



Guidelines for Estimating Crop Production Costs 2017

in Manitoba



Guidelines For Estimating Crop Production Costs - 2017

Date: January, 2017

The following budgets are estimates of the cost of producing the most commonly grown field crops in Manitoba. General Manitoba Agriculture 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.

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 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 [Manitoba Agriculture GO office](#).
[The Farm Machinery Custom and Rental Rate Guide](#) is also available to help determine machinery costs.

The [MYFARM Crop Production Cost Calculator](#) is also available for producers to estimate the cash cost of producing field crops on their farm on an annual basis. MYFARM calculates marginal returns, breakeven yields, breakeven crop prices on total production and remaining unsold inventory, land and machinery cost analysis and cash based financial ratios.

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 GO Office.

Crop Production Costs 2017 Guidelines (Dollars Per Acre)

	Canola	Wheat	Winter Wheat	Soybeans	Barley	Oats	Corn	Navy Beans
A. Operating Costs								
Seed & Treatment	\$60.00	\$22.00	\$20.00	\$95.10	\$15.00	\$17.50	\$81.20	\$50.00
Fertilizer	\$69.32	\$52.38	\$56.72	\$13.25	\$45.82	\$41.47	\$81.07	\$48.03
Herbicide	\$13.81	\$26.71	\$13.08	\$14.67	\$23.75	\$8.75	\$18.67	\$64.12
Fungicide	\$34.00	\$21.71	\$21.71	\$0.00	\$18.90	\$10.88	\$0.00	\$43.25
Insecticide	\$4.32	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Fuel	\$18.70	\$20.05	\$21.71	\$17.34	\$21.67	\$23.33	\$24.07	\$18.38
Machinery Operating	\$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
Rental and Custom	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Crop Insurance	\$8.11	\$7.31	\$7.44	\$13.82	\$9.46	\$8.30	\$26.94	\$19.72
Hail Insurance	\$6.84	\$4.56	\$4.56	\$6.84	\$4.56	\$4.56	\$4.56	\$7.98
Other Costs	\$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
Drying Costs	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$35.00	\$0.00
Interest on Operating	\$5.59	\$4.23	\$4.02	\$4.37	\$3.88	\$3.33	\$6.86	\$6.41
Total Operating	\$254.05	\$192.30	\$182.59	\$198.73	\$176.38	\$151.47	\$311.72	\$291.23
B. Fixed Costs								
Land Investment Costs	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00
Machinery Depreciation	\$49.66	\$49.66	\$49.66	\$49.66	\$49.66	\$49.66	\$49.66	\$49.66
Machinery Investment	\$11.17	\$11.17	\$11.17	\$11.17	\$11.17	\$11.17	\$11.17	\$11.17
Storage Costs	\$5.34	\$7.34	\$10.00	\$4.80	\$10.67	\$13.34	\$16.01	\$3.78
Total Fixed	\$120.16	\$122.17	\$124.83	\$119.63	\$125.50	\$128.17	\$130.84	\$118.61
Total Operating & Fixed	\$374.21	\$314.46	\$307.42	\$318.36	\$301.89	\$279.64	\$442.56	\$409.84
C. Labour	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Total Costs	\$404.21	\$344.46	\$337.42	\$348.36	\$331.89	\$309.64	\$472.56	\$439.84

Profitability Analysis

Estimated Farmgate								
Market Price \$ per unit	\$10.75	\$6.25	\$5.00	\$11.50	\$3.50	\$3.20	\$4.25	\$0.35
Premium \$ per unit	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Yield per acre (bu or lb.)	40	55	75	36	80	100	120	1,700
Unit type	bu	bu	bu	bu	bu	bu	bu	lb
Gross Revenue / acre	\$430.00	\$343.75	\$375.00	\$414.00	\$280.00	\$320.00	\$510.00	\$595.00
Revenue Ranking	4	9	8	5	13	10	2	1
Operating Expense Ratio	59.1%	55.9%	48.7%	48.0%	63.0%	47.3%	61.1%	48.9%
Marginal Returns								
Over Operating Costs	\$175.95	\$151.45	\$192.41	\$215.27	\$103.62	\$168.53	\$198.28	\$303.77
Over Operating & Fixed	\$55.79	\$29.29	\$67.58	\$95.64	(\$21.89)	\$40.36	\$67.44	\$185.16
Over Total Costs (Net Profit)	\$25.79	(\$0.71)	\$37.58	\$65.64	(\$51.89)	\$10.36	\$37.44	\$155.16
Profitability Ranking	6	11	4	2	16	7	5	1

