000	100%	\$4,000
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
Total			\$242,625	Total			\$289,000

<u>Seeding, Tillage, Spraying</u>	<u>Market Value</u>	<u>Crop Usage %</u>	<u>Crop Allocation</u>	<u>Trucks & Trailers</u>	<u>Market Value</u>	<u>Crop Usage %</u>	<u>Crop Allocation</u>
Cultivator	\$25,000	100%	\$25,000	Tandem grain truck	\$50,000	100%	\$50,000
Harrow 80ft	\$35,000	100%	\$35,000	3 ton grain truck	\$6,000	0%	\$0
Air tank	\$40,000	100%	\$40,000	5th wheel flatdeck	\$10,000	0%	\$0
Air drill 50ft	\$100,000	100%	\$100,000		\$0	0%	\$0
SP sprayer	\$100,000	100%	\$100,000		\$0	0%	\$0
Rock picker	\$4,000	100%	\$4,000		\$0	0%	\$0
Water tanks	\$2,500	100%	\$2,500		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
Total	\$306,500		\$306,500	Total			\$50,000

Owned Equipment TOTAL	\$888,125	\$444.06 per acre
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Leased Equipment Inventory

<u>Power & Misc Equipment</u>	<u>Annual Lease</u>	<u>Crop Usage %</u>	<u>Crop Allocation</u>	<u>Harvest Equipment</u>	<u>Annual Lease</u>	<u>Crop Usage %</u>	<u>Crop Allocation</u>
enter equipment here	\$0	0%	\$0	enter equipment here	\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
Total	\$0		\$0	Total	\$0		\$0

<u>Seeding, Tillage, Spraying</u>	<u>Annual Lease</u>	<u>Crop Usage %</u>	<u>Crop Allocation</u>	<u>Trucks & Trailers</u>	<u>Annual Lease</u>	<u>Crop Usage %</u>	<u>Crop Allocation</u>
enter equipment here	\$0	0%	\$0	3/4 ton pickup	\$9,600	75%	\$7,200
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
	\$0	0%	\$0		\$0	0%	\$0
Total	\$0		\$0	Total	\$7,200		\$7,200

Leased Equipment TOTAL	\$7,200	\$3.60 per acre
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* Leased equipment costs are listed under Operating Costs on the Summary Page.

Selecting a Forage Seed Crop

Crop	Ease of Establishment	Years of Seed Production	Ease of Production	Average Value \$/lb Certified Seed	Average Yield lbs/ac	Salinity Tolerance	Drought Tolerance	Moisture Requirement	Flooding Tolerance
Tall Fescue <i>Festuca arundinacea</i>	Easy	3 – 4	2	\$0.40 - \$0.55	750	Good	Good	Moderate	Good
Meadow fescue <i>Festuca elatior</i>	Easy	3 – 4	1	\$0.5 - \$0.60	400	Moderate	Moderate	High	Good
Perennial ryegrass <i>Lolium Perenne</i>	Easy	1 biennial	3	\$0.40 - \$0.60	800	Moderate	Moderate	High	Good
Timothy <i>Phleum pratense</i>	Easy	4 – 5	1	.55 - .90	350	Poor	Poor	High	Very good
Alfalfa – Lucerne <i>Medicago sativa</i>	Easy	4 – 5	6	\$1.50 - \$2.00	320	Poor	Moderate	Moderate	Poor
Birdsfoot trefoil <i>Lotus corniculatis</i>	Moderate	3 – 5	7	\$2.00 - \$4.00	200	Poor	Moderate	Moderate	Poor
Red Clover <i>Trifolium pratense</i>	Easy	1biennial	4	\$.90 -dbl. Cut \$.70 -sgl. Cut	250	Poor	Poor	Moderate	Poor
Annual Ryesgrass	EASY	1	3	0.25 - 0.35	950	Poor	Poor	Moderate	Poor

NOTE: For details on markets and available contracts contact Seed Trade firms for current applicable information. This table is intended for general reference only. It should be noted that all of the information relates to seed production management versus management for forage or turf, the management under these systems may differ significantly.

For more information, contact your local MAFRD GO Office or:

[Derrick Chomokovski](#)

Farm Production Advisor

Other Assumptions

Fuel Costs: Includes fuel used for field work, trucking in inputs and trucking out production.

Machinery Operating Costs: Includes costs for maintenance, repairs, licenses and insurance.

Crop Insurance: (2015 rates. New rates for 2016 are not included.)

MASC Risk Area #15 at 80% coverage. Insurance is not available on meadow fescue, birdsfoot trefoil, or red clover crops.

Other Costs: Includes overhead expenses - hydro, telephone, accounting, buildings, supplies and insurance, etc.

Land Taxes:

The average for the province was based on land tax assessment and mill rates of a sample of municipalities growing crops less provincial tax rebate.

Drying Costs: Aeration assumed on all crops. Heated air drying costs only assigned for annual ryegrass. However, drying costs may be incurred in some years for the other crops.

Interest On Operating: Interest charges on operating costs are calculated at 5.5% for six months.

Land Investment Cost: Land values are based on approximate average land values in Manitoba. Budget assumed 2.5% return on land investment

Depreciation: Assumed 10% on machinery, no salvage value.

Investment Cost: Assumed 2.5% opportunity cost on machinery.

Estimated Farmgate Values: Crop prices are based on estimated delivery contract prices for fall 2014/15.

Storage Cost:

Assumed a 10% depreciation cost and 2.5% investment cost.

Farm storage requirements were assumed to cost \$1.85/bushel for 10% of the storage and \$2.35/bushel for 90% aerated storage.

Example - Tall fescue

Non-Aeration Bins (10%)

Depreciation:	$\frac{\$55.50 - \$5.55}{20 \text{ years}}$		\$2.50	
Investment:	$\frac{\$55.50 - \$5.55}{2} \times 2.5\%$		\$0.76	
	Sub-Total		\$3.26	$\times 10\% =$
				\$0.33

Aeration Bins (90%)

Depreciation:	$\frac{\$70.50 - \$7.05}{20 \text{ years}}$		\$3.17	
Investment:	$\frac{\$70.50 - \$7.05}{2} \times 2.5\%$		\$0.97	
	Sub-Total		\$4.14	$\times 90\% =$
				\$3.73
			Total	\$4.05

Profitability & Breakeven Analysis:

Gross Revenue = Price per unit x Yield per acre (eg. tall fescue: \$0.50/lb x 750lb/ac = \$375.00/ac)

Net Profit = Gross Revenue - Total Cost (eg. tall fescue: \$375.00 gross revenue - \$366.88 total cost = \$8.12 per acre)

Operating Expense Ratio = (Operating Cost / Gross Revenue) x 100 (eg. tall fescue: \$223.56 operating expense / \$375 total cost = 59.6%)

Breakeven Price = Cost / Target Yield (eg. tall fescue cost \$366.88 / 750 lb = \$0.49 per lb)

Breakeven Yield = Cost / Price per Unit (eg. tall fescue cost \$366.88 / \$0.50 lb = 734 lb)

Created and maintained by [MAFRD Farm Management](#)

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For more information

- Contact your local Manitoba Agriculture, Food and Rural Development (MAFRD) Growing Opportunities (GO) Office.
- Visit us at manitoba.ca/agriculture.