Breakeven Analysis

Breakeven Price Per Unit								
Operating Costs	\$6.35	\$3.50	\$2.43	\$5.52	\$2.20	\$1.51	\$2.60	\$0.17
Operating & Fixed Costs	\$9.36	\$5.72	\$4.10	\$8.84	\$3.77	\$2.80	\$3.69	\$0.24
Total Costs	\$10.11	\$6.26	\$4.50	\$9.68	\$4.15	\$3.10	\$3.94	\$0.26
Breakeven Yield (Bu or lb.)								
Operating Costs	23.6	30.8	36.5	17.3	50.4	47.3	73.3	832
Operating & Fixed Costs	34.8	50.3	61.5	27.7	86.3	87.4	104.1	1171.0
Total Costs	37.6	55.1	67.5	30.3	94.8	96.8	111.2	1257
Breakeven Yield Risk Ratio (Yield per acre / BE Yield)	106%	100%	111%	119%	84%	103%	108%	135%

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Crop Production Costs 2017 Guidelines (Dollars Per Acre)

Flax	Sunflower Confects	Oil	Peas	Fall Rye	Canary Seed	Lentils	Buck- wheat	Hemp- seed	Your Farm
\$22.80	\$48.31	\$38.00	\$30.25	\$10.50	\$14.08	\$32.50	\$25.00	\$50.00	_____
\$37.09	\$45.82	\$45.82	\$11.04	\$39.30	\$41.47	\$11.04	\$26.22	\$48.03	_____
\$18.63	\$40.59	\$24.91	\$17.88	\$6.75	\$12.58	\$17.88	\$5.63	\$35.09	_____
\$14.63	\$28.25	\$28.25	\$14.63	\$0.00	\$8.41	\$14.63	\$0.00	\$0.00	_____
\$0.00	\$13.32	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	_____
\$17.74	\$19.92	\$20.25	\$15.75	\$16.55	\$17.10	\$15.81	\$14.17	\$17.32	_____
\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	_____
\$9.83	\$25.19	\$15.11	\$12.79	\$9.87	\$19.49	\$26.85	\$21.54	\$27.72	_____
\$4.56	\$4.56	\$4.56	\$9.12	\$4.56	\$4.56	\$6.84	\$11.40	\$9.12	_____
\$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	_____
\$0.00	\$10.00	\$10.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20.00	_____
<u>\$3.57</u>	<u>\$6.06</u>	<u>\$4.96</u>	<u>\$3.26</u>	<u>\$2.72</u>	<u>\$3.40</u>	<u>\$3.58</u>	<u>\$3.09</u>	<u>\$5.41</u>	_____
\$162.20	\$275.37	\$225.21	\$148.08	\$123.60	\$154.44	\$162.48	\$140.41	\$246.04	_____
\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	_____
\$49.66	\$49.66	\$49.66	\$49.66	\$49.66	\$49.66	\$49.66	\$49.66	\$49.66	_____
\$11.17	\$11.17	\$11.17	\$11.17	\$11.17	\$11.17	\$11.17	\$11.17	\$11.17	_____
<u>\$3.33</u>	<u>\$10.61</u>	<u>\$11.22</u>	<u>\$5.34</u>	<u>\$6.67</u>	<u>\$2.86</u>	<u>\$2.45</u>	<u>\$2.27</u>	<u>\$1.74</u>	_____
\$118.16	\$125.44	\$126.05	\$120.16	\$121.50	\$117.69	\$117.27	\$117.10	\$116.57	_____
\$280.36	\$400.81	\$351.26	\$268.24	\$245.10	\$272.13	\$279.75	\$257.50	\$362.61	_____
\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	_____
\$310.36	\$430.81	\$381.26	\$298.24	\$275.10	\$302.13	\$309.75	\$287.50	\$392.61	_____

Profitability Analysis

\$12.50	\$0.27	\$0.21	\$7.00	\$5.50	\$0.24	\$0.24	\$13.00	\$0.68	_____
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	_____
25	1,750	1,850	40	50	1,200	1,100	17	575	_____
bu	lb	lb	bu	bu	lb	lb	bu	lb	_____
\$312.50	\$472.50	\$388.50	\$280.00	\$275.00	\$288.00	\$264.00	\$221.00	\$391.00	_____
11	3	7	13	15	12	16	17	6	_____
51.9%	58.3%	58.0%	52.9%	44.9%	53.6%	61.5%	63.5%	62.9%	_____

\$150.30	\$197.13	\$163.29	\$131.92	\$151.40	\$133.56	\$101.52	\$80.59	\$144.96	_____
\$32.14	\$71.69	\$37.24	\$11.76	\$29.90	\$15.87	(\$15.75)	(\$36.50)	\$28.39	_____
\$2.14	\$41.69	\$7.24	(\$18.24)	(\$0.10)	(\$14.13)	(\$45.75)	(\$66.50)	(\$1.61)	_____
9	3	8	14	10	13	15	17	12	_____

Breakeven Analysis

\$6.49	\$0.16	\$0.12	\$3.70	\$2.47	\$0.13	\$0.15	\$8.26	\$0.43	_____
\$11.21	\$0.23	\$0.19	\$6.71	\$4.90	\$0.23	\$0.25	\$15.15	\$0.63	_____
\$12.41	\$0.25	\$0.21	\$7.46	\$5.50	\$0.25	\$0.28	\$16.91	\$0.68	_____
13.0	1020	1072	21.2	22.5	643	677	10.8	362	_____
22.4	1484.5	1672.7	38.3	44.6	1133.9	1165.6	19.8	533.3	_____
24.8	1596	1816	42.6	50.0	1259	1291	22.1	577	_____
101%	110%	102%	94%	100%	95%	85%	77%	100%	_____

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AgrilInsurance Analysis

	<u>Canola</u>	<u>Wheat</u>	<u>Winter Wheat</u>	<u>Soybeans</u>	<u>Barley</u>	<u>Oats</u>	<u>Corn</u>	<u>Navy Beans</u>
AgrilInsurance								
80% Insured Value	\$319.73	\$244.01	\$266.15	\$229.71	\$222.98	\$218.42	\$335.20	\$330.89
Premium Cost (% of Insured)	2.5%	3.0%	2.8%	6.0%	4.2%	3.8%	8.0%	6.0%
Costs Not Covered By AgrilInsurance								
Operating Costs	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operating & Fixed Costs	\$54.48	\$70.45	\$41.27	\$88.65	\$78.91	\$61.21	\$107.36	\$78.95
Total Costs	\$84.48	\$100.45	\$71.27	\$118.65	\$108.91	\$91.21	\$137.36	\$108.95
AgrilInsurance Risk Ratio	126%	127%	146%	116%	126%	144%	108%	114%
(AgrilInsurance Coverage / Operating Cost)								
Risk Ranking	7	9	13	3	8	12	1	2
(Lower number indicates increasing risk)								

Sensitivity Analysis (Stress Test)

Percent Price Variation	Down 10%	Percent Yield Variation	Down 5%
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	<u>Canola</u>	<u>Wheat</u>	<u>Winter Wheat</u>	<u>Soybeans</u>	<u>Barley</u>	<u>Oats</u>	<u>Corn</u>	<u>Navy Beans</u>
Lower Price (\$ per unit)	\$9.68	\$5.63	\$4.50	\$10.35	\$3.15	\$2.88	\$3.83	\$0.32
Lower Yield (per acre)	38.0	52.3	71.3	34.2	76.0	95.0	114.0	1,615.0

Lower Margin Scenario - Price Down 10% and Yield Down 5%

Gross Revenue / acre	\$367.65	\$293.91	\$320.63	\$353.97	\$239.40	\$273.60	\$436.05	\$508.73
Marginal Returns								
Over Operating Costs	\$113.60	\$101.61	\$138.04	\$155.24	\$63.02	\$122.13	\$124.33	\$217.49
Over Operating & Fixed	(\$6.56)	(\$20.55)	\$13.20	\$35.61	(\$62.49)	(\$6.04)	(\$6.51)	\$98.88
Over Total Costs (Net Profit)	(\$36.56)	(\$50.55)	(\$16.80)	\$5.61	(\$92.49)	(\$36.04)	(\$36.51)	\$68.88
Profitability Ranking	7	11	3	2	16	5	6	1
Operating Expense Ratio	69.1%	65.4%	56.9%	56.1%	73.7%	55.4%	71.5%	57.2%

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AgrilInsurance Analysis

<u>Flax</u>	<u>Sunflower</u>		<u>Peas</u>	<u>Fall Rye</u>	<u>Canary Seed</u>	<u>Lentils</u>	<u>Buck-wheat</u>	<u>Hemp</u>	<u>Your Farm</u>
	<u>Confects</u>	<u>Oil</u>							
\$228.83	\$329.26	\$278.61	\$237.74	\$202.58	\$264.16	\$250.11	\$180.53	\$295.36	_____
4.3%	7.6%	5.4%	5.4%	4.9%	7.4%	10.7%	11.9%	9.4%	_____
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	_____
\$51.53	\$71.54	\$72.65	\$30.50	\$42.52	\$7.97	\$29.64	\$76.97	\$67.25	_____
\$81.53	\$101.54	\$102.65	\$60.50	\$72.52	\$37.97	\$59.64	\$106.97	\$97.25	_____
141%	120%	124%	161%	164%	171%	154%	129%	120%	_____
11	4	6	15	16	17	14	10	5	_____

Sensitivity Analysis



<u>Flax</u>	<u>Sunflower</u>		<u>Peas</u>	<u>Fall Rye</u>	<u>Canary Seed</u>	<u>Lentils</u>	<u>Buck-wheat</u>	<u>Hemp</u>	<u>Your Farm</u>
	<u>Confects</u>	<u>Oil</u>							
\$11.25	\$0.24	\$0.19	\$6.30	\$4.95	\$0.22	\$0.22	\$11.70	\$0.61	_____
23.8	1,662.5	1,757.5	38.0	47.5	1,140.0	1,045.0	16.2	546.3	_____
\$267.19	\$403.99	\$332.17	\$239.40	\$235.13	\$246.24	\$225.72	\$188.96	\$334.31	_____
\$104.99	\$128.62	\$106.96	\$91.32	\$111.53	\$91.80	\$63.24	\$48.55	\$88.26	_____
(\$13.17)	\$3.18	(\$19.09)	(\$28.84)	(\$9.97)	(\$25.89)	(\$54.03)	(\$68.55)	(\$28.31)	_____
(\$43.17)	(\$26.82)	(\$49.09)	(\$58.84)	(\$39.97)	(\$55.89)	(\$84.03)	(\$98.55)	(\$58.31)	_____
9	4	10	14	8	12	15	17	13	_____
60.7%	68.2%	67.8%	61.9%	52.6%	62.7%	72.0%	74.3%	73.6%	_____

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Seed & Treatment

<u>Crop</u>	<u>Seeding Rate</u>	<u>Price</u>	<u>Cost</u>
	<u>per Acre</u>	<u>per Unit</u>	<u>per Acre</u>
Canola	5 lb	\$12.00 /lb	\$60.00
Wheat	2.0 bu	\$11.00 /bu	\$22.00
Winter wheat	2.0 bu	\$10.00 /bu	\$20.00
* Soybeans	1.43 units	\$66.50 /unit	\$95.10
Barley	2.0 bu	\$7.50 /bu	\$15.00
Oats	2.5 bu	\$7.00 /bu	\$17.50
Corn	29,000 plants	\$0.0028 /plant	\$81.20
Navy Beans	50 lbs	\$1.00 /lb	\$50.00
Flaxseed	60 lb	\$0.38 /lb	\$22.80
Sunflower Confection	18,000 plants	\$0.00268 /plant	\$48.31
Sunflower Oil	20,000 plants	\$0.0019 /plant	\$38.00
Peas	2.75 bu	\$11.00 /bu	\$30.25
Fall Rye	1.5 bu	\$7.00 /bu	\$10.50
Canary Seed	44 lbs	\$0.32 /lb	\$14.08
Lentils	50 lb	\$0.65 /lb	\$32.50
Buckwheat	1 bu	\$25.00 /bu	\$25.00
Hempseed	20 lb	\$2.50 /lb	\$50.00

* If row cropping, change seeding rate to 1.3 units/acre which reduces seed cost by 10%

Fertilizer

<u>Fertilizer Type</u>	<u>Bulk Price</u>	<u>Actual Nutrient</u>	<u>Nitrogen</u>	<u>Sulphur</u>
	<u>\$/tonne</u>	<u>\$/lb</u>	<u>Usage</u>	<u>Usage</u>
Nitrogen: (urea) 46-0-0	\$475	\$0.468	50%	-
Nitrogen: (NH3) 82-0-0	\$725	\$0.401	50%	-
Nitrogen: (liquid) 28-0-0	\$315	\$0.510	0%	-
Phosphorus: 11-52-0	\$620	\$0.442	-	-
Potash: 0-0-60	\$380	\$0.287	-	-
Sulphur: 20.5-0-0-24	\$430	\$0.413	-	100%
MES S15: 13-33-0-15	\$595	\$0.421	-	0%

Amount of Actual Pounds of Elements Applied Per Acre

<u>Crop</u>	<u>Nitrogen</u>		<u>Phosphorus</u>		<u>Potash</u>		<u>Sulphur</u>		<u>Total</u>
	<u>lbs</u>	<u>\$/acre</u>	<u>lbs</u>	<u>\$/acre</u>	<u>lbs</u>	<u>\$/acre</u>	<u>lbs</u>	<u>\$/acre</u>	
Canola	110	\$47.82	30	\$13.25	0	\$0.00	20	\$8.25	\$69.32
Wheat	90	\$39.12	30	\$13.25	0	\$0.00	0	\$0.00	\$52.38
Winter wheat	100	\$43.47	30	\$13.25	0	\$0.00	0	\$0.00	\$56.72
Soybeans	0	\$0.00	30	\$13.25	0	\$0.00	0	\$0.00	\$13.25
Barley	80	\$34.78	25	\$11.04	0	\$0.00	0	\$0.00	\$45.82
Oats	70	\$30.43	25	\$11.04	0	\$0.00	0	\$0.00	\$41.47
Corn	130	\$56.51	30	\$13.25	25	\$7.18	10	\$4.13	\$81.07
Navy Beans	80	\$34.78	30	\$13.25	0	\$0.00	0	\$0.00	\$48.03
Flaxseed	65	\$28.26	20	\$8.83	0	\$0.00	0	\$0.00	\$37.09
Sunflower Confection	80	\$34.78	25	\$11.04	0	\$0.00	0	\$0.00	\$45.82
Sunflower Oil	80	\$34.78	25	\$11.04	0	\$0.00	0	\$0.00	\$45.82
Peas	0	\$0.00	25	\$11.04	0	\$0.00	0	\$0.00	\$11.04
Fall Rye	65	\$28.26	25	\$11.04	0	\$0.00	0	\$0.00	\$39.30
Canary Seed	70	\$30.43	25	\$11.04	0	\$0.00	0	\$0.00	\$41.47
Lentils	0	\$0.00	25	\$11.04	0	\$0.00	0	\$0.00	\$11.04
Buckwheat	40	\$17.39	20	\$8.83	0	\$0.00	0	\$0.00	\$26.22
Hempseed	80	\$34.78	30	\$13.25	0	\$0.00	0	\$0.00	\$48.03

The fertilizer recommendation will vary depending on the soil type, climate and crop rotation. MB Ag. 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	Disease Control	Insect Control	Total Cost
	\$/acre	\$/acre	\$/acre	\$/acre
Canola	\$13.81	\$34.00	\$4.32	\$52.13
Wheat	\$26.71	\$21.71	\$0.00	\$48.42
Winter wheat	\$13.08	\$21.71	\$0.00	\$34.79
Soybeans	\$14.67	\$0.00	\$0.00	\$14.67
Barley	\$23.75	\$18.90	\$0.00	\$42.65
Oats	\$8.75	\$10.88	\$0.00	\$19.63
Corn	\$18.67	\$0.00	\$0.00	\$18.67
Navy Beans	\$64.12	\$43.25	\$0.00	\$107.37
Flaxseed	\$18.63	\$14.63	\$0.00	\$33.26
Sunflower Confection	\$40.59	\$28.25	\$13.32	\$82.16
Sunflower Oil	\$24.91	\$28.25	\$0.00	\$53.16
Peas	\$17.88	\$14.63	\$0.00	\$32.51
Fall Rye	\$6.75	\$0.00	\$0.00	\$6.75
Canary Seed	\$12.58	\$8.41	\$0.00	\$20.99
Lentils	\$17.88	\$14.63	\$0.00	\$32.51
Buckwheat	\$5.63	\$0.00	\$0.00	\$5.63
Hempseed	\$35.09	\$0.00	\$0.00	\$35.09

Note:

Pre-emergent burn off and/or pre-harvest desiccation not included in weed control costs. (except for wheat, win. wheat and sunflowers).

Chemical costs do not include year end rebates or bundling discounts.

Disease Control costs (except for sunflowers) do not include custom application costs.

Insect Control costs (except for sunflowers) do not include custom application costs.

Operating Costs

Interest Rate on Operating	4.50%	<u>Grain Hauling</u>	
Land Taxes (\$/acre)	\$12.00	Distance to storage	6 miles roundtrip
Labour rate (\$/hour)	\$20.00	Distance to market	45 miles roundtrip
Machinery Operating (\$/acre)	\$10.00	Grain truck fuel use	5 Miles per Imp. Gallon
Other Costs (\$/acre)	\$7.75	Grain truck size	475 bushels
Fuel Cost (\$/litre)	\$0.85		

Operating Cost (\$/Acre)

Crop	Labour (hrs/acre)	Fuel	Crop		Hail Insurance	Drying Costs	Storage \$/acre	Rental and Custom Costs				Total
			Insurance	Insurance				Seeding	Application	Swathing	Harvest	
Canola	1.5	\$18.70	\$8.11	\$6.84	-	\$5.34	-	-	-	-	-	\$0.00
Wheat	1.5	\$20.05	\$7.31	\$4.56	-	\$7.34	-	-	-	-	-	\$0.00
Winter wheat	1.5	\$21.71	\$7.44	\$4.56	-	\$10.00	-	-	-	-	-	\$0.00
Soybeans	1.5	\$17.34	\$13.82	\$6.84	-	\$4.80	-	-	-	-	-	\$0.00
Barley	1.5	\$21.67	\$9.46	\$4.56	-	\$10.67	-	-	-	-	-	\$0.00
Oats	1.5	\$23.33	\$8.30	\$4.56	-	\$13.34	-	-	-	-	-	\$0.00
Corn	1.5	\$24.07	\$26.94	\$4.56	\$35.00	\$16.01	-	-	-	-	-	\$0.00
Navy Beans	1.5	\$18.38	\$19.72	\$7.98	-	\$3.78	-	-	-	-	-	\$0.00
Flaxseed	1.5	\$17.74	\$9.83	\$4.56	-	\$3.33	-	-	-	-	-	\$0.00
Sunfl. Confect	1.5	\$19.92	\$25.19	\$4.56	\$10.00	\$10.61	-	-	-	-	-	\$0.00
Sunflower Oil	1.5	\$20.25	\$15.11	\$4.56	\$10.00	\$11.22	-	-	-	-	-	\$0.00
Peas	1.5	\$15.75	\$12.79	\$9.12	-	\$5.34	-	-	-	-	-	\$0.00
Fall Rye	1.5	\$16.55	\$9.87	\$4.56	-	\$6.67	-	-	-	-	-	\$0.00
Canary Seed	1.5	\$17.10	\$19.49	\$4.56	-	\$2.86	-	-	-	-	-	\$0.00
Lentils	1.5	\$15.81	\$26.85	\$6.84	-	\$2.45	-	-	-	-	-	\$0.00
Buckwheat	1.5	\$14.17	\$21.54	\$11.40	-	\$2.27	-	-	-	-	-	\$0.00
Hempseed	1.5	\$17.32	\$27.72	\$9.12	\$20.00	\$1.74	-	-	-	-	-	\$0.00

* 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 Acre Per Operation								Trucks L/acre	
		cultivator or tandem disk	high speed disk	harrow or land roller	air drill	row planter	SP sprayer	swather	combine	3/4 ton pickup	grain hauling
		2.25	3.5	0.75	2.5	1.3	0.42	1.13	5.54	2	
Canola	22.00	2		1	1		4	1	1	2	3.90
Wheat	23.59	1	1	1	1		4		1	2	5.37
Winter wheat	25.54	1	1	1	1		4		1	2	7.32
Soybeans	20.39	2		2	1		2		1	2	3.51
Barley	25.49	2		1	1		3	1	1	2	7.81
Oats	27.44	2		1	1		3	1	1	2	9.76
Corn	28.31	1	1	1		1	3		1	2	11.71
Navy Beans	21.62	1		2		1	3	1	1	2	6.64
Flaxseed	20.87	2		2	1		3	1	1	2	2.44
Sunfl. Confect	23.43	1	1	1		1	3		1	2	6.83
Sunflower Oil	23.82	1	1	1		1	3		1	2	7.22
Peas	18.53	1		2	1		2		1	2	3.90
Fall Rye	19.47	1		1	1		1	1	1	2	4.88
Canary Seed	20.12	1		1	1		3	1	1	2	4.69
Lentils	18.60	1		1	1		3		1	2	4.30
Buckwheat	16.67	1		1	1		2	1	1	2	1.66
Hempseed	20.38	1	1	2	1		2		1	2	2.25

Guidelines: Crop Production Costs

Fixed Costs			
Land value (\$/acre)		\$2,400	
Total Crop acres		2,000	
Depreciation Rate		10.0%	
Investment Rate		2.25%	
Land cost (\$/acre)			\$54.00
Machinery Investment (\$/acre)			\$496.56
Machinery Depreciation cost (\$/acre)			\$49.66
Machinery Investment cost (\$/acre)			\$11.17
Machinery Lease cost (\$/acre)			\$3.60
			Total (\$/acre)
			\$64.43

Grain Storage	Usage %	Cost
Non-aeration bins	25%	\$1.95 /bu
Aeration bins	75%	\$2.45 /bu

Owned Equipment Inventory and Current Values							
	Market Value	Grain Usage %	Grain Allocation		Market Value	Grain Usage %	Grain Allocation
Power & Misc Equipment				Harvest Equipment			
4WD Tractor 375HP	\$200,000	100%	\$200,000	Combine	\$250,000	100%	\$250,000
MFWD 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			\$267,625	Total			\$339,000

	Market Value	Grain Usage %	Grain Allocation		Market Value	Grain Usage %	Grain Allocation
Seeding, Tillage, Spraying				Trucks & Trailers			
Cultivator	\$25,000	100%	\$25,000	Tandem grain truck	\$50,000	100%	\$50,000
Harrow 80ft	\$35,000	100%	\$35,000	Grain cart	\$20,000	100%	\$20,000
Air tank	\$40,000	100%	\$40,000	5th wheel flatdeck	\$10,000	100%	\$10,000
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			\$80,000

Owned Equipment TOTAL	\$993,125	\$496.56 per acre
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Leased Equipment Inventory							
	Annual Lease	Grain Usage %	Grain Allocation		Annual Lease	Grain Usage %	Grain Allocation
Power & Misc Equipment				Harvest Equipment			
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	Total			\$0

	Annual Lease	Grain Usage %	Grain Allocation		Annual Lease	Grain Usage %	Grain Allocation
Seeding, Tillage, Spraying				Trucks & Trailers			
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

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.

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: (2016 rates) 80% coverage, \$50/acre excess moisture Insurance, and additional hail insurance at \$160/acre coverage for all crops. Coverage and costs based on MASC Risk Areas #2, 5, 6, and 12.

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

Land Taxes: The average cost based on land tax assessment and mill rates of a sample of municipalities growing crops less provincial tax rebate.

Drying Costs: Budget allocates costs only for corn, sunflowers and hemp. However, drying costs may be incurred in some years for the other crops.

Interest On Operating: Interest charges on operating costs are calculated at 4.5% for six months.

Land Investment Cost: Land value are based on approximate average land values. Budget assumed 2.25% return on land investment

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

Investment Cost: Assumed 2.25% opportunity cost on machinery.

Estimated Farmgate Values:

Crop prices are based on deferred delivery contract prices for fall 2015.

Yields are estimated based on Manitoba 10 year average yields (2006 to 2015) from MASC production data.

Depreciation Cost = $\frac{\text{Original Cost} - \text{Salvage Value}}{\text{Useful Life}}$

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

Storage Cost:

Storage costs for each crop are based on estimated yields entered on the Summary page.

Assumed a 10% depreciation cost and 2.25% investment cost.

Farm storage requirements were assumed to cost \$1.95/bushel for 25% of the storage and \$2.45/bushel for 75% aerated storage.

Example - Wheat

Non-Aeration Bins (25%)

Depreciation:	$\frac{\$107.25 - \$10.725}{20 \text{ years}}$		\$4.83	
Investment:	$\frac{\$107.25 + \$10.725}{2}$	x 2.25%	\$1.33	
		Sub-Total	\$6.15	x 25% = \$1.54

Aeration Bins (75%)

Depreciation:	$\frac{\$134.75 - \$13.475}{20 \text{ years}}$		\$6.06	
Investment:	$\frac{\$134.75 + \$13.475}{2}$	x 2.25%	\$1.67	
		Sub-Total	\$7.73	x 75% = \$5.80
		Total	\$7.34	

Profitability, Breakeven & Risk Analysis Formulas:

Gross Revenue = Price per unit x Yield per acre (eg. wheat: \$6.25/bu x 55bu/ac = \$343.75/ac)

Net Profit = Gross Revenue - Total Cost (eg. wheat: \$343.75 gross revenue - \$344.46 total cost = -\$0.71 per acre)

Operating Expense Ratio = (Operating Cost / Gross Revenue) x 100 (eg. wheat: \$192.30 operating expense / \$343.75 total cost = 55.9%)

Breakeven Price = Cost / Target Yield (eg. wheat cost \$344.46 / 55 bu = \$6.26 per bu)

Breakeven Yield = Cost / Price per Unit (eg. wheat cost \$344.46 / \$6.25 bu = 55.1 bu)

Breakeven Yield Risk Ratio = (Yield per Acre / Breakeven Yield) x 100 (eg. wheat yield 55 bu/ac / 55.1 bu BE = 100 %)

AgrilInsurance Risk Ratio = (AgrilInsurance Coverage / Operating Cost) x 100 (eg. wheat coverage \$244.01/ac / \$192.30 operating expense = 127 %)

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

January, 2017

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A decorative graphic at the top of the page features three solid colored bars: a green bar on the left, a dark blue bar in the center, and an orange bar on the right. From the bottom edge of the dark blue bar, several thin, dashed orange lines curve downwards and outwards across the page.

For more information

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